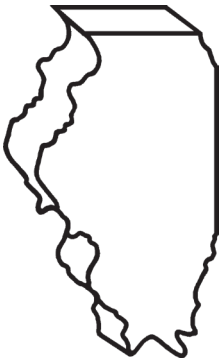

PTAX 1-T
Township Assessor
Introductory Course

January 2024

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1-T Township Assessor Introductory Course Outline

Contents

Glossary

Abatement - a reduction in a tax. For example, a unit of government may reduce its levy by filing an appropriate resolution with the County Clerk prior to extension.

Actual age - the number of years that have elapsed from the year of construction to the present date.

Ad valorem - according to value.

***Ad valorem* tax** - a tax levied according to value.

Aggregate rate - the sum of all taxing district rates applicable to a tax code. The aggregate rate is usually listed as $/$100 of taxable EAV.

Allowable expenses - legitimate expenses that can be deducted from effective gross income to arrive at net income.

Appraisal - an opinion of value, supported by evidence.

Appraiser factor – a factor applied to bring buildings valued by a particular appraiser more in line with the value of the rest of the buildings in the jurisdiction.

Arm's length sale - a sale between two parties, neither of whom is related to or under abnormal pressure from the other.

Assessed Value (AV) - the value placed on property for tax purposes and used as a basis for distribution of the tax burden. Most of the time this amount is subject to the State-issued equalization factor and the deduction of the homestead exemption on residential parcels.

Assessment - the official act of discovering, listing, appraising property, and entering a value for it on the assessment rolls for *ad valorem* tax purposes.

Assessment level - refers to the statutory level of 33.33% or the actual level obtainable from a sales ratio study.

Assessment/Sales Ratio Study - used to indicate the percentage relationship of the prior year's equalized assessed value to actual market value for real property in certain categories and in geographical areas.

Assessment uniformity - the degree to which different properties are assessed at equal percentages of Market Value. This is the foundation of assessment practices.

Bank Real Estate Owned (REO) - the first sale of the property owned by a financial institution as a result of a judgment of foreclosure, transfer pursuant to a deed in lieu of foreclosure, or consent judgment, occurring after the foreclosure proceeding is complete.

Bearing - Direction of a line measured as the acute angle from a reference meridian, usually expressed in the form "S 30^{o} E" or "N 58^{o} W".

Board of Review - an appeal agency in each county, consisting of three members; in commission counties, the county commissioners or their appointees; in other counties, usually appointed by the County Board. The Board of Review is a review and equalizing agency.

Boundary - a line that marks the outermost extent of an area, or a subdivision between areas.

Building residual - the building value derived from the sales price minus the lot value.

Capital - refers to money used by a business to purchase fixed assets, such as land, machinery, or buildings.

Capitalization - a mathematical process for converting the net income produced by a property into an indication of value. Used in the income approach to value.

Capitalization rate - “R” in the IRV formula. The ratio of the Net Operating Income to the property value. It is the total of the Equity Rate, the Effective Tax Rate, and the Mortgage/Interest Rate.

> **Recapture (or equity) rate** - annual rate at which invested capital is returned to the investor over a specified period. Refers to income provision made to compensate for the loss of invested capital.
>
> **Effective tax rate** - determined by multiplying the level of assessment by the aggregate tax rate supported by that property. Used to calculate property taxes by applying the effective tax rate to full market value.
>
> **Mortgage/Interest rate** – interest rate used to convert future payments or receipts into present value.

CDU rating - modifies the normal age depreciation of an improvement according to the appraiser’s determination of the improvement’s condition, desirability, and utility.

Certificate of Error - a certificate issued by the assessing official and approved by the court to correct an error in the tax bill. Cannot be used to correct an error in judgement.

Chief County Assessment Officer (CCAO) - the individual appointed by a county board or elected in a county to assist township assessors in completing original assessments and to review their work. The CCAO has the power to revise and equalize assessments and is the Clerk of the Board of Review. In commission counties, the CCAO makes the original assessment.

Classification - the practice of classifying various types of property according to use and assigning different assessment levels to each class. The purpose is to tax various kinds of property at different effective tax rates though the nominal rate is the same.

Coefficient of Concentration (COC) - the percentage of observations falling within 10% of the median level of assessments; a high COC indicates more uniformity.

Coefficient of Dispersion (COD) - a statistical measure of variation of individual assessment ratios around the median level of assessments. An average error expressed as a percent of the median; an indicator of assessment uniformity found by dividing the average deviation by the median. It is the most common method used in measuring assessment uniformity.

Comparable - recently sold property that is similar in many aspects to a property being appraised.

Condition - a type of depreciation that refers to the physical condition of the improvement. Condition changes due to depreciation, such as wear and tear, use, and abuse.

County Assessor - an individual elected to oversee the assessment process in a county. In practice, a county assessor is responsible for making initial assessments rather than township assessors.

Cost approach - calculating the cost of reproducing the improvements, subtracting accrued depreciation, and adding land value.

Cost factor - used to adjust the cost schedules for differences in local construction labor and material rates.

Delinquent taxes - past due and unpaid taxes.

Depreciation - loss of value from any cause, *i.e.,* physical depreciation, functional obsolescence, and economic obsolescence.

Design factor - a factor applied to accommodate increased cost associated with complex architectural designs.

Desirability - a type of depreciation that refers to the economic or external depreciation, such as lack of appeal due to location, or some type of adverse influences outside the boundary lines of the property.

Eaves - lower edge of a roof, overhanging the side walls of a building.

Eave height - the height of a building from grade-level to the building's eaves.

Economic life - estimated period over which it is anticipated that a property may profitably be used. The period over which property will yield a return on and of the investment, over and above the economic rent due to land. This period can never exceed the physical life of the property and generally is shorter than physical life or endurance.

Effective age - age of an improvement based on the improvement's CDU rating; effective age does not always equal actual age.

Effective Gross Income (EGI) - potential gross income, less vacancy and credit loss, plus miscellaneous income.

Effective tax rate - determined by multiplying the level of assessment by the aggregate tax rate supported by that property; used to calculate property taxes by applying the effective tax rate to full market value.

Equalization - the application of a uniform percentage increase or decrease to assessed values of various areas or classes of property to bring assessment levels, on the average, to a uniform level of the market value.

Equalization factor - the factor that must be applied to local assessments to bring about the percentage increase or decrease that will result in an equalized assessed value equal to one-third of the market value of taxable property in a jurisdiction (other than farmland, farm buildings, coal rights, state-assessed property, and certain wind turbines).

Equalization multiplier - the application of a uniform percent increase or decrease to assessed values of various areas or classes of property to bring assessment levels to a uniform level of market value. The multiplier can be applied by Township Assessor (TA), Supervisor of Assessments (CCAO) or Board of Review (BR).

Equalized Assessed Value (EAV) - the assessed value multiplied by the State equalization factor. This gives the property value from which the tax rate is calculated after deducting all qualified homestead exemptions. For farm acreage, farm buildings, and coal rights, the final assessed value is the equalized assessed value. Individual tax bills are calculated by multiplying the individual district's tax rates by the equalized assessed value after all qualifying exemptions have been removed.

Equity rate - annual rate at which invested capital is returned to the investor over a specified period; refers to income provision made to compensate for the loss of invested capital.

Exemption - the removal of property from the tax base. An exemption may be partial, like a homestead exemption, or complete. One example would be a church building used exclusively for religious purposes.

Extension - the process in which the County Clerk determines the tax rate needed to raise the revenue (levy) certified by each taxing district in the county. Also, the actual dollar amount billed to property taxpayers in a district.

Factor - represents the adjustment to an appraisal for any number of variables.

Farm - when used in connection with valuing land and buildings for an agricultural use, any property used solely for the growing and harvesting of crops; for the feeding, breeding and management of livestock; for dairying or for any other agricultural or horticultural use or combination thereof; including, but not limited to, hay, grain, fruit, truck or vegetable crops, floriculture, mushroom growing, plant or tree nurseries, orchards, forestry, sod farming and greenhouses; the keeping, raising and feeding of livestock or poultry, including dairying, poultry, swine, sheep, beef cattle, ponies or horses, fur farming, bees, fish and wildlife farming.

> **Conventional farm** – the tending of all major and minor Illinois field crops, pasturing, foresting, livestock, and other activities associated with basic agriculture.
>
> **Intensive farm** – farm practices for which per acre income and expenditures are significantly higher than in conventional farm use. Intensive farm use often requires significantly more labor than conventional farm use.

Forfeited taxes - taxes which received judgment for sale of delinquent taxes but were not purchased at the tax sale and remain unpaid.

Front foot - a strip of land one-foot wide fronting a street, *etc*., and running the entire depth of the lot. (Lot size 50' x 150' FF = 50')

Front foot price - supposes that each foot of lot frontage is worth the same dollar amount; used to indicate lot value.

Geographic Information System (GIS) – a system developed for spatial analysis needs, such as planning, natural resources, and land records management.

Grantee - one to whom a grant is made (buyer).

Grantor - the person by whom a grant is made (seller).

Highest and best use - that (the property's) use determined to generate the highest net return to a property over a period of time, provided it is legal, reasonable, profitable, and probable.

Home Rule - local governments can exercise any local powers not denied to them by the state; without home rule, they can exercise only the power explicitly given to them by the state.

Improvement - any structure attached to, lying upon, or within the land that may not be removed without physical stress.

Income approach - calculating the present worth of the income from an income-producing property.

IRV formula - formula for income approach to value;
I (income) = R (capitalization rate) x V (market value).

Judgment - court-ordered authorization to sell delinquent taxes.

Land - the raw land without amenities, such as streets, utilities, etc.

Legal description - a description in words or numbers judged legally sufficient to locate and identify a parcel of land.

Level of Assessments - ratio of assessed value to the sale price.

Levy - the amount of money a taxing body certifies to the County Clerk to be raised by property taxes to meet its operating expenses.

Load bearing - walls of a building that support the structure.

Market Value - the most probable sales price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.

Mass appraisal - the process of valuing many properties as of a given date using standard methods and that provide uniformity.

Median - the middle value of a ranked set of numbers.

Mortgage interest rate - interest rate used to convert future payments or receipts into present value.

Natural boundary - any existing boundary that can be readily identified and located, *i.e.*, the boundary line of an adjacent parcel of land, a river boundary, ditch, wall, bluff, etc. Courses and distances, as a rule, give way to a call for a natural boundary, because a natural boundary, if fixed, is unchangeable and more likely to be the true call than courses and distances.

Neighborhood - the immediate environment or area having the most direct impact on a property's value.

Neighborhood factor - a factor applied when the neighborhood where a building is located directly affects the value of the buildings in that area.

Net Operating Income (NOI) - effective gross income, less allowable expenses and reserves for replacement.

Outlier - a Sales Ratio (SR) whose results are a large deviation from the median, either below the median or above the median.

Overall capitalization rate (OAR) - a capitalization rate used in the income approach to value. Net income divided by the selling price.

Overlapping taxing districts - taxing districts that are located in more than one county.

Parcel - in land ownership mapping for assessment purposes, a parcel is usually held to be a tract of land under one identical ownership. It may be a combination of two or more tracts acquired by separate deeds.

Party wall - common wall shared by two buildings. Multiply the length of the wall by 60% for an adjusted length. Use this adjusted length for perimeter only.

Potential gross income (PGI) - income that a property is capable of producing if 100 percent occupied for 100 percent of the time, based on market standards.

Principle of substitution - the informed buyer is not paying more for a property than it would cost him to acquire an equally desirable substitute property.

Property Index Number (PIN) - a brief legal description of a particular parcel by numerical reference to parcels on assessment maps. It is a fourteen-digit number. The first two digits refer to the geographical township; the second two, to the section in which the parcel is located; the next three, to the block number; the next three digits identify the parcel within the block; the last four digits identify the use of the parcel.

Property record card (PRC) - used to record individual property appraisals used for assessment.

Quality grade - used to adjust cost schedules for differences in the quality of construction materials and workmanship.

Redemption - the payment by owner or interested party, of sold taxes, interest, costs, and penalties, following a tax sale.

Remaining Economic Life (REL) - period of time over which a prudent investor would reasonably expect to recapture his or her investment.

Remaining Physical Life (RPL) – the tangible life span that an improvement should have remaining given its current effective age and considering its physical deterioration along with ordinary maintenance.

Replacement Cost New (RCN) - represents current cost of replacing an improvement.

Reserves for Replacement (RR) - replacement or repair cost of short-lived items pro-rated as an allowable expense to be deducted from effective gross income.

Residual - remaining value. Sales Price – Land Value = Building Residual (Building Value), or Sales Price – Building Value = Land Residual (Land Value).

Sale in error - real property which has been sold but later declared by the court to be an improper order for sale.

Sale in lieu of foreclosure - a transfer pursuant to a deed in lieu of foreclosure if the Grantee is a financial institution.

Sales comparison (or market) approach - calculating the value of properties by observing and analyzing the selling prices of comparable properties.

Sales Ratio (SR) - the ratio of assessed value to market value found from a property that has sold; ratio equals prior year (equalized) assessed value (AV or EAV) divided by the current year sales price (SP).

Sales Ratio study - an analysis of the percentage relationship of assessed value to market value. Ratio equals prior year assessed value divided by the current year sales price. A minimum of 25 useable sales/appraisals is required.

Short sale - property was sold for less than the amount owed to the mortgage lender or mortgagor, if the mortgagor has agreed to the sale.

Site - parcel that has been made ready to be used for the purpose for which it was intended.

Size & shape - a site's dimensions and area can create advantages and disadvantages for the site, which in turn can affect value.

State Property Tax Appeal Board (PTAB) - the State quasi-judicial body which hears appeals from taxpayers and taxing bodies on property tax assessment decisions of county boards of review.

Taxing body - a governmental organization that levies a property tax.

Taxing district - a territorial area under the taxing body's jurisdiction.

Tax base - composed of the Equalized Assessed Value (EAV) of locally assessed property, less all qualified exemptions, plus the value of any State-assessed property.

Tax rate - the amount of tax due stated in terms of a percentage of the tax base. Example: $6.81 per $100 of equalized assessed valuation (equal to 6.81%).

Tax sale - the process by which delinquent taxes are annually sold.

Tax year - the year of assessment. The tax year refers to assessments based on January 1 values of a given year; the taxes are billed in the calendar year immediately following the tax year. Ex. Tax year 2021 is assessments based on January 1, 2021 values. The taxes for tax year 2021 are billed in calendar year 2022.

Three approaches to value - sales comparison (or market), cost, and income approach.

Township (congressional township) – a township is a nearly square area of land containing 36 sections.

Units of comparison - used in the sales comparison approach when establishing an appropriate measure of value. Front Foot (FF), Square Foot (SF), and site value are typical units of comparison. The median unit value of the most consistent unit of comparison is used as an indicator of value when all the lots have exactly the same features.

Units of value - divides sales price by the number of units.

Warrant - a commission or document giving authority to do something. A collector's warrant gives the authority to collect the tax.

33 1/3% - means 33 ⅓ percent of the actual value of real property as determined by the Department of Revenue's Assessment / Sales Ratio studies for the three most recent years preceding the assessment year, adjusted to take into account the implementation of any changes in assessment levels since the data for such studies were calculated.

65-35 Rule - suggests that the utility of a lot is seriously affected by its shape, thus a loss in value. Applies to right-angle triangular shaped lots; if base is on the frontage, the lot has 65 percent of the value of a rectangular lot having the same frontage and depth, if the apex is located on the frontage, the lot has 35 percent of the value of a rectangular lot having the same frontage.

Acronyms

AEV = Agricultural Economic Value
AV = Assessed Value
BOR = Board of Review
CCAO = Chief County Assessment Officer
CDU = Condition, Desirability, Utility
EAV = Equalized Assessed Value
EGI = Effective Gross Income
IDOR = Illinois Department of Revenue
NI = Net Income
PGI = Potential Gross Income
PIN = Property Index Number
PRC = Property Record Card
PTAB = Property Tax Appeal Board
RCN = Replacement Cost New
REL = Remaining Economic Life
SF = Square Footage
SFFA = Square Foot Floor Area
SFGA = Square Foot Ground Area

Where to Get Assistance

When individuals are just starting out in the assessment field, they may often feel overwhelmed by their duties.

In addition to the Property Tax Code and the Illinois tax publications, there are many other resources available to the board member.

It is often helpful to talk with other assessors in your area for information on handling troublesome situations. The CCAO for your county can be very helpful regarding how you can better perform work-related responsibilities. Also, there are numerous assessment classes available from professional appraisal and assessment organizations to give you the tools to better perform your job, and the department is available to provide technical assistance in many areas.

When the question is of a legal nature, such as interpreting the statutes, you should check with your state's attorney, who is charged with enforcing the statutes in your county.

WEB LINKS

Property Tax Division: https://tax.illinois.gov/localgovernments/property.html

Property Tax Code (35ILCS 200): ilga.gov

Illinois Property Tax Appeal Board: ptab.illinois.gov

PUBLICATIONS

PTAX-1004, The Illinois Property Tax System
https://tax.illinois.gov/content/dam/soi/en/web/tax/research/publications/documents/localgovernment/ptax-1004.pdf

Publication 122, Instructions for Farmland Assessments
https://tax.illinois.gov/content/dam/soi/en/web/tax/research/publications/pubs/documents/pub-122.pdf

Publication 123, Instructions for Residential Schedules
https://tax.illinois.gov/content/dam/soi/en/web/tax/research/publications/pubs/documents/pub-123.pdf

Publication 126, Instructions for Commercial and Industrial Cost Schedules
https://tax.illinois.gov/content/dam/soi/en/web/tax/research/publications/pubs/documents/pub-126.pdf

Publication 127, Component-in-Place Schedules
https://tax.illinois.gov/content/dam/soi/en/web/tax/research/publications/pubs/documents/pub-127.pdf

Guide to Mathematical Terms and Equations

This guide explains mathematical terms and illustrates frequently used formulas and equations. Proceed to Unit 1 if you feel proficient in your math skills and do not need to review this material.

Percentages and Decimals

Percentage (%) denotes a standard of measurement that represents a whole quantity divided into 100 equal parts. For example, 20 percent refers to 20 parts of a total of 100 parts, which in terms of fractional values is written as 20/100.

Values are often written in percentages or decimals, and it is important to understand both the relationship between the two and the process of converting one to the other.

Note: *Frequently calculators will run specialized functions when the % key is used that is not the intention of the user. Unless an individual is confident in the use of the % key for the calculator, using the (%) key is not recommended.*

To convert from a percent to a decimal, divide the value by 100, or simply move the decimal point two places to the left. For example, 20% is found by dividing 20 by 100 and it becomes .20. The result is the same if the decimal point were moved two places to the left. For example, 5% becomes .05. A “0” must be placed to the left of the “5” to provide the second place before the decimal point can be moved two places to the left. By adding the “0”, 5.0% would change to .05 (which can also be read as 5 hundredths or 5 parts of 100 parts). Similarly, 8 ½% or 8.5% becomes .085.

To convert a decimal to a percentage, multiply the value by 100, or simply move the decimal point two places to the right. For example, .30 becomes 30%; .06 becomes 6%; and .0975 becomes 9.75%.

To multiply or divide percentages, convert the number to a decimal by moving the decimal point 2 places to the left. If a number does not have a decimal point, it is considered to be at the right of the number. 25% = 25.0% = .25

After the number has been converted to a decimal number, complete the calculation on the calculator and convert the answer back to a percent by moving the decimal point two places to the right and follow it with a percent (%) symbol.

Examples of **multiplying percentages**:

(1) 11% x 8% = .11 x .08 = .0088 = .88%
(2) 11 x 8% = 11 x .08 =.88 or 88%

Examples of **dividing percentages**:

(1) 20% ÷ 5% = .20 ÷ .05 = 4
(2) 20 ÷ 5% = 20 ÷ .05 = 400

To convert a percent to $ per $100 AV, carry the number over as it is and exchange the % sign with the $ sign. 4.00% = $4.00/$100 AV.

Examples of converting a percent to $/$100 AV:

(1) 27% = $27 / $100 AV = $27 per $100 of AV
(2) .0382 = 3.82% = $3.82 / $100 AV or $3.82 per $100 of AV

Exercise 1: Converting decimals to percent to $/$100 AV

	Decimal	Percent	$ per $100 AV
1.	_____	12.00 %	_____
2.	_____	1.75 %	_____
3.	.0325	_____	_____
4.	.0004	_____	_____
5.	_____	_____	$2.55 per $ 100 AV
6.	_____	.06 %	_____
7.	.1234	_____	_____
8.	_____	_____	$.033 per $ 100 AV
9.	.0225	_____	_____
10.	_____	.45%	_____

Percentages and decimals can be added, subtracted, multiplied, or divided.

Adding	20%	.20
	+ 5%	+.05
	25%	.25
Subtracting	20%	.20
	–5%	– .05
	15%	.15
Multiplying	20%	.20
	x 5%	x .05
	1%	.01

Dividing	20%	÷ 5%	=	4
	.20	÷ .05	=	4
	20	÷ 5%	=	400
	20	÷ .05	=	400

Factors

The factoring process involves the adjustment of a number by multiplication, resulting in a product either more or less than the original value.

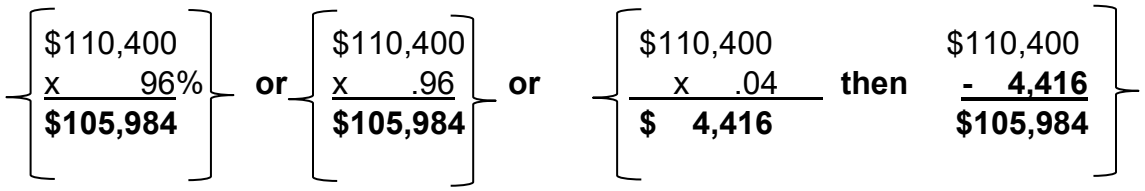
There are many types of factoring that may be used by an assessor to accurately value the individual characteristics of a parcel of property. Some examples include **quality grade, remaining economic life (REL), depreciation, cost, and time.**

Examples of Factoring

The appraisal publications' Replacement Cost New (RCN) value is $110,400. Since that time, costs have increased by 4%. To determine the factor to be used in this situation, add the 4% amount of the increase to the 100% value, which represents 100% of the original cost new.

$110,400		$110,400		$110,400		$110,400				
x 104%	**or**	x 1.04	**or**	x 4%	**+**	x 100%	=	**$114,816**		
$114,816		**$114,816**		$4,416		$110,400				

Again, assume the original cost is $110,400. This time the costs have *decreased* by 4%.



Unit 1 – An Overview of the Property Tax Cycle

The purpose of this unit is to provide a basic understanding of property taxation, the establishment of value for tax purposes, and the two-year property tax cycle, beginning with the creation of the assessment books and concluding with the sale of a lien on real estate due to nonpayment of taxes.

Learning Objectives

After completing the assigned readings, you should be able to

- outline the flow of the assessment books, from their creation through their use in preparation of the collector's books.
- identify the roles that various township and county officials play in the property tax cycle.
- identify established completion dates for various processes.

Terms and Concepts

Ad valorem tax
Assessment
Assessment date
Assessment cycle
Budget and levy cycle
Equalized assessed value (EAV)
Levy
Market value
Personal property
Real property
State-assessed property
Statutory level of assessments

An Overview of Property Tax

When Illinois became a state in 1818, the constitution contained a provision for taxing property in direct proportion to the value of property. From 1818 to 1930, amendments to the constitution provided the state with various powers concerning property taxation. The last year the state levied real estate taxes was 1932. Since then, property taxes have been levied at the local level.

Property tax is governed by the Property Tax Code, 35 ILCS 200/1-1 through 32-20. Property tax is a local tax assessed by the county or township. Revenues from property tax are collected and spent at the local level. The Department issues guidelines, determines county equalization factors, approves non-homestead exemptions, distributes assessment manuals, and provides technical assistance and assessment training to local assessing officials.

Property can be divided into two classes — real and personal. **Real property** is land, and anything permanently attached to the land, *e.g.,* buildings and fixtures permanently or constructively attached to a building. (Section 1-130.) **Personal property** is all property that is not real property. Some examples of personal property include automobiles, livestock, money, and furniture.

All owners of real property must pay property taxes unless specifically exempted by state law. Owners of business, industrial, agricultural, and residential property all pay property taxes. Renters also contribute to the property taxes but do so indirectly through their rent. Landlords consider taxes as a cost of doing business and adjust their rents to cover this cost.

In Illinois, taxpayers now pay property taxes only on their real property. Personal property tax on individuals was eliminated by the 1969 law that instituted the Illinois Income Tax. Corporations, partnerships, limited partnerships, joint ventures, and similar entities continued to pay taxes on personal property until 1979. These business entities now pay a replacement tax on income or invested capital. Business entities pay this tax to the Department, who distributes the monies to the local taxing districts in proportion to the amount received previously from the personal property tax.

Property taxes are raised, spent, and distributed locally. Property taxation produces more than three-fourths of the total tax revenue and finances a major part of the services provided by local governmental units that benefit citizens and their property. The largest share of the property tax goes to school districts.

Property tax is a tax that is based on the value of the property owned and is assessed according to its value. For this reason, it is often called an ***ad valorem*** **tax,** or a tax according to value. Value is a complicated concept with many definitions. Most real property in Illinois must be assessed based on its value in the open market. **Market value**

is the most probable sale price of a property in terms of money in a competitive and open market, assuming that the buyer and seller are acting prudently and knowledgeably, allowing sufficient time for the sale, and assuming that the price is not affected by undue stimulus.

Appraisals for *ad valorem* tax purposes shall assume property is owned in **"fee simple", meaning the total bundle of rights is considered to be intact.**
The determination of market value for tax purposes is the job of assessors, who use one or more of the following three basic approaches to estimate market value.

1. **Cost Approach**—calculating the cost of replacing the improvements, subtracting all depreciation, and adding the land value.

2. **Sales Comparison Approach (or Market Approach)**—calculating the value of property by analyzing the selling prices of comparable sales.

3. **Income Approach**—calculating the present value of the property by analyzing the income from similar income-producing properties.

The determination of market value requires skilled and knowledgeable assessing officials. To encourage assessing officials to improve their knowledge and skill in determining value, the state pays a stipend to any chief county assessment officer (CCAO), township assessor, deputy assessor, or member of a board of review who earns certain professional designations and continues his or her education each year.

The Property Tax Cycle

The property tax cycle—from the assessment of property to the collection and distribution of taxes—takes nearly two years for most property. Some steps take place concurrently, but basically the cycle can be divided into six steps.

1. Assessment
2. Review
3. Equalization
4. Levy
5. Extension
6. Collection and distribution

The Assessment Cycle

The assessment cycle begins with the creation of the assessment books and ends with review of the assessments by the Board of Review. The assessment cycle takes from nine to twelve months to complete, depending on the size of the county and the number of assessment complaints filed with each Board of Review. The steps in the assessment cycle are:

1. Assessment
2. Review
3. Equalization

Step 1: Assessment

An assessment involves four steps:

1. **Discover –** Find and inventory all real property using tax maps and property index numbers; find new construction by observation, reviewing building permits, and other methods. Several tools can be used to do this, including GIS software, Google, or sales records.
2. **List -** Describe the characteristics of land and improvements on property record cards, including the measurement and description of the improvements.
3. **Value -** Estimate the value of all real property in the jurisdiction and ensure uniformity and equity in the methods used and the market values produced.
4. **Assess -** Apply an assessment level to these market values to arrive at an assessed value for each of the properties in the jurisdiction. Ensure that the assessed values reflect a uniform level of assessments, and that these assessed values are derived from current market values.

This value is known as the assessment and is the basis for determining what portion of the total tax burden each property owner as of January 1 will bear. (Section 9-175) In Illinois, the statutory assessment level is one-third or 33 1/3 percent of market value, unless set otherwise by law. (Section 9-145)

Most property is locally assessed by township and county officials. In all counties except Cook and the 17 commission counties, township or multi-township assessors have the primary assessment responsibility. Assessors must qualify to hold office on the basis of prescribed course work in assessment techniques.

Commission Counties

The 17 commission counties are Alexander, Calhoun, Edwards, Hardin, Johnson, Massac, Menard, Morgan, Monroe, Perry, Pope, Pulaski, Randolph, Scott, Union, Wabash, and Williamson. These counties have no township level of government. The CCAO has the primary responsibility for assessments of property.

State Assessed Property

A few types of properties are assessed by the state, such as railroad property, railroad right-of-way and track, qualifying water treatment facilities and pollution-control facilities that have been certified as such by the Pollution Control Board. The value of **state-assessed property** is a small percentage of all taxable property. State-assessed property is valued by IDOR and these assessments are certified to the appropriate county clerks for inclusion in the local tax base.

Chief County Assessment Officers

Supervisors of assessments and county assessors are also referred to as Chief County Assessment Officers (CCAO). CCAOs may be elected or appointed. St. Clair and Cook counties have an elected County Assessor instead of a supervisor of assessments. The work of the township and multi-township assessors is subject to review and, if necessary, revision by the supervisor of assessments.

The supervisor of assessments must have two years of relevant experience, pass a qualifying statewide examination administered by IDOR, and possess a professional appraisal designation specified in the statutes.

Reassessment Requirements

In Illinois, per statute, property is to be viewed, inspected and valued once every four years. That fourth year is referred to as a general reassessment year (or a quad year). (*Cook County is on a three-year reassessment cycle with triad assessment districts.)* Between these **Quadrennial** assessments, assessors may revalue any property whose value has changed or is incorrect. Farm acreage must be reassessed annually.

A county may opt to divide the county into four quarter-quadrennial reassessment districts. Under this model, approximately one-fourth of the county is reassessed annually on a rolling four-year basis. For more information about quarter-quadrennial reassessment schedules, speak with the CCAO.

Farmland Assessments

Farmland acreage is reassessed by the local assessment officials annually using standard Farmland Assessment Certified Values that are certified by IDOR.

Procedures for the establishment of farmland assessments begin on May 1 in the year prior to the assessment date, with the certification of proposed values sent by IDOR to the CCAO. The values are used to make assessments for the assessment year beginning on the **following** January 1.

The Cycle Begins

The **assessment date** in Illinois is January 1. On January 1, the assessment cycle begins. Property must be valued as to its condition at that point in time. The Property Tax Code requires that on or before this date, the CCAO calls on the county clerk to receive the assessment books listing all parcels of real estate to be assessed in each of the townships in the county.

The assessment books contain columns for the Property Index Number (PIN), the name of the owner, the assessment by the township assessor, the assessment by the CCAO, and the assessment by the Board of Review for each parcel. The CCAO conducts a meeting with the township assessors to give instructions to the assessors, inform them of any changes, and give them the assessment books. Most counties now have computerized assessment books.

In most non-commission counties, township and multi-township assessors should complete their assessments **by June 15**. After the assessors have certified their assessment books as being correct and complete, they return them to the CCAO, who has until **the third Monday in June** or on or before the 90th day following the certification of the final township assessment roll in the county, whichever is later, to examine the books and make changes.

Assessment books are then given to the Board of Review for subsequent review and equalization. *(The Cook County assessor certifies the completed assessment books to the Board of Review as they are completed.)*

Taxpayers have the right to inspect property record cards and other assessment records for any property, subject to reasonable rules and regulations established by local authorities. (Section 9-30) With a few exceptions, assessment information is a matter of public record and subject to requests under the Freedom of Information Act.

Steps 2 & 3: Review and Equalization

Review and **intra-county** (within the county) equalization (in all counties except Cook) are performed by the CCAO and/or the Board of Review. While the CCAO and the Board of Review have the power to equalize, normally only one will do so.

The CCAO examines the assessment books and makes any changes that will make the assessments more accurate and/or more equitable. The CCAO may equalize assessments by applying a factor to all assessments for a township, an area, or a class of property.

All assessments that have been changed from the previous assessment year must be published in a newspaper. However, only the equalization factor(s) must be published for properties that had assessment changes due solely to equalization. Individual assessment notices must be mailed to taxpayers whose assessments were changed for any reason other than an equalization factor.

In a general reassessment year (a quad year), ***all*** values must be published whether or not there have been any changes.

Any assessment changes made by the CCAO are entered in the CCAO column in the assessment books. The CCAO certifies the assessment books to the Board of Review by the **third Monday in June** of the assessment year, **or on or before the 90th day following the certification of the final township assessment roll in the county**. They also send a **tentative abstract** of assessments to IDOR**.**

IDOR uses the information on the tentative abstract to determine if the level of assessments has changed since the data for the department's sales ratio study was collected. The department then certifies a tentative **inter-county** (between counties) equalization factor, often called a "tentative state multiplier," to the CCAO and a public hearing on the factor is held.

The Board of Review convenes **no later than the first Monday in June** in most counties and completes its work no later than March 15th of the following year. *The Cook County Board of Review convenes on or before the second Monday in September and adjourns 60 days after the date of the last delivery to the Board of Review of the assessment books for any township or taxing district.*

Any assessment changes are entered in the Board of Review's column in the assessment books. Whenever a change of assessment has been made, a change of assessment notice must be mailed to the taxpayers. The board must also make a full and complete list of all changes it has made and the final equalization factors it has applied. The BOR makes the final decision on property values at the County level.

A copy of the list(s) must be given to the CCAO and to the county clerk. These lists are a matter of public record and open for public inspection. The Board of Review then certifies the assessment books to the county clerk.

Completion of the Assessment Cycle

After the county clerk receives the assessment books from the Board of Review, the clerk prepares a final abstract of assessments that IDOR uses in the computation of the final (**inter-county**) equalization factor for the county. When the county clerk receives IDOR's certification of the final equalization factor and the certification of state-assessed properties, the clerk applies the final equalization factor to the local assessments as certified by the Board of Review. This results in the **Equalized Assessed Value (EAV)**. These EAVs are the final values used to compute tax rates and extend taxes.

The assessment cycle is **complete.**

The order to the flow of the books is:

Clara	County Clerk
Came	CCAO
To	Township Assessor
Chicago	CCAO
By	Board of Review
Car	County Clerk

The cycle begins and ends with the County Clerk.

Assessment cycle

County Clerk:	Prepares two sets of real estate books and delivers to the CCAO by January 1.
CCAO:	Meets with township assessors before January 1 and establishes guidelines; delivers one set of books to the township.
Township assessor:	Values real estate as of January 1 and returns books to CCAO by June 15; can equalize.
CCAO:	1. Reviews assessments made by township assessors; makes changes. 2. Equalizes assessments within county by class, by area, or by township. 3. Mails changes of assessment notices to taxpayers. 4. Publishes changes in newspaper of general circulation. 5. Delivers books to board of review by the third Monday in June, or on or before the 90th day following the certification of the final township assessment roll in the county, whichever is later. 6. Prepares tentative abstract of assessment report; mails report to the department.
Department of Revenue:	Develops tentative equalization factor; publishes factor in newspaper. Holds public hearing.
Board of review:	1. Assesses omitted property. 2. Acts on non-homestead exemptions and mails to department for approval. 3. Hears complaints and makes assessment changes on any property when deemed necessary. 4. Mails changes of assessment notices to taxpayers. 5. Equalizes assessments within county by class or area, if necessary. 6. Delivers books to county clerk. 7. Mails report on equalization to department. 8. Makes a list of changes and gives the list to the CCAO and county clerk.
County clerk:	Prepares final abstract of assessments and mails to department.
Department of Revenue:	Certifies final equalization and mails to county clerk.
County clerk:	Applies equalization factor to all local assessments, except farmland, coal rights, farm buildings, and state-assessed property.
Department of Revenue:	Certifies state assessments and mails to county clerk.
County Clerk:	Totals the EAV for each taxing district.

The Budget and Levy Cycle

While the assessment cycle determines the allocation of the tax burden among property owners, the budget and levy cycle determine the total amount of property tax to be paid by the property owners. The three steps in the budget and levy cycle are:

1. Levy
2. Extension
3. Collection and Distribution

Step 1: Levy

The Budget is the amount of money, by category, each taxing district determines it needs to operate and to provide services.

The Levy is the amount of money each taxing district determines it needs from the property tax.

The budget and levy cycle begins in the fall of the assessment year when most Boards of Review are still in session. Now, taxing districts have generally determined their budgets for the next fiscal year and have held hearings on their budgets. Taxpayers who are concerned with the amount of property tax distributed to taxing districts should attend these public hearings and voice their opinions.

After the budget is approved, the taxing districts can then calculate the levy. This amount is certified to the county clerk as the property tax levy **on or before the last Tuesday in December**. The amount levied is the amount the taxpayers will pay on their property tax bill in the following year.

Step 2: Extension

Extension is a two-step process that includes the:

- computation of tax rates
- application of those rates to the EAVs of individual parcels of real estate.

Once the assessment cycle is complete, the county clerk receives the assessment books from the Board of Review and applies the county equalization factor from IDOR to the individual assessments. With this information, and the levies received from the taxing districts, the county clerk proceeds with the **extension of taxes.**

In the first step, tax rates are computed by dividing a taxing district's levy by the total EAV of the parcels in that taxing district. Some tax rates are subject to statutory maximums. **If the calculated rate is above the maximum rate, the clerk uses the maximum rate.**

Example of computation of a tax rate:

Levy	=	$1,000
EAV in dist.	=	$100,000
Tax rate	=	Levy / EAV
Tax rate	=	$1,000 / $100,000
Tax rate	=	.010000 or 1.0000 percent

Tax rates are normally expressed in dollars per $100 of Assessed Value (or EAV). In the example above, the tax rate is $1 in taxes for each $100 of EAV.

In the second step of the extension process**, the individual tax bills are extended into the collector's book by multiplying the EAV of each property by the sum of the tax rates for all taxing districts in which the property is located**. The sum is called the **aggregate tax rate**. The typical aggregate tax rate includes rates from the county, township, school district, municipality, park district, fire protection district, etc., depending on where the property is located.

Example of tax extension (or calculating individual tax bills):

Assume the property's aggregate tax rate is $7.00 per $100 of the property's EAV. Assume the property's EAV is $20,000.

Tax bill	=	EAV x aggregate tax rate
Tax bill	=	$20,000 x $7/$100 (or .0700)
Tax bill	**=**	**$1,400**

For this example, the collector's book would normally show an abbreviated legal description of the property, the owner's name, the property index number (PIN), the EAV of $20,000, the tax code that indicates what combination of taxing districts the property is located in, the aggregate tax rate of $7.00/$100, the tax bill in two equal installments of $700 each, and spaces to enter the payments for the two installments. We will cover this further in Unit 2.

The statutory date for the delivery of the collector's books from the county clerk to the county treasurer, who also serves as the *ex officio* county collector, is December 31 of the assessment year. As a practical matter, the collector's books are not normally given to the county treasurer until March or April of the year following the assessment year, since

the levies are not due until the last Tuesday in December and some boards of review adjourn in December or later. This is 15 to 16 months into the property tax cycle.

Step 3: Collection and Distribution

The county treasurer prepares a property tax bill for each property listed in the collector's books. There are different billing installment methods that a county may opt for. Typically, the bill is mailed by May 1st of the year following the assessment year. For counties that use a two-installment method, the first installment is due by June 1, or 30 days after the mailing of the property tax bill, and the second installment is due on September 1.

When the treasurer begins receiving money, he or she distributes that money to the appropriate taxing districts.

Delinquent Taxes

Soon after September 1 or the final installment due date, the county treasurer prepares a list of properties for which taxes have not been paid. This delinquent tax list is published in a newspaper and notices are sent to the owners of the properties. These notices specify that the treasurer will apply to the circuit court for a judgment against the property for delinquent taxes. If the taxes remain unpaid, the court will order a lien on the property to be sold at the tax sale in the amount of the unpaid property taxes, interest, penalty, and fees.

The tax sale typically occurs in late October, approximately 22 months into the tax cycle, with the county clerk and the county treasurer presiding. A lien on the property is sold through a bidding process in which bidders, also called tax buyers, state the percent of interest for which they are willing to purchase the tax lien, starting at 18% per 6 months, and going lower until the lowest bidder purchases the lien. The tax buyer pays the amount of the lien and receives a "certificate of purchase" from the county clerk. The county treasurer then distributes revenues from the tax sale to the taxing districts.

Once the lien is sold, the property owner may redeem it by paying the amount of the lien, interest, penalty, and fees to the county clerk. The amount of the lien and interest is then paid by the county to the tax buyer, who must surrender the "certificate of purchase". A tax buyer may eventually obtain a tax deed for the property if the tax lien is not redeemed.

The following table shows a summary of the budget and levy cycle.

Budget and Levy Cycle

Taxing body:	1. Prepares tentative budget. 2. Publishes notice of public hearing; puts tentative budget on display 30 days before public hearing. 3. Holds public hearing. 4. Passes budget with changes in form of ordinance. 5. If necessary, makes truth-in-taxation publication and holds hearing. 6. Gives certificate of levy to county clerk by the last Tuesday in December.
County clerk:	1. Calculates tax rates and computes aggregate tax rate for each combination of taxing districts. 2. Extends taxes on the total EAV in each taxing district and enters the amounts in the collector's books. 3. Prepares and delivers collector's books to county treasurer by December 31.
County treasurer (collector):	1. Prepares and mails tax bills by May 1st.* 2. Collects first installment for real estate by June 1st.* 3. Distributes tax money proportionately to taxing districts as money is collected. 4. Collects second installment for real estate by September 1st.* 5. Prepares delinquent tax list and sends notice of application for judgment on real estate.
Circuit court:	1. Pronounces judgment for sale of a lien on real estate due to nonpayment of taxes. 2. Rules on tax objections.
County clerk and treasurer:	Administers sale of lien on real estate due to nonpayment of taxes.

* For counties that use accelerated billing, the estimated bill is mailed by January 31; the first installment is due by March 1 (or the date provided in the county ordinance or resolution); the last installment is normally due by August 1. Counties can also adopt a four-installment payment schedule.

Unit 1 Summary

Property is divided into two classes—**real** and **personal**. Property is assessed according to its condition on **January 1** of each year.

Ad valorem means according to value. Real property in Illinois is assessed according to value, therefore it is an ad valorem tax.

Market value is the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.

The three approaches to value are the **Cost Approach**, the **Sales Comparison Approach** and the **Income Approach**.

The **CCAO** reviews assessments made by township assessors and makes changes when deemed necessary. The **Board of Review** hears Assessment Complaints and makes changes to assessments when it deems necessary. The Board of Review makes the final decision on property values at the county level.

The **county clerk** calculates tax rates and extends taxes on individual parcels of property.
The **county treasurer** prepares and mails tax bills.

If taxes are not paid on time, the treasurer prepares **a delinquent tax list** and publishes a notice of application to the circuit court for judgment against the property for delinquent taxes, interest, penalties, and fees which results in a lien being placed on the affected property.

The county clerk and the county treasurer then conduct a **sale of the liens** at a tax sale each year. Only the liens for unpaid taxes, interest, penalties, and fees are sold, not the real estate.

The order in which the offices handle the assessment books is:

County Clerk
CCAO
Township Assessor
CCAO
Board of Review
County Clerk

A mnemonic to remember the order is: **C**lara **C**ame **T**o **C**hicago **B**y **C**ar.

Unit 1 Review Questions

1. Define *ad valorem* tax.

   _____

2. If a CCAO disagrees with the assessed value entered in the books by the Township Assessor, what does the CCAO need to do to update this value?

   _____

3. _____ is the major source of tax revenue for local governments.

4. What are the two classifications of property?

   _____ and _____

5. What four steps are involved in the assessment of any property?

   _____ _____

   _____ _____

6. List the 3 types of property assessed by the state.

   _____

   _____

   _____

7. What happens if an individual does not pay a property tax bill?

   _____

   _____

8. List in order, the offices that handle the assessment books, from the time they are created until the taxes are extended. *

   _____

   _____

   _____

   _____

   _____

   _____

   *This is for all non-commission counties except Cook

9. In all counties except Cook, property is to be viewed, inspected, and revalued once every _____ years.

   Cook County has a _____ year reassessment cycle.

Unit 2 – Levy

This unit covers the levy, tax extension, and tax bills.

The purpose of this unit is to provide a basic understanding of the calculation of tax rates for tax extensions.

Learning Objectives

After completing the assigned readings, you should be able to

- understand the formula for the determining the levy.
- calculate the levy.
- understand a tax bill.

Terms and Concepts

LAR Formula
Levy
Maximum tax rates
Tax Base

LAR Formula

The county clerk has the responsibility of calculating tax rates and extending taxes against individual properties. The county clerk must also ensure that no tax rate exceeds any limitation that may be imposed by law. Tax rates that are limited by the statutes are referred to as maximum tax rates.

Although the township assessor does not calculate tax rates or extend property taxes, taxpayers often contact the local assessor upon receipt of their tax bills.

A tax rate is calculated by dividing the levy by the tax base for each taxing district. This mathematical process is referred to as the LAR formula.

$$\frac{L}{A \times R}$$

Levy (L) — This is the amount of money a taxing district determines is necessary to raise from property taxes.

Tax base (A) — This is the amount of taxable EAV after removing all qualified exemptions and including all applicable values for state-assessed property in the taxing district.

Tax rate (R) — This is the percentage applied to the taxable EAV in the taxing district.

If any two values are known, the third value can easily be determined with this formula. If you cover up the letter representing the component you are trying to determine, the formula for determining the value of that component is left.

To find the levy, cover up the "**L**" in the formula so you are left with **A x R**. Multiple the tax base "**A**" by the tax rate "**R**".

If you know the levy and the tax rate, to find the tax base, cover up the "**A**" in the formula so you are left with **L and R.** Divide the levy "**L**" by the tax rate "**R**."

To determine the tax rate, cover up the "**R**" in the formula so you are left with **L and A.** Divide the levy "**L**" by the tax base "**A**."

Example 1 - Determining the Levy
L = A x R

If a taxing body has a tax base of $25 million and a tax rate of 2%, or .02, the amount to be raised from property taxes is $500,000.

$25,000,000 x 2% (.02) = $500,000

Example 2 - Determining the Tax Base
A = L ÷ R

If a taxing body has a tax levy of $500,000 and a tax rate of 2%, or .020000, the tax base is $25 million.

$500,000 = $25,000,000
2% (.02)

Example 3 - Determining the Tax Rate
R = L ÷ A

If a taxing body has a levy of $500,000 and a tax base of $25 million, the tax rate is .02, 2%, or $2.00/$100 AV.

$500,000 / $25,000,000 = .02 = 2 % = $2.00 / $100 AV

Exercise 2-1 - Tax Rates

	L	A	R
1	$590,000	$30,000,000	1.9667%
2		$10,000,000	4.5000%
3	$45,000		.6875%
4		$95,480,000	2.3615%
5	$240,000	$50,000,000	
6	$800,000		.7500%
7	$41,600	$54,257,900	
8	$150,000		.3550%
9		$12,750,000	.6544%

The tax rates determined in the previous exercise may be subject to maximum tax rates set by law. If the taxing district has a maximum tax rate and the calculated tax rate exceeds the maximum tax rate, the extension would be based on the maximum tax rate and the levy adjusted accordingly.

Individual Tax Bill

There are several processes involving different local government officials that are followed in determining an individual tax bill for most types of property.

1. A property is valued by the assessor to determine fair market value (MV).
2. The assessor determines the assessed value (AV) by multiplying the fair market value (MV) by 33.33% (.3333).
3. Equalization factors may be applied to the assessed value to derive the equalized assessed value (EAV) for the parcel.
4. After all qualified exemptions, such as various homestead exemptions, are deducted from the EAV, the remaining value becomes the taxable EAV.
5. The taxable EAV of each individual property is multiplied by the applicable tax rate for each of the taxing districts in which the property is situated.
6. All the amounts due each taxing district are added to obtain a total tax bill. Another way to produce the total tax bill is to multiply the taxable EAV by the aggregate tax rate. The aggregate rate is the total of all the tax rates from each taxing district in which the property is situated.

Exercise 2-2 - Tax Bills

Determine the tax bill on a residential property with a market value of $108,333, and a taxable EAV of $36,108. The property is situated in six taxing districts. Compute the tax rate for each taxing district (levy ÷ taxable EAV) and then determine the amount of tax due for each district and total (Aggregate) tax due. (Taxable EAV x tax rate).

	District	Levy	Taxable EAV	Rate	Prop EAV	Tax
1	School	$ 8,804,294	$235,408,929	3.7400 %	$ 36,108	$ 1,350.44
2	County	$ 175,017	$36,461,834	_____%	$ _____	$_____
3	Township	$ 226,355	$34,337,844	_____%	$ _____	$ _____
4	City	$ 250,047	$26,549,879	_____%	$ _____	$ _____
5	Fire	$ 58,575	$18,761,915	_____%	$ _____	$ _____
6	Library	$ 8,031	$ 2,477,989	_____%	$ _____	$ _____
	Totals			**_____%**		$ _____

Aggregate tax rate x Taxable EAV of this property = Tax Bill for this property

_____% $_____= $_____

Effective tax rate = $\frac{\text{Taxes billed}}{\text{Market Value}}$ = $\frac{\$\ \_\_\_\_\_}{\$}$ = _____%

The Aggregate rate is applied to the **Taxable EAV.**

The Effective tax rate is applied to **Market Value.**

Exercise 2-3

Determine the tax bill on a residential property with a market value of $215,655, and a taxable EAV of $71,878. The property is situated in six taxing districts. Compute the tax rate for each taxing district (levy ÷ taxable EAV) and then determine the amount of tax due for each district and total (Aggregate) tax due. (Taxable EAV x tax rate).

District	Levy	Taxable EAV	Rate	Property EAV	Tax
1 School	$ 93,452,105	$ 1,796,119,642	5.2030%	$ 71,878	$ 3,739.81
2 County	$ 4,232,750	$ 560,926,319	_____%	$_____	$ _____
3 Township	$ 1,062,962	$ 1,164,251,916	_____%	$_____	$ _____
4 City	$ 1,378,780	$ 146,913,160	_____%	$_____	$ _____
5 Fire	$ 1,272,125	$ 1,781,687,675	_____%	$_____	$ _____
6 Library	$ 642,132	$ 1,716,960,481	_____%	$_____	$ _____
Totals			**_____%**		$ _____

Aggregate tax rate x Taxable EAV of this property = Tax Bill for this property

_____% $_____ = $_____

Effective tax rate = $\frac{\text{Taxes billed}}{\text{Market Value}}$ = $\frac{\$\ \_\_\_\_\_}{\$}$ = _____%

The Aggregate rate is applied to the **Taxable EAV.**

The Effective tax rate is applied to **Market Value.**

Unit 2 Summary

The levy is the amount of money a taxing district receives from property taxes. It is calculated using the **LAR** formula:

$$\frac{L}{A \times R}$$

L is the levy

A is the tax base

R is the tax rate

Some tax rates are subject to maximum tax rates set by law. Each taxing district has its own tax rate.

All the districts' tax rates combined equal the aggregate tax rate. The effective tax rate is the total taxes billed divided by the market value.

When calculating a tax bill, multiply the total aggregate rate by the individual property's total taxable EAV to get the tax bill total, or add up all the individual taxing district tax dollars owed.

Unit 2 Review Questions

1. If the levy for a local taxing body is $60,000 and the EAV for the local taxing body is $15,000,000, the tax rate for this taxing district will be:

   _____%

2. If the levy for a local taxing body is $1,200,000 and the tax rate for the local taxing body is $3.25/$100 EAV, the equalized assessed value for this taxing district will be:

   $_____

3. The equalized assessed value for a local taxing body is $26,660,000 and the tax rate is $2.95/$100 equalized assessed value. The levy for this taxing body will be:

   $_____

4. The EAV for a local taxing body is $65,000,000 and the levy is $22,750. The tax rate for this taxing body will be:

   _____ %

5. If the levy for a local taxing body is $75,000 and the EAV for the local taxing body is $15,000,000, the tax rate for this taxing district will be:

   $_____/$100

Unit 3 – Ethics

This unit covers ethics and resources for Township Assessors.

The purpose of this unit is to discuss the importance of conducting business in an ethical manner and provide resources assessors can turn to for assistance.

Learning objectives

After completing the assigned readings, you should be able to

- understand the importance of ethical behavior.
- have a better understanding of where to seek assistance.

Terms and Concepts

Open Meetings Act
Freedom of Information Act

Ethics

Ethics is an important issue in government. As an assessor, you may be governed by a code of ethics that has been adopted by either the governing body in your assessment jurisdiction or by a professional organization with which you are affiliated. It is to your advantage to obtain a copy of the ethics code from your CCAO, township board, or the assessment organization with which you are affiliated.

The Illinois Property Assessment Institute (IPAI) has adopted a Certified Illinois Assessing Officers' Code of Ethics and Professional Conduct for all who hold a current CIAO designation. A sample of the IPAI's Code of Ethics is below. Assessors should contact their county officials as well for a copy of the ethics code adopted for their jurisdictions.

The following is excerpted from the 2019 version of IPAI's Guide to Ethics and Professional Conduct for CIAOs. These guidelines are appropriate for use by all assessment professionals.

Preamble

Assessment professionals provide the foundation for a fair and equitable property tax system. To act responsibly, they should reflect upon the wider impacts of their work and consistently strive to achieve the highest ethical standards to maintain the public's trust in the Illinois property tax system.

The CIAO Code of Ethics and Professional Conduct ("the Code of Conduct") is designed to inspire and guide the ethical conduct of all current and aspiring assessment professionals. It is an essential tool used to communicate and promote the highest standards of ethics, education, and professional excellence for the ultimate benefit of all stakeholders.

Code of Ethics

The CIAO code of ethics are founded on the fundamental principles and core values of integrity, respect, objectivity, accountability, transparency, and competency.

Professional Code of Conduct

I. **Integrity**. Designees must develop and retain the trust of all stakeholders by acting with integrity and honesty.

II. **Respect**. Designees must respect the worth and dignity of all individuals and perform all assessment duties to the best of their abilities without advocacy for, or accommodation of, any person or interest, using factual, objective, unbiased and honesty in all conclusions.

III. **Objectivity**. Designees must exercise independent professional judgment when conducting assessment analysis, making assessment decisions, and in all facets of their professional activities. They must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonable could be expected to compromise their own or another's independence and objectivity.

IV. **Conflict of Interest**. Designees should avoid a direct conflict between his/her official assessment duties and a competing interest or obligation, whether personal or involving a third party.

V. **Misrepresentation.** Designees must not knowingly make any misrepresentations relating to assessment analysis, decisions, actions, or other professional activities. Designees must not misrepresent having the CIAO, CIAO-I, CIAO-S, CIAO-M or any other professional designation that has not been conferred.

VI. **Misconduct**. Designees must not engage in any professional conduct involving dishonesty, fraud, or deceit, or commit any act that reflects adversely on the reputation and integrity of the assessment profession, or that leads to a conviction for a crime involving fraud dishonesty, false statements, or ethical dishonor.

VII. **Accountability/Transparency**. Designees are accountable to the public, tax district representatives, other government officials, employers, and employees. Designees should utilize public resources in a responsible, efficient, and deliberate manner, operate in an open and transparent environment and accept accountability for their actions in order to maintain the trust of all stakeholders.

VIII. **Impropriety.** Designees must conduct their professional duties in a manner that will not create impropriety or even the appearance of impropriety.

IX. **Knowledge of the Law**. Designees must perform all duties in a manner consistent with Illinois statutes and laws and must understand and apply all applicable rules and regulations, including the Code of Conduct, of any government, regulatory organization, licensing agency, or professional association governing their professional activities. Designees must not knowingly violate or assist in the violation of such laws, rules, or regulations.

X. **Education/Training**. Designees are encouraged to improve professional competence through continuing education and participation in assessment related professional associations, meetings, and/forums.

XI. **Best Practices**. Designees must demonstrate a commitment to improving the Illinois property tax system and to excellence beyond property tax laws by identifying and using industry-related technology and best practices.

XII. **Other Assessment Professionals**. Designees must strive to maintain the confidence and competence of other Illinois assessment professionals by advising, mentoring, and sharing best practices whenever possible. They must guide and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.

XIII. **Other Stakeholders**. Designees must strive to educate members of the public, tax district representatives, government officials, employees, and other stakeholders on the Illinois property tax cycle whenever possible.

XIV. **Reporting**. Designees have a duty to report to the IPAI any discipline or conviction against any CIAO designee or candidate for the CIAO designation.

XV. **Investigation Cooperation**. Designees must cooperate with any investigation involving violations of any applicable laws, rules, and regulations (including the Code of Conduct) of any government, regulatory organization, licensing agency, or professional association governing the property assessment profession.

The Freedom of Information Act

GENERAL PROVISIONS
(5 ILCS 140/) Freedom of Information Act
(5 ILCS 140/1) (from Ch. 116, par. 201)

Sec. 1. Pursuant to the fundamental philosophy of the American constitutional form of government, it is declared to be the public policy of the State of Illinois that all persons are entitled to full and complete information regarding the affairs of government and the official acts and policies of those who represent them as public officials and public employees consistent with the terms of this Act. Such access is necessary to enable the people to fulfill their duties of discussing public issues fully and freely, making informed political judgments and monitoring government to ensure that it is being conducted in the public interest.

The General Assembly hereby declares that it is the public policy of the State of Illinois that access by all persons to public records promotes the transparency and accountability of public bodies at all levels of government. It is a fundamental obligation of government to operate openly and provide public records as expediently and efficiently as possible in compliance with this Act…

The Open Meetings Act

GENERAL PROVISIONS
(5 ILCS 120/) Open Meetings Act.
(5 ILCS 120/1) (from Ch. 102, par. 41)

Sec. 1. Policy. It is the public policy of this State that public bodies exist to aid in the conduct of the people's business and that the people have a right to be informed as to the conduct of their business. In order that the people shall be informed, the General Assembly finds and declares that it is the intent of this Act to ensure that the actions of public bodies be taken openly and that their deliberations be conducted openly.

The General Assembly further declares it to be the public policy of this State that its citizens shall be given advance notice of and the right to attend all meetings at which any business of a public body is discussed or acted upon in any way. Exceptions to the public's right to attend exist only in those limited circumstances where the General Assembly has specifically determined that the public interest would be clearly endangered, or the personal privacy or guaranteed rights of individuals would be clearly in danger of unwarranted invasion.

To implement this policy, the General Assembly declares:

(1) it is the intent of this Act to protect the citizen's right to know; and

(2) the provisions for exceptions to the open meeting requirements shall be strictly construed against closed meetings.

“Meeting” means any gathering, whether in person or by video or audio conference, telephone call, electronic means (such as, without limitation, electronic mail, electronic
chat, and instant messaging), or other means of contemporaneous interactive communication, of a majority of a quorum of the members of a public body held for the purpose of discussing public business or, for a five-member public body, a quorum of the members of a public body held for the purpose of discussing public business.

Unit 3 Summary

As an assessor, you should conduct yourself in an ethical manner at all times. Remember that you are not alone in tackling your job. There are numerous sources of assistance available to you.

You should be familiar with the provisions or the Freedom of Information Act and the Open Meetings Act.

Unit 3 Review Questions

1. List two reference sources for assessors looking for information about ethics in their jurisdiction:

_____

_____

2. Is it a violation of the Open Meetings Act for an assessor to meet at the local diner with a taxpayer to discuss his assessment?

_____

Unit 4 – Duties, Responsibilities, and Procedures of the Township Assessor

This unit covers the qualifications, duties, and responsibilities for the office of township and multi-township assessor.

The purpose of this unit is to provide a basic understanding of the responsibilities and qualifications needed to hold office by the assessor; the Certified Illinois Assessing Officer (CIAO) designation; and provide an understanding of taxpayer complaints at the local level.

Learning Objectives

After completing the assigned readings, you should be able to

- identify the basic duties and responsibilities of an assessor.
- identify the qualifications for holding office.
- understand the CIAO designation and requirements.
- have a general understanding of the various types of taxpayer complaints and the informal and formal appeals processes.

Terms and Concepts

The Property Tax Code
Pre-election requirements
Informal Appeals
Formal Appeals

The statutory authority for township and multi-township assessors is the Property Tax Code. The Code is Act 200 in Chapter 35 of the Illinois Compiled Statutes (35 ILCS-200). Assessors must become familiar with the provisions of the Code.

Office Qualifications

Township and Multi-township Assessor qualifications

All candidates for township or multi-township assessor must file a Certificate of Educational Qualification issued by IDOR with their nomination papers under Section 2-45 of the Property Tax Code (35 ILCS 200/2-45). Candidates who are filing nomination papers, participating in a caucus, or participating as a write-in candidate must meet one of the minimum education requirements described below.

The requirements for township or multi-township assessors are generally based upon the equalized assessed value (EAV) of the assessment jurisdiction. Individuals who are being appointed to fill a vacancy or individuals contracting to do the work in a jurisdiction must also meet the applicable education requirements.

Important: Note that IDOR pre-appointment and pre-election education requirements are different from CIAO maintenance requirements.

Once all qualifications have been met, each candidate must file a PTAX-1176, Certification Application for elected, appointed, or contracted Assessors and forward it to IDOR so a Certificate of Educational Qualification can be issued.

Introductory (or smallest) assessment jurisdictions
EAV <$10M Residential and < $1M Commercial

In an introductory assessment jurisdiction with $10 million or less in non-farm EAV and less than $1 million in commercial and industrial EAV, Section 2-45(b) of the Property Tax Code (35 ILCS 200/2-45(b)) requires that a candidate must possess one of the following qualifications:

- Passed the Township Assessor-Introductory Course offered by IDOR (PTAX-1-T)
- Passed the Basic Course offered by the Illinois Property Assessment Institute prior to January 1, 1997
- Possess a designation approved for larger assessment jurisdictions

Intermediate assessment jurisdictions
EAV > $10M <$25M Residential and <$1M Commercial

In an intermediate assessment jurisdiction with more than $10 million in non- farm EAV and less than $25 million in non-farm EAV and less than $1 million in commercial and industrial EAV, the qualifications differ depending upon whether the candidate was previously elected in any such jurisdiction. If the candidate has **not** been previously elected to office in an assessment jurisdiction that in 1994 and thereafter had more than $10 million and less than $25 million in non-farm EAV and less than $1 million in

commercial and industrial EAV, Section 2-45(d) of the Property Tax Code (35 ILCS 200/2-45(d)) requires that a candidate must possess one of the qualifications for an **introductory** assessment jurisdiction under Section 2-45(b).

If the candidate **was previously elected** to office in an assessment jurisdiction that in 1994 and thereafter had more than $10 million and less than $25 million in non-farm EAV and less than $1 million in commercial and industrial EAV, Section 2-45(d) of the Property Tax Code (35 ILCS 200/2-45(d)) requires that **a candidate must possess one of the designations for a larger assessment jurisdiction** under Section 2-45(c).

Larger assessment jurisdictions
EAV >$25M Residential and > $1M Commercial

In a larger assessment jurisdiction with more than $25 million in non-farm EAV or more than $1 million in commercial and industrial EAV, Section 2-45(c) of the Property Tax Code (35 ILCS 200/2-45(c)) requires that a candidate must possess one of the following designations:

- A currently active CIAO designation from the IPAI.
- A currently active AAS, CAE, or MAS designation from the IAAO.
- A currently active MAI, SREA, SRPA, SRA, or RM designation from the Appraisal Institute.
- A currently active IFA, IFAS, or IFAC designation from the National Association of Independent Fee Appraisers.
- A currently active ASA designation from the American Society of Appraisers.
- A professional designation by any other appraisal or assessing association approved by IDOR.

All candidates are required to complete the PTAX-1176, Certification Application for elected, appointed, or contracted Assessors and forward it to IDOR so a Certificate of Educational Qualification can be issued. For any additional information regarding the education requirements for township or multi-township assessor, contact the Property Tax Assessment Education Program Unit by email at Rev.PropTaxEd@illinois.gov.

Candidates who plan to use one of the approved designations other than the CIAO need to request a letter of qualification from that organization. The letter of qualification from the other organization must specify the type of designation, membership status, and the time period for which the candidate is qualified.

Revised Qualifications Can be Petitioned for by the Township Board

A jurisdiction may be in a higher EAV category only due to a small number of high-value commercial/industrial properties. The township board of trustees may petition IDOR to review the qualifications of a particular jurisdiction and IDOR may change the qualification to that required for a lower EAV jurisdiction. This provision is covered by Section 2-52 of the Property Tax Code.

How Do I Know What My Jurisdiction's Qualifications Are?

Every four years, in the year before the scheduled township assessor elections, IDOR will certify to its website a list of qualifications needed for each jurisdiction.

A sample of the list follows:

MCDONOUGH	Township/Multi-township Name	Non-Farm Non-Mineral EAV (2018)	Commercial/ Industrial EAV (2018)	Pre-Election Qualification
	Blandinsville/Hire	9,402,937	970,741	Introductory
	Bushnell/Prairie City/Macomb/Mound	34,473,797	5,227,585	Designation
	Chalmers/Scotland	21,851,447	1,603,910	Designation
	Colchester Township	15,162,107	1,413,083	Designation
	Emmet Township	19,591,469	183,300	Intermediate
	Macomb City Township	175,794,207	64,486,579	Designation
	New Salem/Industry/Eldorado	14,524,167	601,543	Intermediate
	Sciota/Walnut Grove	11,097,259	2,069,924	Designation
	Tennessee/Lamoine/Bethel	11,292,628	290,611	Intermediate

A complete listing of all counties and townships can be found on IDOR's webpage. Look for "**2022 Township/Multi-township Certification by County**".

The Duties of a Township Assessor

There are 4 main steps in the job of the assessor. They are to:

1. Discover
2. List
3. Value
4. Assess

all real property within his or her jurisdiction as of January 1st. Real property is defined as land and any permanent structures attached to it. Some examples of real property are houses, retail stores, apartment buildings, factories, vacant land, and natural resources such as oil and natural gas.

Most property is assessed at 33 1/3 percent of market value by the assessor annually. Farm buildings are assessed based on their contribution to the farm. Farmland is assessed on the productivity of the soil as certified by values provided by IDOR to the

CCAO. Other types of property may qualify for preferential assessments as permitted by the Property Tax Code.

The actual value of real property is determined by actions in the marketplace - the buying and selling of property by the public. The assessor does not create the value of your property. The assessor simply has the statutory responsibility to accurately value property.

Property sales data is tracked by the assessor and IDOR to produce sales ratios studies, which indicate the levels of assessments in each township and county. If the level of assessments is above or below the statutory level of 33 1/3 percent of market value, the CCAO may apply equalization factors (also called multipliers) to adjust the value levels within the county. Establishing and maintaining equitable assessments is extremely important to ensure that the tax burden is distributed fairly among property owners.

The Illinois Property Tax Code

The are many resources available to answer questions, do research, and get the information and materials you need in order to fulfill your duties as a Township Assessor. The Property Tax section of the IDOR website is a useful place to start and has multiple publications dedicated to specific assessment topics. However, all materials on the website are derived from the information provided in the Illinois Property Tax Code and the Administrative Rules created as a result of the statute.

The Illinois Property Tax Code is just one portion of the Illinois Compiled Statutes (ILCS). The full text of the ILCS can be found on the Illinois General Assembly website at www.ilga.gov. The Illinois Property Tax Code is identified as 35 ILCS 200. From there, the Act is broken down into Titles, Articles, Divisions and Sections. Each portion focuses on specific topics related to Illinois property tax.

As a Township Assessor, it is critical that you are familiar with the statutes and know how to find applicable information. We have included Appendix A – Relevant Statutes from the Illinois Property Tax Code – 35 ILCS 200 at the end of this manual to help guide your research.

What else might the assessor do?

The assessor is often communicating with the public, answering questions, and dealing with concerns raised by property owners. Other local government officials who have an interest in the annual EAV also depend on information provided by the assessor.

The assessor’s office is a source of information utilized by realtors, appraisers, property investors, and taxpayers. The township assessor maintains property record cards with past and current information about each parcel in their jurisdiction. The information

includes a brief legal description, land size, dimensions of all the buildings and building types. The property record card also lists the sales history and any building permits that have been applied for. Property record cards are public information and are available for inspection during regular business hours. Taxpayers, realtors, appraisers and reporters are all entitled to view and copy the assessment records.

The assessor tracks and follows up on the building permits taken out at the city and county building departments, if applicable, and notifies property owners of eligibility for the Home Improvement Exemption (HIE). This is the only exemption where the assessor's office determines eligibility and calculates the amount. All other exemptions are filed at the county or state level.

Remember, the assessor's job ***is not*** to keep an assessment as high as possible or at its current level. The assessor's duty is to accurately value property. The assessor must be willing and able to explain all assessments.

When Meeting with a Taxpayer

Introduce yourself! Listen and try to determine what the actual complaint is. Most people just don't like their tax bill. Ask the taxpayer why he or she thinks the assessment is too high.

Review the PRC with the taxpayer. Is the property record card correct? Confirm that the property is accurately listed, described and that all current structures are accounted for. You may wish to verify that a taxpayer is receiving all exemptions for which they qualify. Take good notes; you may see several taxpayers and you'll want to remember as much detail about each property and taxpayer as possible.

A little education goes a long way. Take this opportunity to educate the taxpayer about how the property tax system works in Illinois. There are many resources available on the IDOR webpage that may be useful in these conversations or to provide the taxpayer with information to take with them. Ask a lot of questions. It is good practice to also thank the taxpayer for meeting with you.

Valid Reasons for a Taxpayer to Make a Complaint

After reviewing the information for their property, the taxpayer may still feel there is a discrepancy in their assessment. At this point, the taxpayer may make an assessment complaint.

The most common reasons for a taxpayer to file an assessment complaint are

- **fair market value**—the assessor's market value is higher than the actual market value.

- **lack of assessment equity** with similar properties.
- **inaccurate information**—the assessment is based on inaccurate information, such as incorrect measurements or an incorrect description of a building. This can often be corrected by the assessor before an assessment appeal is necessary.

How to determine the Fair Market Value

1. Obtain the Assessed Valuation of the property from the most recent tax bill.
2. Compare the Assessed Value to evidence provided by the taxpayer:
   - a recent sale (closing statement),
   - a recent appraisal (within 1 year), and/or
   - comparable sales.
3. If not enough evidence is presented, complete a Sales Comparison or Market Analysis study of recent comparable sales. These will be covered in a later unit.

How to determine Assessment Equity

- Determine the Median Level of Assessment for that jurisdiction.
- Request info from Assessor or CCAO.
- Perform an Equity Analysis.

Equity Analysis Process

1. Select 25 (or as many as are available) comparable neighborhood properties. These are ***not*** sales! This may include going for a drive or walking the neighborhood to find similar style homes. You will be looking up property PIN numbers and Property Record Cards for the Building Assessed Values and the Above Ground Square Feet number.
2. Calculate a Dollar per Square Foot Value for the Building only.
3. Rank those figures.
4. Select the Median (In the example that follows, $40.29/SF).
5. Evaluate the Subject Property (the one for the complainant) by the $/SF.
6. See where the Subject fits in the ranked scale of numbers.
7. Analyze.
   - Does the Subject rank higher than the Median? By how much? Is there a great range between the highest and lowest ranked numbers? What does this mean?
   - Does the Subject rank lower than the Median? If so, there may not be any adjustment needed.
   - Learn all you can about the Subject Property Features. Is it “special” in some way? Or is it pretty much the same as the other neighborhood properties?

PIN or Address	$ Building AV	SF Living Area	$ AV/SF Living Area	$ AV/SF Ranked
1	54,110	1,540	35.14	51.49
2	50,260	1,210	42.54	43.96
3	61,540	1,400	43.96	42.75
4	58,120	1,480	39.27	42.60
5	60,690	1,510	40.19	42.56
6	49,870	1,190	14.91	42.39
7	50,870	1,200	42.39	41.91
8	52,420	1,350	38.83	41.54
9	53,000	1,390	38.13	41.49
10	55,200	1,400	39.43	41.41
11	54,680	1,430	38.24	41.39
12	54,100	1,310	41.30	41.30
13	63,890	1,540	41.49	**40.29**
14	51,760	1,250	41.41	40.19
15	53,880	1,880	39.04	40.00
16	66,420	1,290	51.49	39.43
17	60,010	1,410	42.56	39.27
18	53,180	1,320	40.29	39.04
19	57,620	1,640	35.13	38.83
20	54,640	1,320	42.39	38.69
21	58,190	1,980	29.39	38.24
22	53,870	1,260	42.75	38.13
23	50,010	1,250	40.00	35.14
24	59,200	1,530	38.69	35.13
25	51,120	1,200	42.60	29.39

Based on the example worksheet above, ask yourself the following questions:

1. If $40.29 is the median dollar amount per SF of Assessed Value, is $45.00 per SF of Assessed Value reasonable? Is it too high? _____

2. Is it true that other comparable properties are being assessed at $30.00 per SF of Assessed Value? _____

What might be a reasonable resolution based on these numbers?

_____

Informal Appeal

If a property owner has a complaint, the local assessing official should be the first person contacted. An assessor who still has assessment books for a given year can correct any assessment. Calling an erroneous assessment to the assessor's attention early in the year may result in a correction without using the formal appeal process. Property owners should contact their township or county supervisor of assessments for information.

Formal Appeal

If the informal appeal is unsuccessful, the property owner should proceed with a formal appeal to the reviewing board in the county in which the property is located.

Steps in the Appeal Process

An appeal of assessment, other than land or farm buildings, has seven steps.

1. Determine the fair market value for the property.
2. Determine the prevailing assessment level in the jurisdiction.
3. Obtain the assessed valuation of the property.
4. Discuss the assessment with the assessor.
5. Determine the basis for the formal complaint.
6. File a written complaint with the board of review.
7. Present evidence of unfair assessment at the hearing to the board of review in counties other than Cook, or to the board of appeals in Cook County. If a property owner is dissatisfied with the board's decision, the owner can appeal the decision to the State Property Tax Appeal Board, in writing, or file a tax objection complaint in circuit court.

The local assessing official should be contacted for information regarding the steps in appealing a farmland or farm building assessment.

Evidence Needed

To support a claim of an unfair assessment, substantial evidence is required. Some evidence may be obtained from the township or county assessing official's office, from a professional appraiser, or through research. Pertinent evidence for nonfarm property should include some or all of the following:

- a copy of the property record card (PRC) and photograph for the property under appeal,
- a copy of Form PTAX-203, Real Estate Transfer Declaration, a deed, or a contract for purchase,
- an appraisal of the property,
- a list of recent sales of comparable properties, including photographs, PRCs, and evidence of the sale prices,
- a photograph of elements detracting from the value of the property not shown on the PRC and an estimate, in terms of dollars, of their negative effect on the market value, and
- a copy of PRCs and photographs of similar or neighboring properties.

Role of the board of review

Section 16-55 of the Property Tax Code states “On written complaint that any property is over assessed or under assessed, the board shall review the assessment, and correct it, as appears to be just, but in no case shall the property be assessed at a higher percentage of fair cash value than other property in the assessment district prior to equalization by the board or the Department.”

Reviewing assessment complaints is perhaps the most important function performed by the board during its session. A great deal of time, energy, and resources is required to ensure that a fair sharing of the tax burden through equity of assessments is achieved throughout the jurisdiction.

Unit 4 Summary

The statutory authority for township and multi-township assessors is the Property Tax Code. The Code is Act 200 in Chapter 35 of the Illinois Compiled Statutes (35 ILCS 200).

Under Section 2-45 of the Code, assessors are required to meet certain qualifications before filing nomination papers, participating as a candidate in any caucus, primary, or general election, or being appointed or contracted to the position.

Under Section 2-60, the township or multi-township district may either re-appoint, make new appointments, or develop new contracts with a qualified person to perform the assessments. The person contracted to complete the assessing in the district must also meet the qualifying educational requirements under Section 2-45, prior to entering into a contract with the assessment district.

Individuals in jurisdictions with higher EAVs are required to have a CIAO designation or one of the other designations approved by the department, as provided by the statutes. Individuals in jurisdictions with lower EAVs are required to complete the introductory course.

Township and multi-township assessors are responsible for the assessing of property within their respective jurisdictions. The duties of the assessor and the procedures for assessment of property are outlined in the Property Tax Code. There are also penalty provisions for assessors who fail to perform their duties in a responsible manner.

The year prior to the township assessor elections, IDOR certifies the EAVs and educational qualifications required for assessors in each jurisdiction on its website.

All individuals seeking election, appointment or contracted township assessor positions must request a Certification of Educational Qualification from IDOR prior to submitting nominating papers, caucusing, appointment or entering into any contract.

The assessor’s job is not to keep assessments as high as possible or at the current level. The job is to accurately value property.

Taxpayers can make informal or formal appeals. Taxpayers will follow up with township assessors to review PRCs and other pertinent assessment information. This is public information.

Unit 4 Review Questions

1. The 3 most common types of taxpayer complaints are:

   _____

   _____

   _____

2. Individuals in jurisdictions with a non-farm/non-mineral EAV of _____or more or a commercial/industrial EAV of _____or more are required to have a CIAO designation before running for office or being appointed to office.

3. Individuals in jurisdictions with more than $10 million and less than $25 million of non-farm/non-mineral EAV and less than $1 million of commercial/industrial EAV who have previously held office will be required to have an approved _____ prior to running for office.

4. **T** or **F** Once a pre-election qualification is set for a jurisdiction, it will never change.

5. **T** or **F** If a designation is required for a jurisdiction, there are multiple options. These options include, but are not limited to: CIAO, AAS, CAE, IFA, ASA.

6. **T** or **F** When seeking a township assessor position (elected, appointed, or contractual), there is no need to contact IDOR in advance.

Unit 5 – Land Valuation

This unit covers land valuation using the front foot method, the square foot method, and the site method. The purpose of this unit is to provide a basic understanding of calculating land values using these three methods.

Learning Objectives

After completing the assigned reading, you should be able to

- explain the various methods for valuing land.
- define the front foot method for valuing land.
- define the square foot method for valuing land.
- define the site method for valuing land.
- define property index number (PIN).

Terms and Concepts

“65-35 Rule”
Front Foot Value
Site Value
Square Foot Value
Unit Value
Property Index Number (PIN)

Land Valuation

Several principles are involved in land valuation. **Land is valued as if vacant and at its highest and best use,** meaning the use that will bring the greatest net return to the property over a reasonable period of time.

Highest and best use must be:

- **legal** - use must be legal and in compliance with zoning laws.
- **probable and physically possible** - use is reasonable and not speculative.
- **economically feasible** - use is in demand and with the potential of being profitable.

Land and Site

Land is considered to be raw land without amenities, such as streets, curbs, gutters, sidewalks, utilities, etc.

Site is defined as a parcel that has been made ready for its intended purpose.

Units of Value

1. **Front Foot Value**—The amount of frontage is often the most significant factor in determining value, particularly with commercial property.
2. **Square Foot Value**—The size is one of the most important factors in determining value and is also used to value irregular shaped lots.
3. **Site Value**—Location is a significant factor in determining value.
4. **Acreage**—The dollar per acre value is often the most important factor in determining rural residential land values.

The assessor must analyze the market to determine the most appropriate **unit of value** to be used. Unit value is determined by dividing the selling price of vacant land by the number of units, whether that “unit” is Front Foot, Square Foot, Site, or Acreage.

Example:

The selling price for a lot is $24,000. The lot is 80’ x 150’. (For lot dimensions, the first number is always the width of the lot. The second number refers to the depth of the lot.)

80’ x 150’ = 12,000 Square Feet

Front Foot Calculation: $24,000 ÷ 80’ = $300 per Front Foot

Square Foot Calculation: $24,000 ÷ 12,000 Sq. Ft. = $2 per Square Foot

Site Value Calculation: $24,000 ÷ 1 (Lot) = $24,000 per unit (Lot)

Adjustments to the basic unit value must be supported by the actual sales in the market. Adjustments may be required for:

- **time**
- **physical characteristics**, *e.g.*, trees, landscaping, topography, etc.
- **location**, *e.g.*, a corner lot or an interior lot.

Land Measure Explanations

A **Front Foot** (FF) is a strip of land one foot wide, running from the front of the lot to the rear. When using the front foot method, all front feet that run the entire depth of the lot have the same value. Some adjusts may be necessary, since not all lots have the same dimensions.

Irregular lot adjustments are made when the front foot is the unit of comparison. These adjustments assume that the utility of the lot may be affected by its shape.

The most common rule for shape adjustment is the **“65-35 Rule.”** It is based on the premise that a right-angle triangular shaped lot, with its base on the street, has 65 percent of the value of a rectangular lot of the same frontage. It also assumes that a right-angle triangular shaped lot with its apex, or point, on a street, has 35 percent of the value of a rectangular lot that has the frontage.

The **Square Foot** (SF) unit of comparison is commonly used **when size is the dominant factor in determining value**. The number of square feet is determined by multiplying the width x the depth.

Land Values

The assessor must place a separate assessment on the land (or site) and the improvements. Common land values that are used in this process are $ per square foot values and $ per acre values. Before either dollar values can be determined, the total square footage of an area or the total acreage must be calculated.

Square Foot

To determine the total square footage of an area, multiply the length of the area by the width of the area. **L x W = Total Square Footage**

One must keep in mind that if a triangular shaped lot is being valued using square feet as the unit of comparison, the size of the lot is determined by:

$$\frac{\textbf{Base X height}}{\textbf{2}}$$

Acreage

To convert total square footage into total acres, divide the total square footage of the area by **43,560** (the total square footage of 1 acre).

Exercise 5-1: Land Values

Site Shape	Measurements	Square Footage	Approx. Acreage
1. Rectangle	400’ x 800’	320,000	7.35
2. Rectangle	320’ x 480’	_____	_____
3. Triangle	320’ x 480’	76,800	1.76
4. Triangle	150’ x 180’	_____	_____
5. Square	150’ x 150’	_____	_____
6. Triangle	600’ x 900’	_____	_____

Exercise 5-2 Front Foot Rules
65/35 Rule for Right-angle Triangular Shaped Lots

The 65-35 Rule is based on the premise that a right-angle triangular shaped lot, with its base on the street, has 65 percent of the value of a rectangular lot of the same frontage and depth. It also assumes that a right-angle triangular shaped lot with its apex, or point, on a street, has 35 percent of the value of a rectangular lot of the same dimensions.

The lots in Exercise 5-2 have a standard depth of 100 feet. Use the front foot method to value these lots, using the following formula:

Lot value = number of FF x ($ per FF) x factor (65/35)

Compute the value for lot C first because it is a rectangular lot. To compute the lot value, multiply the 150' of frontage by the $100 per front foot value.

Lot C 150 FF x $100/FF = $15,000

Lot A is a right-angle triangular shaped lot with its base on the street and will carry 65 percent of the value of lot C, a full lot. To compute the value of lot A, chain multiply the 150' of frontage by the $100 per front foot value by the shape adjustment factor of 65% (.65).

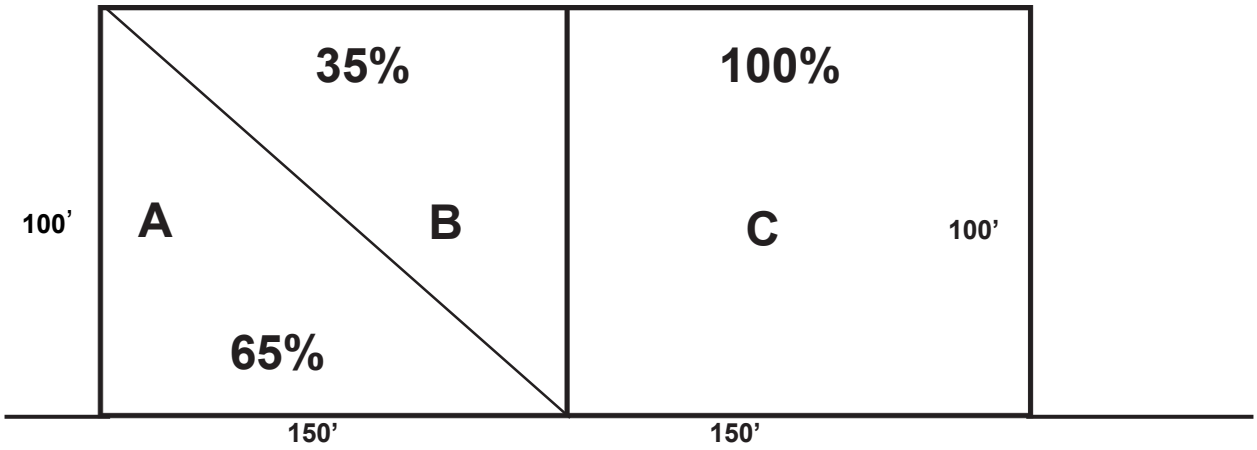
Lot A 150 FF x $100/FF x 65% (.65) = $9,750

Lot B is a right-angle triangular shaped lot with its apex, or point on the street, and will carry 35 percent of the value of lot C, a full lot. To compute the value of lot B, chain multiply the 150' of frontage by the $100 per front foot value by the shape adjustment factor of 35% (.35).

Lot B 150 FF x $100/FF x 35% (.35) = $5,250

Check the accuracy of your computations by adding the values for lots A and B. This value should equal the value of a full lot, such as lot C.

Exercise 5-2 65/35 Rule (Applies to Front Foot Only)



Compute the values for the three parcels above if the front foot value is $100/FF.

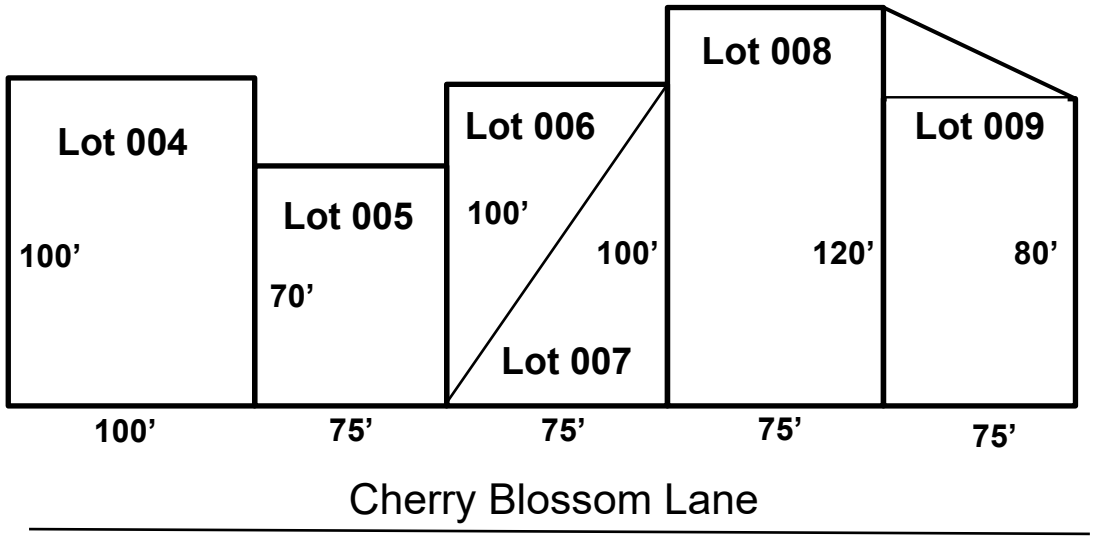
A _____
B _____
C _____

Exercise 5-3 Residential Lots-Measuring by Square Foot

The purpose of this exercise is to familiarize you with the valuation of lots with various shapes. For this exercise, the square foot value derived from the market is $1/SF.

Value the lots using the formula below.

Lot value = number of SF x $ per SF



Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____
Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____
Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____
Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____
Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____
Lot # _____ # Square Feet_____ $1.00 per SF Lot Value $_____

Lot 004

To compute the lot value using the square foot value as the unit value, multiply the frontage 100' by the depth of 100' by the square foot value ($1/SF).

100' x 100' x $1/SF = _____

Lot 005

To compute the $/SF value, simply multiply the frontage of 75’ by the depth of 70’. Then multiply by the $/SF

75’ x 70’ x $1/SF = _____

Lot 006

Determine the square footage of the triangular shaped lot. Multiply the base by the height and divide by 2. The square footage is then multiplied by the $/SF value.

$$\frac{\text{75’ x 100’}}{2} = \text{\_\_\_\_\_ SF x \$1/SF = \_\_\_\_\_}$$

Lot 007

Follow the same process for lot 007 as you did for lot 006.

$$\frac{\text{75’ x 100’}}{2} = \text{\_\_\_\_\_ SF x \$1/SF = \_\_\_\_\_}$$

Lot 008

Multiply the 75' of frontage by the depth of 120’ and then by the $/SF.

75’ x 120’ x $1/SF = _____

Lot 009

When using $/SF as the unit value, this lot will be divided into a triangular-shaped portion containing _____ SF, and a rectangular-shaped portion containing _____. Adding them together gives a total of _____ SF multiplied by $1/SF = _____for the entire lot.

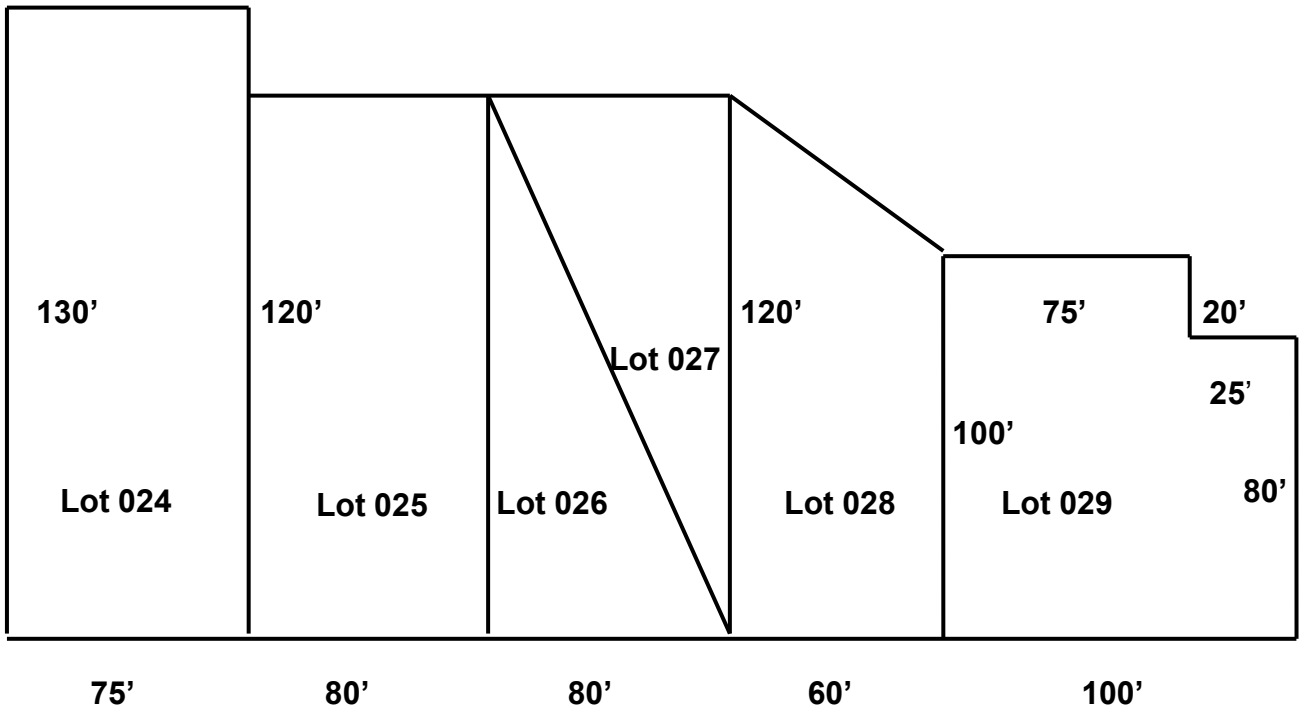
This lot contains _____SF x $1/SF = $7,500

Exercise 5-4
Calculating FF values and SF values

Calculate the FF values and the SF values for lots 024 through 029.

The FF value is $140/FF
The SF value is $.80/SF

Lot 024	FF value = _____	Lot 027	FF value = _____
	SF value = _____		SF value = _____
Lot 025	FF value = _____	Lot 028	FF value = _____
	SF value = _____		SF value = _____
Lot 026	FF value = _____	Lot 029	FF value = _____
	SF value = _____		SF value = _____



Exercise 5-5 Site Unit of Value

You are appraising a subdivision that began to be developed 10 years ago. Now it is nearing the end of its development life cycle. Approximately 70 percent of the sites are interior sites, lots with trees, and sites with level terrain. The remaining 30 percent consists of corner sites, sites with no trees, and sites with rolling terrain. It appears that the market responds to differences in location and physical features.

The seven sales below have been verified as arm's length transactions. Using the market data, determine the value for time, location, and physical features. Note: This exercise has been simplified for class purposes. When determining the value of features in the market, numerous pairs should be utilized.

Site	Sales price	Sale date	Location	Physical features
1	**$ 9,000**	**Current**	**Interior**	**Level - trees**
2	**$ 8,500**	**Current**	**Corner**	**Level - trees**
3	**$10,000**	**Current**	**Interior**	**Rolling - trees**
4	**$ 9,000**	**1 year ago**	**Interior**	**Rolling - trees**
5	**$ 8,000**	**Current**	**Interior**	**Level – no trees**
6	**$ 6,500**	**1 year ago**	**Corner**	**Level - no trees**
7	**$ 7,500**	**Current**	**Corner**	**Level - no trees**

To Determine Time Adjustments:

A time adjustment identifies sales with identical features except the sale date. Look for sales that meet those criteria. For instance, compare sale 1 to sale 2. The sale date is the same-current. We want sales that have different dates.

Look at sales 3 and 4. Sale 3 is a current sale and sale 4 sold 1 year ago. All other features are the same. But sale 3 (current) sold for $1,000 more than sale 4. Therefore, the time adjustment indicated is + $1,000 each year. Remember, this is a simplified exercise. In actual practice, many sales would be compared to determine the adjustment for each feature

Continue to compare sales to find adjustments for terrain, trees, and site location using the same method:

1. Based on the above sales, a site that sold today is worth $_____more than a site that sold a year ago. (Used sales 3 & 4)

2. A site that is on rolling terrain is worth $_____ more than a site on level terrain. (Used sales ___&___)

3. A site that has trees is worth $_____ more than a site without trees. (Used sales ___&___)

4. An interior site is worth $_____ more than a corner site. (Used sales ____&____)

Property Index Number

A **property index number,** or **PIN,** is a series of numbers that denote the geographic location and use of a parcel of land.

A PIN is a 14-character series of numbers that describe the geographic location and use of a specific tax parcel. No two parcels share the same PIN.

PINs are considered legal descriptions under the Property Tax Code, and every time the legal description of a parcel changes, a new PIN must be assigned.

Example 07 – 32 – 203 – 021 – 0040

07 = County Township Number - indicate the survey township in which the parcel is located. **The area or survey townships are numbered from left to right in the county beginning in the NORTHWEST corner.** The County Township Number is assigned by overlaying the government survey townships over the county.

32 = Township Section Number - The numbering of **sections** begins in the **northeast corner** of the township, and progresses west then east, back and forth in a serpentine manner

203 = Block Number - The next three digits correspond to the **block** or quarter section in which the parcel is located.

100 — 199 Blocks are in the northwest quarter section.

200 — 299 Blocks are in the northeast quarter section.

300 — 399 Blocks are in the southwest quarter section.

400 — 499 Blocks are in the southeast quarter section.

021 = Parcel Number - The next 3 digits, the 8th, 9th and 10th digits of the property index number, indicate the particular legal description within the quarter section in which the parcel is located

0040 = Use or Unit Number - The Unit or Use Number refers to the taxable use of the property, or in the case of condominiums, the unit number.

Common Use/Unit numbers:

0010	Rural property improved with buildings. Not assessed under the Farm Bill.
0011	Rural property improved with buildings. Assessed under the Farm Bill.
0020	Rural property not improved with buildings. Not assessed under the Farm Bill
0021	Rural property not improved with buildings, but assessed under the Farm Bill
0030	Residential vacant land
0040	Residential with dwelling
0050	Commercial residence – 6 units or more
0060	Commercial business
0070	Commercial office
0080	Industrial
0090	Miscellaneous
7000	Mineral rights
7400	Sand-gravel

Unit 5 Summary

The assessor is responsible for determining the value of both the land and the improvement for all properties located in his or her jurisdiction. **Land** is valued as vacant and at its highest and best use.

Several principles may be used to value land. The three most common units of value are **front foot value**, **square foot value, and site value**.

A **front foot** is a strip of land one-foot-wide running from the front to the rear of the lot. Adjustments may be necessary when using the front foot (FF) method to value residential property. The adjustments described below may be necessary.

An irregular lot adjustment is also made when the front foot value is the unit of comparison. These adjustments assume that the utility of the lot may be affected by its shape.

The most common rule for shape adjustment is known as the **"65-35 Rule."** It is based on the premise that a right-angle triangular shaped lot with its base on the street has 65 percent of the value of a rectangular lot having the same frontage. It also assumes that a right-angle triangular shaped lot with its apex, or point, on a street has 35 percent of the value of a rectangular lot having the same frontage.

The area of a triangle is found by multiplying the base by the height and dividing by 2.

A **Property Index Number,** or **PIN,** is a series of 14 numbers that denotes the geographic location and use of a parcel of land. The first two digits denote the **area** number, the second two digits denote the **section** number, the next three digits denote the **block** number, the next three digits denote the **parcel** number, and the last four digits denote the **use** code or **unit** number.

PINs are considered legal descriptions under the Property Tax Code, and every time the legal description of a parcel changes, a new PIN must be assigned.

Unit 5 Review Questions

Match these terms with the correct definition.

1. _____	"65-35 Rule"	**A**	As vacant and at its highest and best use.
2. _____	Front foot	**B**	Based on the premise that the value of a right-angle triangular shaped lot is affected by its shape.
3. _____	How land is valued	**C**	A strip of land one-foot-wide running from the front to the rear of the lot.
4. _____	$\frac{b \times h}{2}$	**D**	Based on the assumption that the front portion of the lot is more valuable on a unit basis than the rear portion
5. _____	$\frac{SP}{\#units}$	**E**	Area of a triangular-shaped lot
		F	Unit value

Unit 6 – The Cost Approach to Value

This purpose of this unit is to provide a basic understanding of the Cost Approach to value. The Cost Approach is one of the most common valuation methods used by assessors in doing mass appraisals.

Learning Objectives

After completing the assigned readings, you should be able to

- understand the formula for the Cost Approach to value.
- identify three types of depreciation and how they affect value.
- define a mass appraisal system.

Terms and Concepts

Cost approach
Cost factor
Physical depreciation
Functional depreciation
Economic depreciation
Mass appraisal
Replacement Cost New (RCN)

Mass Appraisal

Mass Appraisal is the valuation of many properties as of January 1 of the assessment year, using standard procedures that provide uniformity.

Unlike an independent appraiser, who has the time to carefully analyze the various approaches to value for a single property, the assessor may have hundreds or thousands of properties to value in a short period of time.

The purpose of mass appraisal is to produce equitable and efficient appraisals of all property in a jurisdiction for *ad valorem* tax purposes. A mass appraisal system should incorporate all three approaches to value, but most systems are primarily based on the cost approach.

The Cost Approach

The Cost Approach is the most accurate method of valuing new construction because no depreciation has yet occurred. This method consists of using known values for construction materials and labor (using IDOR Pub-123, Instructions for Residential Schedules) for the central Illinois area and adjusting those values for various features of the structure.

The market value of a property can be estimated using the **Cost Approach** by calculating the **Replacement Cost New (RCN)** of the improvements, subtracting the depreciation, and adding the land value.

An **improvement** is any structure attached to, lying upon or within the land that may not be removed without physical stress.

The formula for the cost approach is:

Market Value = (RCN – Depreciation) + Land Value

The **land value** is usually estimated by using the Sales Comparison Approach (Market Approach) to value. This approach is applied by comparing the subject site (land) with sales of comparable sites that are vacant.

Replacement Cost New (RCN) is the current, total cost of construction incurred by the builder to construct improvements **with the same utility** as the subject property. It may or may not be the same cost of reproducing an exact replica of the subject improvements (Reproduction Cost). The distinction between the two is that replacement cost refers to a substitute property of equal utility and reproduction cost refers to an exact replica property. In a particular situation, the two concepts may be interchangeable, but not necessarily so. Both RCN and reproduction cost have their applications in the Cost Approach to value.

Replacement cost usually represents the upper limit of value of a structure. The difference between RCN and the present value is **depreciation**, the loss of value from all causes. In the Cost Approach, it is necessary to estimate the amount of depreciation.

Three Types of Depreciation

1. Physical depreciation
2. Functional depreciation (or obsolescence)
3. Economic depreciation (or obsolescence)

Depreciation can also be either **curable** or **incurable**.

- **Curable** - Depreciation is curable when the cost to cure will add to the market value; for example, short-lived components such as windows, doors, floor coverings, roofs, *etc*.

- **Incurable** - Depreciation is incurable when the cost to cure is greater than the increase to the market value; for example, foundation, studs, and rafters.

Physical Depreciation

Physical Depreciation is defined as the loss of value due to deterioration, *e.g.*, wear and tear, time, and the action of the elements. The physical life of a building is dependent on:

- the degree of maintenance it receives,
- the type and quality of the materials used in its construction, and
- the soundness (workmanship) of the builder.

Physical depreciation can be **curable** or **incurable.**

Curable examples include short-lived components such as windows, doors, floor coverings, and roofs.

Incurable examples include long-lived components such as foundations, studs and rafters.

Functional Depreciation (or Obsolescence)

Functional Depreciation is defined as the loss of value resulting from conditions ***inside*** of the property.

Examples of functional depreciation include the following.

- In many older houses the only bathroom is in a less than ideal location
- It is necessary to pass through a bedroom to get to the only bathroom
- There is an outdated electrical system; for example, “knob and tube” wiring
- There are very low or very high ceilings

Functional depreciation can be **curable** or **incurable.**

> **Curable** examples include a lack of an air conditioning system or low hanging pipes.
>
> **Incurable** examples include a poor floor plan, or very low ceilings.

Economic Depreciation (or Obsolescence)

Economic Depreciation is defined as the loss of value resulting from conditions ***outside*** of the property. Economic depreciation is almost always **incurable**.

Examples of economic depreciation include the following.

- Location — a change in traffic pattern, noise, or pollution.
- Economic — high interest rates, high unemployment, or businesses closings.
- Governmental — zoning changes, poor services, and high taxes.

The Responsibility of the Assessor

Simply stated, the job or responsibility of the assessor is to place an assessed value in his or her column of the assessment books for each of the properties in the jurisdiction. There are four steps the assessor must complete for each property in the jurisdiction. The assessor must

1. **Discover** find and inventory all real property using tax maps and property index numbers; find new construction by observation, reviewing building permits, and other methods.

2. **List** describe the characteristics of land and improvements on property record cards, including measurements of improvements.

3. **Value** estimate the value of all real property in the jurisdiction and ensure uniformity and equity in the methods used and the market values produced.

4. **Assess** apply an assessment level to these market values, arriving at an assessed value for each of the properties in the jurisdiction. Ensure that the assessed values reflect a uniform level of assessments, and that these assessed values are derived from current market values.

Unlike an independent appraiser, who has the time to carefully analyze the various approaches to value before arriving at an estimate of value for one property, the assessor must estimate values within a relatively short period of time. The assessor is a mass appraiser.

The Appraisal Publications are designed for mass appraisal. The cost schedules discussed in a later Unit are used to apply the cost approach to value in a mass appraisal system. It is unreasonable to expect that every building value obtained using these schedules will be exact. However, it is expected that the value estimates produced be well within tolerable limits. The outcome of this system still depends greatly on the professional judgment of the assessor. This is especially true when the assessor must use factors that will adjust various values before arriving at the final value of the subject property. These factors are defined in the following unit. There are guidelines that can be used to establish factors, but the assessor must continually rely on his or her skill and experience when assigning individual factors to each property.

Cost Factor

The figures provided in Publication 123, Instructions for Residential Schedules (Pub-123), represent the cost of labor and materials in central Illinois. A cost factor is designed to adjust the Appraisal Publications' RCN value to reflect the local cost of labor and material in other areas. The use of a cost factor may be necessary for any assessor whose jurisdiction is not similar to the central Illinois area. The cost to build may be higher or lower in your particular jurisdiction. You can calculate a cost factor by performing a cost factor study for use with the class exercises.

Steps in calculating a cost factor:

Step 1 Find arms-length sales of improved properties on which the improvements are one year old or less, which eliminates adjusting for depreciation.

Step 2 Subtract the current land values from those sale prices to obtain the value of the improvement or building.

Building value = sale price – land value

Step 3 Determine the RCN for each building.

Step 4 Divide each building value by the corresponding RCN to obtain a cost factor for each sale.

$$\text{Cost factor} = \frac{\text{Building Value}}{\text{Publication RCN}}$$

Step 5 Rank the factors.

Step 6 Select the median factor as the overall cost factor.

Step 7 Apply the overall cost factor to the Appraisal Publications RCN of all property within the jurisdiction.

The true RCN is equal to the Appraisal Publications' RCN multiplied by the cost factor.

True RCN = Publication RCN x cost factor

Exercise 6-1 - Cost Factor Study

The purpose of a cost factor study is to determine the factor to be used to adjust the values found in the Appraisal Publications to reflect the labor and material costs found in your local area. Once this factor is determined, it is applied to all construction within the jurisdiction.

Note: When computing a cost factor, it is important to remember to use only improvements that have an actual age of one year or less, which eliminates the need to factor in depreciation.

A cost factor greater than 1.00 indicates that the Appraisal Publications' values are too low for the jurisdiction, so you must increase the RCN values. A cost factor less than 1.00 indicates that the Appraisal Publications' values are too high for the jurisdiction, so you must decrease the RCN values.

In this exercise, use the worksheet on the following pages to determine a cost factor for 15 sales. There are several formulas that you will need to use to determine the cost factor. The first formula is used to determine the building value or building residual.

Step 1 Looking at Sale 1, the age column lists the improvement as new. To find the building residual, subtract the lot value of $20,000 from the sale price of $112,000. The remainder of $92,000 is the building residual, or building value.

Building residual = sale price - lot value

$112,000- $20,000 = $92,000

Step 2 Divide the building residual of $92,000 by the Appraisal Publications' RCN of $88,000, which gives you a cost factor of 1.05.

Note: For this exercise round to 2 decimal places.

Cost factor = building residual ÷ Publications' value

$92,000 ÷ $88,000 = 1.05

Looking at Sale 2, the age column lists the improvement as new. Use the formula for the building residual and subtract the lot value of $20,000 from the sale price of $99,300, which produces a building residual of $79,300.

$99,300 - $20,000 = $79,300

Divide the building residual of $79,300 by the Appraisal Publication RCN of $75,000, which gives you a cost factor of 1.06

$79,300 ÷ $75,000 = 1.06 cost factor

Continue the computations for the remaining sales.

Step 3 The last step is to select the median after ranking all the cost **factors that meet the age criteria. In other words, throw out sales that are over 1 year old!** The factors can be ranked from highest to lowest or from lowest to highest.

Note: If you have an odd number of factors, select the median or middle value as the cost factor for your jurisdiction. If the number of factors is even, add the two middle factors together, then divide the sum by two, and use the average as your cost factor.

The cost factor that is determined is applied to all construction within a jurisdiction and will be used for all of the residential property record card (PRC) examples in this workbook.

Exercise 6-1 worksheet
Cost Factor Study

Sale No.	Age	Sale Price	Lot Value	Building Residual	Manual Value	Cost Factor
1	N	112,000	20,000	92,000	88,000	1.05
2	N	99,300	20,000	_____	75,000	_____
3	22	66,200	15,500	50,700	55,200	0.92
4	N	72,500	14,000	_____	50,000	_____
5	N	97,000	15,500	81,500	85,000	0.96
6	N	89,200	18,000	_____	70,900	_____
7	N	89,300	18,000	71,300	70,900	1.01
8	N	106,500	21,000	_____	82,000	_____
9	N	78,200	14,000	64,200	65,000	0.99
10	N	108,900	21,000	_____	81,000	_____
11	N	88,800	15,500	73,300	77,200	0.95
12	37	86,500	15,000	71,500	77,500	0.92
13	N	99,000	12,000	_____	81,000	_____
14	N	101,000	19,500	81,500	82,000	0.99
15	3	115,000	20,500	94,500	90,000	1.05

Rank

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____
7 _____
8 _____
9 _____
10 _____
11 _____
12 _____

Add the number ranked #6 to the number ranked #7 and then divide by 2 to find the median.

Median = _____

Unit 6 Summary

The market value of a property can be estimated using the **Cost Approach** by calculating the **Replacement Cost New (RCN)** of the improvements, subtracting the depreciation, and adding the land value.

MV = (RCN – Depreciation) + LV

The Cost Approach is the most accurate method of valuing new construction **because no depreciation has yet occurred**.

Replacement cost usually represents the upper limit of value of a structure. The difference between RCN and the present value is **depreciation**, the loss of value from all causes.

There are three types of depreciation that exist:

1. physical depreciation,
2. functional depreciation (or obsolescence), and
3. economic depreciation (or obsolescence).

The appraisal publications are designed for **mass appraisal**.

A cost factor is designed to adjust the values in a cost schedule to reflect the local cost of labor and materials.

The formula for determining a cost factor is: $\frac{\text{Building Value}}{\text{Publication RCN}}$

Unit 6 Review Questions

1. What are the three types of depreciation? Place an “X” beside the one which is generally incurable.

   _____ _____

   _____ _____

   _____ _____

2. What is the formula for calculating a cost factor?

   _____

3. What is the formula to find Building Residual?

   _____

4. What is the formula to calculate Market Value?

   _____

5. What is a mass appraisal system?

   _____

   _____

   _____

6. Complete the cost study on the next page and find the median. The median is

   _____.

Cost Study for Review Question #6

Sale	Sale Date	Sale Price	Land Price	Building Residual	Publication RCN Value	Cost Factor
1	N	112,000	20,000	92,000	88,000	
2	26	99,300	20,000	79,300	75,000	
3	N	66,200	15,500	50,700	55,200	
4	29	72,500	14,000	58,500	50,000	
5	N	97,000	15,500	81,500	85,000	
6	20	89,200	18,000	71,200	70,900	
7	N	89,300	18,000	71,300	70,900	
8	N	106,500	21,000	85,500	82,000	
9	N	78,200	14,000	64,200	65,000	
10	N	108,900	21,000	87,900	81,000	
11	N	88,800	15,500	73,300	77,200	
12	37	86,500	15,000	71,500	77,500	
13	N	99,000	12,000	87,000	81,000	
14	N	101,000	19,500	81,500	82,000	
15	3	115,000	20,500	94,500	90,000	

Rank the factors and find the median.

_____

_____

_____

_____

_____

_____ Median is _____

_____

_____

_____

_____

_____

_____

Unit 7 – Mass Appraisal and Residential Square Foot Schedules

This unit covers the mass appraisal system and the various factors used to adapt a mass appraisal system to local jurisdictions. It also covers the residential square foot schedules in the Appraisal Publications.

The purpose of this unit is to provide a basic understanding of a mass appraisal system and its use. In addition, the unit explains the use of the schedules to value property using the cost approach.

Learning objectives

After completing the assigned readings, you should be able to

- identify the various factors used to adjust the appraisal publications.
- explain how the various factors are obtained and used.
- identify the use of the appraisal publications.
- identify and use the various cost tables in the manual.
- understand and use a remaining economic life (REL) depreciation table.

Terms and Concepts

Actual age
Base price
CDU (condition, desirability, and utility) rating
Cost approach
Depreciation
Effective age
Full value
Property record card 1 (PRC-1 2019)
Property record card 2 (PRC-2 2019)
Quality grade
Remaining economic life (REL)
Replacement cost new (RCN)
Standard 5 plumbing fixtures

Factors used with the Appraisal Publications (Cost Schedules), (Publications 123, 126, 127, etc.)

Cost Factor

As discussed in Unit 6, a **cost factor** is designed to adjust the Appraisal Publications' RCN value to reflect the local cost of labor and material in other areas. The use of a cost factor may be necessary for any jurisdiction that is not similar to the central Illinois area.

Quality Grade

The accuracy of an RCN obtained from the Appraisal Publications is greatly affected by proper quality grading. A **quality grade** represents the quality of construction, workmanship, and materials used in a project. The quality of workmanship and materials can greatly affect the cost of construction and the value of the improvement. It is best to determine the quality grade when a property is being built and when field work is being performed.

The majority of improvements fall within a definite class of construction involving average quality of workmanship and materials. This type of construction is designated as grade "C" which carries a factor of 100 percent or 1.00. The cost tables in the Appraisal Publications represent quality grade "C." A different quality grade factor may be used if the subject property was not built using average quality materials and workmanship.

There are six basic quality grades in the Appraisal Publications:

Quality grade	Quality Description	Factor
AA	Superior	225 percent
A	Excellent	150 percent
B	Good	122 percent
C	Average	100 percent
D	Cheap	82 percent
E	Very Cheap	50 percent

Pluses and minuses after the letter grade can be used to fine tune these adjustments. For example a "C+10" grade improvement would have a grade factor of 10 percent above "C," or 110 percent.

A quality grade must be assigned to each improvement and should be established during construction if possible. During the lifetime of a property, a quality grade generally remains the same.

It is important not to confuse **quality** and **condition.** Condition refers to the physical condition of the improvement. Condition changes due to depreciation, such as wear and tear, use, and abuse.

Quality grade depends on the kinds of materials and workmanship used in the construction of the improvement. If these materials remain, the quality grade will remain the same until what is considered “typical” in the market changes. In general, higher quality materials deteriorate more slowly than poorer quality materials, all other things being equal. A quality grade of “C” is average or typical for the standards and materials at the date of valuation.

Design Factor

Another factor that may be used to adjust a building’s RCN is the **design factor**. The cost schedules in the Appraisal Publications are designed for use in determining RCN values for conventional, rectangular shaped structures of compact, efficient design. Architectural designs have become more diverse. There is an increased cost associated with such structures due to the need for more material and more labor per square foot. The following details should be considered in determining whether to use a design factor:

- Unusual architectural design and irregular foundation outline
- Wide roof overhangs
- Large number of built-ins
- Large number of special features, like large fireplace chimneys, floor to ceiling windows, etc.

The design factor is handled in the same manner as a quality grade factor; it is assigned to individual homes and should remain unchanged during the life of the structure.

To determine a design factor, the percentage increase or decrease in cost due to the design feature or features must be determined. These costs should be verified through the contractor. The original contractor can provide a certified construction cost value. Several opinions from local contractors are also beneficial in verifying costs.

A design factor can be determined by the formula

$$\frac{\textbf{Contractor's Costs}}{\textbf{Pub-123 RCN}}$$

Typically, a minus 13 percent to a plus 50 percent adjustment is made to the Appraisal Publications' RCN value when using a design factor. A design factor is more commonly used in quality grades "B," "A," and "AA" improvements, although it may be required for grade "C" construction.

Appraiser Factor

A jurisdiction may have more than one assessor. Some jurisdictions may employ field appraisers to determine the quality grades of all buildings within that jurisdiction. Because quality grades are based on the judgment of one individual, it is possible that quality grades may be assigned that are consistently higher or lower than what other assessors or appraisers in that jurisdiction would have assigned to those buildings. To maintain uniformity, an appraiser factor is required to bring those buildings, valued by that particular individual, more in line with the value of the rest of the buildings in the jurisdiction. This factor is applied to all the parcels listed by the individual assessor.

The appraiser factor is developed using a method similar to that used to obtain the cost factor. Additional information on this factor and other factors are available in the Appraisal Publications.

Neighborhood Factor

The neighborhood where the property is located has a direct effect on the value. The neighborhood of a property may be defined by a natural boundary formed by rivers, or political boundaries formed by zoning to protect the common use in an area. The neighborhood should be analyzed to determine if the area is in a stage of growth, stability or decline in order to estimate the future use and value.

A Review of the Factors

The quality grade — used to adjust the Publication 123 RCN values to reflect the quality of materials and workmanship of the improvement.

Cost factor x design factor x neighborhood factor x appraiser factor —these factors are chain multiplied to arrive at **one factor used to adjust the Appraisal Publications' RCN value to reflect a true RCN** of the improvement.

Exercise 7-1

Cost	X	Design	X	Neighborhood	X	Appraiser	=	Factor
1.06	x	1.07	x	1.01	x	1.02	=	1.17
1.06	x	1.00	x	.98	x	1.03	=	_____
1.06	x	1.03	x	1.00	x	.97	=	_____
1.06	x	1.05	x	1.10	x	.95	=	_____

REL/Depreciation

The final factor that is applied to all improvements is **a remaining economic life (REL)** factor. This factor is applied to the true RCN to arrive at a full market value, which now reflects the adjustment made for depreciation.

Remember, depreciation is the loss in value due to all factors. Generally, depreciation is placed into three categories: physical, functional, and external or economic depreciation. All depreciating forces act concurrently, but not at the same rate.

The actual age of the structure and the CDU rating produce the effective age of a property. The effective age of the property determines the remaining economic life (REL) factor, which is applied to the RCN of a structure to adjust for depreciation.

REL + depreciation = 100% of the value.

The Residential REL Depreciation Tables are used to determine the REL factor.

Using the Residential REL Depreciation Table

Schedule A — This schedule considers the actual age of the improvement, and what is referred to as **the CDU rating** of the improvement, to arrive at an effective age. This effective age is then used to find the remaining economic life factor, which is applied to the true RCN.

The CDU rating is assigned to each property by comparing that subject property's physical condition "C," desirability "D," and utility "U" to other properties within the neighborhood, or within a jurisdiction if neighborhoods have not been established.

The CDU rating is the method for determining a rate of depreciation. The condition refers to physical depreciation, such as wear and tear and action of the elements that has taken place. The desirability refers to the economic or external depreciation, such as lack of appeal due to location, or some type of adverse influences outside the boundary lines of the property. The utility refers to functional obsolescence, such as inefficient and impractical arrangement of rooms and any super-adequacy or inadequacy that may be present.

The CDU rating is broken down into five classifications.

E	Excellent	Superior condition
G	Good	Better than average condition
A	Average	Normal wear and tear for area
P	Poor	Definitely below average condition
U	Unsound	Excessively deteriorated condition

Exercise 7-2: Use the Residential REL Depreciation Table

Step 1 Locate the actual age of the improvement (based on year of construction) in the AGE column of Schedule A.

Step 2 Determine the CDU of the subject and locate it along the upper portion of Schedule A.

Step 3 Trace the age to its point of intersection with the CDU and find the Effective age.

For example, a property that has an age of "10," with a CDU rating of "good," has an effective age of "7" in Schedule A.

Step 4 This effective age is then located on **Schedule B** in the column headed "EFFECTIVE AGE". The percentage factor indicated in the right column of Schedule B is the REL factor. This factor is then applied to the true RCN, which depreciates the value to reflect full market value. REL is directly related to depreciation.

For example, a property with an effective age of 7 has an REL of 92%.

REL% + Dep% = 100%, or
100% - REL factor expressed as a percent = percent of depreciation.

This property has an REL of 92%. It has depreciated 8%. 100% - 92% = 8%

The assessor must carefully review CDU ratings over time because the **CDU rating of each property** may change for a variety of reasons. Because each property is assigned an individual CDU rating, a change of one CDU may not require a change in the CDU ratings of other properties within the neighborhood.

Residential REL Table

Schedule A													Schedule B			
	Effective Age						Effective Age						Eff.		Eff.	
Age	E	G	A	P	U	Age	E	G	A	P	U		Age	REL	Age	REL
1	1	1	1	14	27	51	32	42	51	66	76		1	99	51	51
2	1	1	2	15	28	52	32	43	52	67	77		2	97	52	50
3	1	2	3	16	29	53	33	44	53	68	78		3	96	53	49
4	1	2	4	16	30	54	33	44	54	68	78		4	95	54	48
5	1	3	5	17	31	55	33	45	55	69	80		5	94	55	47
6	2	4	6	17	32	56	34	46	56	70	81		6	93	56	47
7	2	5	7	18	33	57	34	47	57	71	82		7	92	57	47
8	2	6	8	19	34	58	35	48	58	72	83		8	91	58	46
9	2	6	9	20	35	59	35	48	59	72	83		9	90	59	46
10	2	7	10	21	38	60	36	49	60	73	83		10	89	60	46
11	3	7	11	22	39	61	37	50	61	73	85		11	88	61	45
12	3	8	12	23	39	62	38	50	62	74	86		12	87	62	45
13	3	9	13	24	40	63	39	51	63	74	86		13	86	63	44
14	4	10	14	24	40	64	40	52	64	76	88		14	85	64	43
15	4	11	15	25	40	65	42	53	65	78	90		15	84	65	43
16	4	12	16	26	43	66	42	53	66	78	91		16	82	66	42
17	4	13	17	30	45	67	43	55	67	80	93		17	81	67	42
18	5	14	18	31	46	68	44	58	68	84	97		18	80	68	42
19	5	15	19	31	46	69	45	59	69	86	100		19	79	69	41
20	6	16	20	32	47	70	46	60	70	88	102		20	77	70	41
21	8	16	21	33	48								21	76	71	41
22	10	17	22	33	48								22	75	72	41
23	10	18	23	34	49								23	74	73	40
24	11	19	24	35	50								24	73	74	40
25	11	20	25	35	50								25	72	75	40
26	12	21	26	36	51								26	71	76	39
27	12	22	27	38	52								27	70	77	39
28	13	23	28	38	52								28	69	78	39
29	13	24	29	39	53								29	68	79	38
30	13	25	30	40	54								30	67	80	38
31	14	25	31	40	54								31	66	81	38
32	15	26	32	42	56								32	65	82	37
33	16	27	33	44	59								33	65	83	37
34	17	28	34	46	60								34	63	84	37
35	18	29	35	47	61								35	62	85	36
36	19	30	36	48	62								36	62	86	36
37	20	31	37	50	64								37	61	87	36
38	21	31	38	51	64								38	59	88	35
39	22	32	39	53	65								39	59	89	35
40	23	33	40	54	66								40	58	90	35
41	24	34	41	55	67								41	57	91	34
42	25	35	42	56	67								42	57	92	34
43	25	36	43	57	68								43	56	93	33
44	26	38	44	59	69								44	56	94	33
45	27	39	45	60	70								45	56	95	33
46	28	39	46	60	70								46	55	96	32
47	29	40	47	61	70								47	54	97	32
48	30	40	48	62	71								48	54	98	32
49	31	41	49	64	73								49	52	99	31
50	32	41	50	65	75								50	51	100	31
															101	30
															102	30

Residential Square Foot Schedules

Single-family residential structures

Use the residential schedules to develop a replacement cost new (RCN) of a dwelling. When using the residential cost schedules, determine the following before making any calculations for the cost estimate:

- Building style
- Type of construction and exterior wall cover material

Then use the base cost schedule for the designated floor to correlate the total SF of living area with the type of exterior construction and wall covering. Adjust this base price for individual features of each property from the other schedules. Determine the RCN after the quality grade factor is applied.

These schedules were developed for use throughout central Illinois. Use local cost factors to reflect local differences in replacement costs. After all adjustments have been completed, multiply the RCN by the Remaining Economic Life (REL) factor to arrive at an estimate of market value.

The residential schedules are used in conjunction with the residential 2019 Property Record Cards (PRCs). PRC-1 is used for valuing land, and the PRC-2 is used for the computation of building values. The right column of the PRC-2 is used for computing the full value of the structure. This column is called the "**computation ladder**." The computation ladder on the PRC-2 acts as a guide in developing the final estimate of value.

Blank PRC-1

Property Record - Residential - Rural

Ownership & Mailing Address

Property Address

Township	Volume	Tax Code	Area	Sect.	Block	Parcel	Unit
			03	32	207	021	0040

Property Class	Land Use	Zoning	NH Code	Card No. of	Condo. Comm.

Record of Ownership	Date	Deed Stamps	Sale Price

Street		Nghbhd.		Utilities		Topo.		Division
Private Rd.		Improved	X	Water	X	Level		
Cul-de-sac	X	Static		Sewer	X	High		
Alley		Decline		Gas	X	Low		
Traffic Lt.		Blighted		Electric	X	Rolling	X	
Traffic Hvy.						View		

Building Permit Record

Date	Number	Amount	Yr. Assessed	N/C	P/U Year	Purpose

Land Computations

Unit Type	No. Units	Depth	Unit Value	D. Fac.	I. Fac.	Full Value
FF	100 '	200 '	$300/FF	1.00		$30,000

Roll Backs

Year	Unit	Unit Value	Full Value	App. File	Year	Unit	Unit Value	Full Value	App. File

Summary of Assessed Values

	Orig. Asmt.: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												

	Rev. by: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												

	Rev. by: Year:			Rev. by: Year:			Rev. by: Year:			Rev. by: Year:		
	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value	Full Value	Asmt. Level	Assessed Value
Land												
Bldgs.												
Total												

Blank PRC-2

Building Record - Residential - Rural (Property - Type 1)

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A.	6 Summer Home	7 Row House	8 Post Frm.	9 Log e

Style/No. stories: Unit type:

Exterior Wall Construction

Stud Frame | Concrete Block | Solid Stone

Exterior Wall Cover Material

	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)					
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 9)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim

SF: Quality C Brk.[1] Stone[2] Art.[3]

Roof

Shingle - asphalt/composite/wood	
Slate/tile	
Metal/Other	
Solar Panel	

Attic

1 None	2 Unfinished	3 Part fin.	4 Full fin.

% finished

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. SF

Heating / AC

1 None	2 Central Heat	3 Air Cond.	4 Other

Other (descr.)

Plumbing

Standard (5)	
Additional Bathroom (3)	
Additional Half bath (2)	
Additional Sink/Fixture (1)	

Living Accommodations

Total Rooms	Bedrooms	Family Room

Interior Finish

Finished Basement / Lower Level	Living area	SF:	
	Recreation	SF:	
Half Upper Sty Finished Living Area		SF:	

Porches / Wood Deck

SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	Wood deck		No Steps / No Rail				

Remodeled | Sold Date: Mo. Day Yr. | Age: | Adj. Age:

NH | Amount $ | CDU: | Grade:

Fireplaces

Type:	#	# Stacks:	Sty Hght:
Masonry			

Garage

Type	Cost Grp	SF	Area over Garage
Attached			Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

Memo

Base Cost Computation

Sty	CG	% (if app.)	x Rate	x SF	= Sub-total
					$

SFLA:	Total Base Cost	$
Basement	+	
Heating/Central air	-	
Plumbing	+ -	
Attic	+	
Porches	+	
	+	
Attach./Built-in garage	+	
Sub-total		
Grade		x
Graded total		
Other features		
Pt. Msy Trim	+	
Fireplace	+	
Finished basement	+	
Schedule's RCN		
C x D		x
NH x AP		
True replacement cost new		
Eff. Age:	REL	x
Depr:		
Full Value		

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)

Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value

Listed by: **Total full value other improvements**

Date: **Total full value all bldgs & improvements**

PRC-2 (R-11/19) (opposite PRC-1)

Building Styles

Many basic styles of residences may be valued using the residential cost tables in Publication 123. They include:

- Base cost schedules
  - 1-story or First Floor
  - Unfinished Half Upper Story Structure
  - Full Upper Story
  - Unfinished Lower Level
- Adjustment Schedules for specific features/finishes

There are additional schedules for:

- Post-frame home
- Log home
- Mobile and manufactured home
- Row houses

Construction type and exterior wall cover

In the residential base cost schedules that are included for the various types of residences described above, nine different cost groups are provided. The cost groups were developed to reflect different types of exterior construction as well as typical exterior wall cover materials. Typical exterior wall construction includes stud frame, concrete block with 8” thick wall assembly, or solid 12” limestone blocks. Different types of exterior wall cover (e.g., vinyl or wood siding, brick veneer, stucco, etc.) are provided for the different types of construction. Use the “Exterior construction Type & Typical Wall Cover” schedule to identify the appropriate cost group by correlating the residence’s construction type and exterior wall cover.

All base cost schedules and several supplemental schedules require the use of the cost group to determine values.

See the cost group schedule on the following page.

Exterior Construction Type & Typical Wall Cover			
Cost Group	**Exterior Wall Construction**	**Exterior Cover Material Type**	**Description of Typical Exterior Cover Materials**
1	Stud Frame	Wood	Plywood siding 4'x8' panels 3/8"-15/32", grooved T-1-11 siding Southern Pine 4" 3/8" (or 4" 5/8") x 4' x 8'
		Vinyl	Vinyl .040-.044" siding, 4"-5" lap, 8"-10" exposure, with trim
		Metal	Alum. smooth 24 gauge, 8"-12" width w/starter strip,corner,etc Galvanized steel siding, 26 gauge, 26" wide, 6' to 12' length Galvanized steel siding, 28 gauge, 27-1/2" wide, 6' to 12' length
		Fiber/ composite	Hardboard 4'x8' panel siding 7/16", Duratemp & SmartSide Hardboard primed plank siding 7/16" x 6"/8" x 16' OSB Smart Panel II siding, 3/8" & 7/16" x 4' x 8'
2	Stud Frame	Wood	Plywood siding 4'x8' panels 19/32"-5/8" grooved
		Metal	Alum corrug. 4-V x 2-1/2" 17-19 gauge, 26" x 6' to 24' +flashing
		Fiber/ composite	Fiber cement 4'x8' panel siding, with trim Fiber cement lap siding, 6-1/4", 7-1/4", & 8-1/4" x 12' Hardboard primed plank siding 1/2" x 8" x 16' OSB lap siding, 3/8" & 7/16" x 6" & 8" x 16'
3	Stud Frame	Wood	Cedar siding, beveled & shingle Log cabin siding 1-1/2" x 8" x 12' Log lap spruce siding 1-1/2" x 8" x 10' Pine siding Redwood siding 5/8" x 5-3/8" x 12'
		Thermo. resin	Nailite thermoplastic resin siding, with trim
		Polymer based	EIFS - Exterior Wall Insulation & Finish System, 2" thick R-10
		Stucco	Portland cement 1" stucco on exterior walls
	Conc. Block (8" thick)	Concrete Block	Paint on exterior block walls
4	Stud Frame	Brick	Colonial 3"w x 3-1/2" x 10" single wythe veneer facing
5	Stud Frame	Stone Veneer	Most common stone, 4" veneer Granite, 1-1/4" exterior Limestone or Sandstone, 3" thick
6	Conc. Block (8" thick)	Stucco	Stucco, EIFS (see Group 3 cover)
7	Conc. Block (8" thick)	Brick	Brick veneer (see Group 4 cover)
8	Conc. Block (8" thick)	Stone Veneer	Common stone, granite, etc. (see Group 5 cover)
9	Solid Stone	Limestone Blks	Limestone rough cut large blocks, 12" x 12" x 12", per cf.

One-story of First Floor Cost Schedule

One-Story or First Floor									
Base cost includes standard design from stock plans and average material and workmanship. The following features are included: a kitchen, water heater, one full bath, hot air heat (gas fired), central air conditioning, asphalt/fiberglass shingles, painted drywall interior, and a slab foundation (i.e., no basement).									
Total SF	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**	**Group 7**	**Group 8**	**Group 9**
600	106.93	108.55	113.73	120.05	167.05	126.31	132.57	179.62	206.85
700	101.93	103.40	108.09	113.82	156.38	119.48	125.15	167.77	192.43
800	99.44	100.82	105.22	110.59	150.49	115.89	121.21	161.16	184.28
900	95.72	97.02	101.20	106.29	144.12	111.32	116.36	154.24	176.16
1,000	93.92	95.18	99.20	104.11	140.54	108.94	113.81	150.29	171.41
1,100	91.11	92.33	96.22	100.98	136.28	105.67	110.38	145.72	166.18
1,200	88.97	90.16	93.98	98.64	133.21	103.23	107.84	142.46	162.50
1,300	87.22	88.38	92.11	96.66	130.41	101.14	105.64	139.44	159.01
1,400	84.74	85.85	89.42	93.77	126.06	98.06	102.37	134.70	153.42
1,500	82.69	83.78	87.26	91.52	123.07	95.70	99.92	131.52	149.81
1,600	81.20	82.27	85.68	89.85	120.76	93.95	98.07	129.03	146.95
1,700	80.11	81.16	84.53	88.65	119.14	92.69	96.76	127.31	144.99
1,800	79.38	80.42	83.74	87.82	117.95	91.81	95.83	126.01	143.48
1,900	77.77	78.78	82.01	85.96	115.20	89.83	93.74	123.03	139.98
2,000	76.76	77.74	80.88	84.73	113.17	88.50	92.29	120.79	137.28
2,100	76.25	77.21	80.27	84.02	111.74	87.69	91.39	119.16	135.23
2,200	75.59	76.52	79.51	83.17	110.24	86.76	90.37	117.48	133.18
2,300	74.58	75.49	78.41	82.00	108.46	85.50	89.03	115.55	130.89
2,400	74.14	75.03	77.89	81.40	107.32	84.83	88.29	114.26	129.29
2,500	73.36	74.25	77.10	80.60	106.44	84.02	87.47	113.35	128.34
2,600	72.78	73.67	76.51	80.00	105.76	83.41	86.85	112.66	127.60
2,700	72.54	73.43	76.26	79.74	105.44	83.14	86.57	112.31	127.21
2,800	72.26	73.14	75.97	79.44	105.08	82.84	86.26	111.94	126.80
2,900	72.12	73.00	75.82	79.29	104.86	82.67	86.08	111.71	126.53
3,000	71.93	72.81	75.63	79.08	104.60	82.46	85.86	111.43	126.23
3,100	71.44	72.32	75.13	78.58	104.04	81.95	85.35	110.86	125.63
3,200	71.22	72.09	74.87	78.28	103.44	81.60	84.96	110.18	124.77
3,300	70.72	71.58	74.34	77.72	102.69	81.02	84.36	109.37	123.85
3,400	70.40	71.26	73.99	77.35	102.13	80.63	83.93	108.76	123.13
3,500	70.09	70.94	73.65	76.99	101.59	80.24	83.53	108.18	122.45
3,600	70.06	70.90	73.60	76.91	101.35	80.14	83.41	107.89	122.06
Over 3,600	70.04	70.88	73.56	76.85	101.13	80.06	83.30	107.63	121.71

Use the appropriate base cost schedule and correlate each level's square footage with the cost per square foot determined by the cost group.

This schedule is for one-story residential structures. If the home has multiple floors, you will need to utilize additional base cost schedules and sum them to arrive at the total base cost in the computation ladder. See Appendix B for a complete set of base cost schedules.

After you have calculated the base cost price, adjustments may need to be made based on additional features of the dwelling. Following is a brief explanation for certain features along with their associated adjustment schedules.

See Appendix C for a complete set of adjustment schedules.

The base cost schedules include the **standard 5 plumbing** fixtures: bathroom toilet, bathroom basin, tub or shower, kitchen sink, and hot water heater. If the structure has more than the standard 5 fixtures, add $930 per fixture to the base cost. If you have less than the standard 5 fixtures, a deduction of $930 per fixture should be made.

Plumbing (+/-)	
Plumbing cost per fixture; add or deduct for each fixture above or below the residential standard five fixtures.	$930

Quality grade refers to the quality of the material and workmanship. Pub-123 is based on **average** quality improvements. The quality grade for average is "C." If you have a quality other than average, you must apply the appropriate grade factor.

Quality	
Grade	**Factor**
AA	225%
A	150%
B	122%
C	100%
D	82%
E	50%

The base price schedule includes heat. If the structure is **not heated**, a subtraction from the base price must be made.

No Heat Schedule (-)	
Subtract per SF cost for any dwelling type with no heat.	
Total SF of Living Area	**Deduct per SF**
Up to 1,000	5.95
1,200	5.74
1,400	5.37
1,600	5.01
1,800	4.72
Over 1,800	4.60

Central air conditioning is included in the base price. If the structure does not have central air conditioning, a subtraction from the base price must be made.

No Central Air Conditioning Schedule (-)	
Subtract per SF cost for any dwelling with no central air conditioning. For mobile homes, see Mobile Home Supplemental Schedules for rate.	
Total SF of Living Area	**Deduct per SF**
Up to 400	9.52
600	7.02
800	4.17
1,000	3.34
1,200	2.78
Over 1,200	2.55

Fireplaces are not included in the base price. If the structure contains a fireplace, an addition to the base price must be made for the number of fireplaces and stacks.

Fireplace (+)			
Type	**1-Story**	**2-Story**	**3-Story**
Masonry 5' base brick fireplace & stack	5,500	6,100	6,700
Second masonry fireplace on same stack	4,600	5,000	5,400
Pre-fab metal wood burning fireplace	2,100	2,500	3,000
Second Pre-fab metal fireplace on same stack	1,000	1,400	1,800

The base price of the dwelling includes the cost of only a **slab** foundation. You must make an adjustment for a dwelling that has either a crawl space or basement area. To use the schedule, calculate the SF area with a foundation other than a concrete slab, and correlate it to the appropriate construction type (crawl or basement).

This schedule is also designed to estimate the cost of finishing a basement into living quarters or a recreation room.

Basement/Foundation (+)

For finished or partially finished basements, first cost the total unfinished basement area. Then add the cost of the finished area from the applicable "Basement Finish" column using the SF of the actual finished area.

Split-level & Bi-level: see Unfinished Lower Level schedule to first determine the unfinished cost. Then add the cost of the actual finished area using the "Basement Finish" rates.

Total SF	Crawl Space	Unfinished Bsmt	Basement Finish	
			Living Area Quality	Rec Room Quality
400	11.26	37.20	33.25	17.12
500	10.57	34.71	32.50	16.71
600	9.81	32.11	31.74	15.89
700	8.99	29.86	30.64	15.23
800	8.50	28.68	30.44	14.83
900	8.12	27.45	29.47	14.52
1,000	7.85	26.54	29.02	14.31
1,100	7.64	26.05	28.57	14.14
1,200	7.50	25.47	28.12	14.03
1,300	7.35	25.04	27.67	13.91
1,400	7.08	24.45	27.24	13.69
1,500	6.94	24.00	26.73	13.58
1,600	6.83	23.60	26.62	13.53
1,700	6.76	23.39	26.39	13.50
1,800	6.69	23.02	26.13	13.44
1,900	6.53	22.61	25.71	13.31
2,000	6.38	22.54	25.42	13.18
2,100	6.25	22.02	25.34	13.07
2,200	6.14	21.72	25.26	12.99
2,300	6.03	21.49	25.13	12.89
2,400	5.93	21.20	25.01	12.85
2,500	5.91	21.14	24.83	12.82
2,600	5.89	21.07	24.65	12.80
2,700	5.88	20.96	24.59	12.78
2,800	5.87	20.92	24.53	12.77
2,900	5.86	20.87	24.48	12.75
3,000	5.85	20.83	24.45	12.74
3,100	5.84	20.71	24.43	12.72
3,200	5.79	20.60	24.37	12.69
3,300	5.75	20.48	24.33	12.68
3,400	5.72	20.41	24.30	12.65
3,500	5.68	20.31	24.27	12.62
3,600	5.65	20.21	24.25	12.60
Over 3,600	5.62	20.15	24.23	12.57

The base price of the dwelling does not include any value for **garages**. You must make an adjustment (addition) for a dwelling that any type of garage structure. To use the schedule, you must determine the cost group for your garage type (may not be the same as your base dwelling) and then apply the rate that is appropriate for the type, cost group, and square footage of your garage.

This schedule is also designed to estimate the cost of garages based on whether the garage is attached, built-in, or has additional living space associated with the structure.

Garages

The cost of a garage is not included in the base residence cost. The garage costs include wall surfaces, roof surfaces when applicable, a concrete floor, doors, and electric lighting. Total SF refers to the actual square footage of the garage. Determine the applicable Group column by the exterior wall construction and cover material of the garage.

Attached Garages

Attached garages share one or more common wall(s) with the residence and costs include interior finish for only the common wall(s).

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	39.40	41.05	46.33	52.72	100.66	59.14	65.53	113.47	141.21
250	37.58	39.03	43.64	49.23	91.18	54.85	60.44	102.38	126.66
300	35.75	37.06	41.24	46.29	84.24	51.38	56.44	94.38	116.35
350	33.92	35.16	39.12	43.91	79.86	48.73	53.51	89.47	110.28
400	31.89	33.00	36.55	40.84	73.05	45.16	49.45	81.65	100.29
450	31.17	32.27	35.79	40.05	72.01	44.33	48.59	80.55	99.04
500	30.25	31.32	34.76	38.91	70.07	43.08	47.23	78.39	96.42
550	29.33	30.34	33.58	37.50	66.92	41.44	45.36	74.78	91.80
600	29.11	30.07	33.15	36.88	64.84	40.63	44.35	72.31	88.50
650	28.64	29.58	32.64	36.33	64.00	40.05	43.72	71.40	87.42
700	28.17	29.11	32.13	35.78	63.17	39.45	43.10	70.49	86.34
800	27.87	28.70	31.34	34.53	58.50	37.74	40.93	64.90	78.77
1,000	27.27	27.98	30.26	33.01	53.69	35.78	38.54	59.21	71.17
1,200	25.62	26.27	28.36	30.89	49.87	33.43	35.96	54.94	65.92
1,500	25.22	25.85	27.85	30.27	48.45	32.71	35.13	53.30	63.82

Built-in Garages

Built-in garages have areas of the residence that are both adjacent to and above the garage.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	43.18	44.32	47.95	52.34	85.29	56.75	61.14	94.10	113.18
250	39.58	40.51	43.48	47.07	74.03	50.68	54.28	81.24	96.84
300	38.53	39.32	41.85	44.91	67.88	47.99	51.05	74.02	87.31
350	37.34	38.06	40.37	43.17	64.14	45.98	48.77	69.74	81.88
400	35.10	35.69	37.59	39.89	57.11	42.20	44.49	61.72	71.69
450	34.38	34.96	36.84	39.10	56.07	41.37	43.63	60.61	70.44
500	33.42	33.98	35.76	37.92	54.09	40.08	42.24	58.42	67.78
550	32.90	33.44	35.18	37.29	53.09	39.41	41.51	57.31	66.45
600	32.47	33.00	34.71	36.77	52.25	38.85	40.91	56.39	65.35
650	32.16	32.69	34.42	36.39	51.62	38.44	40.45	55.69	64.50
700	31.86	32.38	34.03	36.02	51.00	38.03	40.02	55.00	63.68
800	31.11	31.52	32.84	34.44	46.42	36.05	37.64	49.63	56.56

Garages - continued

Detached Garages

Detached garages are freestanding structures with totally independent foundation and roof structures from the residence. There is no interior finish included in the costs.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	47.39	50.08	58.66	69.03	146.93	79.47	89.85	167.75	212.82
250	42.58	44.93	52.46	61.56	129.87	70.71	79.81	148.12	187.65
300	39.33	41.46	48.28	56.53	118.45	64.83	73.08	135.00	170.83
350	38.99	40.97	47.28	54.92	112.28	62.61	70.25	127.60	160.79
400	35.36	37.01	42.29	48.68	96.62	55.10	61.49	109.42	137.17
450	33.88	35.46	40.52	46.64	92.58	52.80	58.92	104.86	131.44
500	32.69	34.22	39.10	45.01	89.35	50.95	56.86	101.20	126.86
600	29.83	31.33	36.13	41.94	85.52	47.78	53.58	97.16	122.38
700	28.71	30.19	34.92	40.64	83.58	46.39	52.12	95.06	119.91
800	28.68	30.08	34.54	39.95	80.51	45.38	50.79	91.35	114.82
1,000	26.69	28.16	32.88	38.58	80.00	44.32	49.77	91.02	112.50
1,200	25.89	27.33	31.96	37.54	79.49	43.16	48.75	90.70	110.21
1,500	25.04	26.30	30.32	35.19	71.75	40.09	44.96	81.51	102.67
1,800	24.25	25.44	29.23	33.82	68.28	38.44	43.03	77.48	97.42

Basement Garages

Add lump sum to unfinished basement or lower level costs: **1 car:** $3,100 **2 car:** $4,200 **3 car:** $5,600

Areas over Garage

If an area over an attached garage is equal to the residence in interior finish, include that area in the total square footage of the upper story of the residence and price the garage as a built-in. If minimal finish, like a bonus room, use 65% of the garage SF cost. If storage only with high-pitched gable roof, add 30% to the garage cost to cover roof and floor costs.

The base price of the dwelling does not include a consideration for an attic. In order to determine an addition for the inclusion of an attic, use the **Attic** schedule to estimate the cost of an attic. An attic, for the purposes of this class/manual, is defined as "an attic accessible by a stationary permanent staircase". In this schedule, columns headed "Finished" refer to walls, ceilings, and floors constructed to allow the attic to be used as living quarters. The "½-Finished" column is for attics partially finished with a portion left unfinished. To use this schedule, correlate the SF of the attic area to the finish type (Unfinished, ½-Finished, or Finished). The attic area refers to the attic footprint size on the floor level below the attic. To determine the amount of the addition, multiply the square footage of the attic times the indicated value.

Attic (+)			
Use the attic footprint SF on the floor level below the attic.			
Total SF	**Unfinished**	**1/2 Finished**	**Finished**
400	12.37	22.85	33.33
600	10.30	20.77	31.24
800	9.49	19.28	29.07
1,000	8.76	17.60	26.45
1,200	8.25	16.63	25.01
1,400	7.90	16.02	24.13
1,600	7.63	15.57	23.52
1,800	7.42	15.39	23.36
2,000	7.23	14.92	22.62
2,200	7.09	14.62	22.15
2,400	6.97	14.38	21.80
2,600	6.86	14.16	21.50
2,800	6.78	14.12	21.44
3,000	6.70	14.07	21.40
3,200	6.64	13.96	21.36
3,400	6.58	13.92	21.32
3,600	6.56	13.90	21.28
3,800	6.54	13.88	21.24
4,000	6.52	13.87	21.22

Porches are not included in the base cost. If the structure has one or more porches, an addition to the base price must be made. To determine a value, locate the square footage of the porch in the left column and then go to the appropriate construction type in the right columns for the value. If you have more than one porch attached to the structure, price each porch individually. You cannot combine the total square footage for all porches.

Porches (+)						
SFGA	Open Frame	Screened-in Frame	Knee Wall with Glass	Solid Wall Encl. Frame	Open Masonry	Enclosed Masonry
25	65.60	90.94	113.24	100.08	77.36	147.60
50	45.92	62.82	80.12	70.80	52.14	102.28
75	39.36	53.44	69.06	61.03	43.25	86.68
100	36.04	48.71	63.51	56.12	38.75	78.84
125	34.74	45.89	57.98	51.42	37.30	73.30
150	32.68	42.54	53.43	47.59	35.92	66.65
175	31.35	40.52	50.91	45.43	34.01	62.93
200	30.22	38.67	48.37	43.30	32.44	59.24
225	29.46	37.53	46.98	42.12	31.35	57.17
250	28.75	36.35	45.35	40.75	30.98	54.80
275	28.40	35.62	44.00	39.62	30.62	53.85
300	28.05	34.89	42.86	38.67	30.27	52.97
350	27.76	34.16	41.11	37.20	29.92	50.18
375	27.39	33.59	40.40	36.61	29.56	49.06
400	27.06	33.08	39.78	36.08	29.04	48.08
500	25.78	31.27	37.00	33.60	28.23	45.26
600	24.54	29.47	34.50	31.45	26.88	42.07
700	23.68	28.21	32.73	29.92	25.93	39.81
800	22.85	27.07	31.42	28.79	24.71	37.79
900	22.39	26.38	30.41	27.92	24.23	36.53
1,000	21.87	25.67	29.62	27.24	23.45	35.27

Occasionally, structures will feature brick, stone, or artificial stone as trim accenting a portion of the structure. If there is **partial masonry trim** on the structure, an addition to the base price must be made. The amount of the adjustment would reflect the type of material used and the quality grade of the material.

Partial Masonry Trim (+)				
Per SF of surface area				
Quality	**A**	**B**	**C**	**D**
Brick	19.07	15.51	12.71	10.42
Stone	51.45	41.85	34.30	28.13
Artificial stone	24.68	20.07	16.45	13.49

The **paving** schedule is used to value sidewalks, driveways, etc. The amount of the addition is determined by the type of material used. Values are indicated for crushed stone, concrete, and asphalt. To determine the amount of the addition, multiply the square footage of the paved area times the indicated value. Be sure to use the appropriate schedule depending on whether you are valuing sidewalks and driveways versus patios and stoops. The values differ between the two schedules.

Paving (+)	
Crushed stone, 6"	$1.17/SF
Concrete, 6" with wire mesh, no base	$6.15/SF
Asphalt, 2" with 4" base	$4.74/SF

A special note about valuing paving/driveways: be sure to check with your county Supervisor of Assessments for guidance regarding the valuation of driveways and sidewalks to ensure consistency. Some counties only adjust for paving for certain features or materials used.

Stoops, decks, and patios are not included in the base price, so an addition must be made. To determine the value, multiply the square footage of the structure times the indicated value.

Stoops, Decks, Patios (+)					
Total SF	Stoop - Masonry Elevated		Deck - Wood Elevated		
	1 Riser	2 Risers	Steps & Rail	No Steps (-)	No Rail (-)
25	31.52	42.64	36.55	10.72	10.91
50	22.34	28.28	27.58	5.36	7.30
75	19.28	23.51	24.59	3.57	6.08
100	17.74	21.11	23.07	2.68	5.47
125	16.36	19.15	21.88	2.14	4.81
150	15.27	17.64	20.96	1.79	4.25
175	14.63	16.74	20.42	1.53	3.96
200	14.03	15.91	19.90	1.34	3.64
225	13.68	15.40	19.60	1.19	3.48
250	13.29	14.87	19.28	1.07	3.28
275	12.97	14.44	19.01	0.97	3.11
300	12.70	14.07	18.79	0.89	2.97
350	12.29	13.51	18.45	0.77	2.76
375	12.12	13.28	18.31	0.71	2.67
400	11.97	13.08	18.19	0.67	2.60
500	11.53	12.48	17.83	0.54	2.37
600	11.10	11.93	17.49	0.45	2.12
700	10.79	11.53	17.26	0.38	1.95
800	10.56	11.23	17.08	0.34	1.82
900	10.38	11.00	16.94	0.30	1.72
1,000	10.24	10.81	16.83	0.27	1.64
Patio - concrete.....		$6.15 per SF	**Patio - brick in sand**.....		$12.90 per SF

Residential Pools in ground are not included in the base price, so an addition must be made. To determine the value, correlate the square footage of the structure to the appropriate value based on construction. Make a plus adjustment if a pool heater is present, based on the type of heater and its output.

Residential Pools in ground (+)

Cost includes excavation, filtering system, chlorinator, pump, ladder, and 3' concrete apron 4" thick around pool. Price permanent type above-ground pools at 40% of vinyl liner cost.

SFSA	Gunite/Concrete	Vinyl Liner
300	22,000	18,000
450	28,100	23,000
525	30,800	25,200
650	35,000	28,600
800	39,600	32,400
1,000	45,300	37,100

Note: Prices in this schedule represent pool costs. The extent to which a pool may enhance an individual property's market value is determined by the area or subdivision in which it is located. In certain areas, the presence of a swimming pool may even diminish the market value.

Pool Heaters (+)

Gas	
155 MBH	2,500
190 MBH	3,000
500 MBH	7,500
Electric	
15KW	3,000
24KW	4,500
54KW	5,000

A special note about valuing residential pools: some counties do not make an addition for in-ground pools due to the impact they may have on sales in that particular market. Always check with your county Supervisor of Assessments to ensure consistency.

Using the Schedules and the Property Record Card

Exercise 7-3 1-Story Residence

The lot is improved with a 10-year-old 1-story stud frame dwelling with vinyl siding. The dwelling is on a crawl and has an attached 1-car frame garage with vinyl siding. The residence is typical for the neighborhood and contains 6 rooms, including 3 bedrooms and 2 bathrooms. It has a prefabricated fireplace. It also has an open-frame porch on the front of the home and an elevated wood deck on the rear. Exterior features include a concrete sidewalk and an asphalt driveway.

Foundation	8” poured foundation
HVAC	Gas fired forced warm air and central air conditioning
Plumbing	Two full baths
Exterior walls	2” x 4” stud frame, 16” on-center with vinyl siding
Floors	Crawl 4” concrete — 1st floor - 2” x 8” wood joist
Interior finish	1/2” drywall — pine doors and trim throughout — average grade kitchen cabinets
Miscellaneous	Average quality electrical fixtures — average quality workmanship — 20’ x 20’ attached garage; Concrete sidewalk and asphalt driveway.
CDU	**Average**
Quality grade	**C**

Building Record - Residential - Rural (Property - Type 1)

Occupancy

1	2	3	4	5	6	7	8	9
Vacant Lot	Dwelling	Other	Mobile e	A Frm.	Summer Home	Row House	Post Frm.	Log e

Style/No. stories: **1-sty** Unit type:

Exterior Wall Construction

(Stud Frame) | Concrete Block | Solid Stone

Exterior Wall Cover Material

	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)		X			
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 9)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim

SF: | Quality: | Brk. [1] | Stone [2] | Art. [3]

Roof

Shingle - asphalt/composite/wood	X
Slate/tile	
Metal/Other	
Solar Panel	

Attic

1	2	3	4
(None)	Unfinished	Part fin.	Full fin.

% finished

Basement

1	2	3	4
Full		(Crawl)	Slab

Area without bsmt. **1,200** SF

Heating / AC

1	2	3	4
None	(Central Heat)	(Air Cond.)	Other

Other (descr.)

Plumbing

Standard (5)	1
Additional Bathroom (3)	1
Additional Half bath (2)	
Additional Sink/Fixture (1)	

PRC-2 (R-9/19) (opposite PRC-1)

Living Accommodations

Total Rooms	Bedrooms	Family Room
6	3	--

Interior Finish

Finished Basement / Lower Level	Living area	SF:
	Recreation	SF:
Half Upper Sty Finished Living Area		SF:

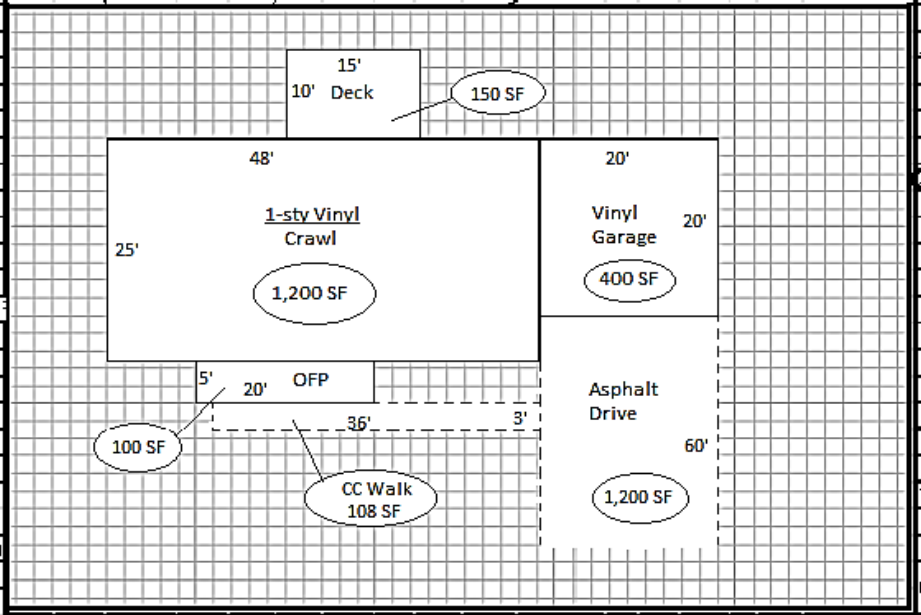
Porches / Wood Deck

SF: **100** (OFP) Scrn-in Kn-Wal EFP OMP EMP 2-Sty

SF: OFP Scrn-in Kn-Wal EFP OMP EMP 2-Sty

SF: OFP Scrn-in Kn-Wal EFP OMP EMP 2-Sty

SF: **150** (Wood deck) No Steps / No Rail



Remodeled | Sold Date: Mo. Day Yr. | Age: **10** | Adj. Age: **10**

NH | Amount $ | CDU: **Avg** | Grade: **C**

Fireplaces

Type: **Pre-fab** | # **1** | # Stacks: **1** | Sty Hght: **1**

Garage

Type	Cost Grp	SF	Area over Garage
Attached	1	400	Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

Memo

Base Cost Computation

Sty	CG	% (if app.)	x Rate	x SF	= Sub-total
1/Main	1	-	88.97	1,200	$ 106,764

SFLA:	1,200 SF	Total Base Cost:	$	106,764
Basement	Crawl	1,200 SF	+	9,000
Heating/Central air			-	
Plumbing		3	-	2,790
Attic			+	
Porches	OFP	100 SF	+	3,604
Attach	Built-in garage	400 SF	+	12,756
Sub-total				134,914
Grade	C		x	1.00
Graded total				134,914
Other features				
Pt. Msy Trim			+	
Fireplace	Grade C		+	2,100
Finished basement			+	
Schedule's RCN				137,014
C x D	1.00 x 1.00		x	1.00
NH x AP	1.00 x 1.00			
True replacement cost new				137,014
Eff. Age:	10	REL	x	0.89
Depr:	11 %			
Full Value				121,942

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)

Type	No.	Constr/CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Driveway		Asphalt	1,200'	4.74	5,688	C	1.00	5,688	10	Avg	0.89	5,062
Walk		Concrete	108'	6.15	664	C	1.00	664	10	Avg	0.89	591
Deck		Wood	150'	20.96	3,144	C	1.00	3,144	2	Avg	0.97	3,050

Listed by: **ABC** | Total full value other improvements: **8,703**

Date: **01/02/2019** | Total full value all bldgs & improvements: **130,645**

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Computing the Value of a Structure

Review the PRC for the listed features and refer to the drawing for a visual representation of the footprint of the property as well as dimensions. If the property is being listed for the first time (newly constructed), the assessor will fill out the card based on personal observations and measurements as well as any other information made available from the builder, owner, or local governmental unit (building and zoning departments, etc.)

All of the features are listed on the left-hand and middle of the card. The right-hand column (computation ladder) is used to list and calculate values for all of the features. The bottom section of the PRC is used to detail improvements that are not attached to the main home structure.

The occupancy use and style/number of stories are listed at the upper left of the PRC.

Occupancy								
1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A Frm.	6 Summer Home	7 Row House	8 Post Frm.	9 Log Home
Style/No. stories: 1-sty					Unit type:			

Next, the exterior wall construction and cover material are noted. Refer to the Cost Group 1 for a stud frame home with vinyl exterior cover.

Exterior Wall Construction		
Stud Frame	Concrete Block	Solid Stone

Exterior Wall Cover Material	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)		X			
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 9)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim				
SF:	Quality:	Brk. [1]	Stone [2]	Art. [3]

Exterior Construction Type & Typical Wall Cover			
Cost Group	Exterior Wall Construction	Exterior Cover Material Type	Description of Typical Exterior Cover Materials
1	Stud Frame	Wood	Plywood siding 4'x8' panels 3/8"-15/32", grooved
			T-1-11 siding Southern Pine 4" 3/8" (or 4" 5/8") x 4' x 8'
		Vinyl	Vinyl .040-.044" siding, 4"-5" lap, 8"-10" exposure, with trim
		Metal	Alum. smooth 24 gauge, 8"-12" width w/starter strip,corner,etc
			Galvanized steel siding, 26 gauge, 26" wide, 6' to 12' length
			Galvanized steel siding, 28 gauge, 27-1/2" wide, 6' to 12' length
		Fiber/ composite	Hardboard 4'x8' panel siding 7/16", Duratemp & SmartSide
			Hardboard primed plank siding 7/16" x 6"/8" x 16'
			OSB Smart Panel II siding, 3/8" & 7/16" x 4' x 8'

The roof, attic and basement are next in the column. Asphalt shingles are indicated and are typical on a on a central Illinois home. There are no adjustments for other roofing types. There is no attic on this home, so None is indicated by circling the option "1". There is a crawl space indicated under the "Basement" heading. The base cost of the structure only accounts for a slab foundation. Therefore, a value will need to be given to the crawlspace on the computation ladder. The drawing indicates the crawl is underneath the entire home structure and has the same square footage of 1,200SF.

Roof				
Shingle - asphalt/composite/wood				X
Slate/tile				
Metal/Other				
Solar Panel				
Attic				
1	2	3	4	
None	Unfinished	Part fin.	Full fin.	
			% finished	
Basement				
1	3	4		
Full	Crawl	Slab		
Area without bsmt.			**1,200**	SF

Next, there is a space for heating and air conditioning. "2" and "3" are circled to indicate the subject has both central heat and air conditioning. Since these are included in the base cost, no cost adjustment is needed on the computation ladder.

Heating / AC			
1	2	3	4
None	Central Heat	Air Cond.	Other
Other (descr.)			

The standard five plumbing fixtures are included in the base, so “1” is listed in the field for Standard (5). There is an additional full bath, so “1” is listed for the additional bath (which will be adjusted on the computation ladder for an additional 3 fixtures).

Plumbing	
Standard (5)	**1**
Additional Bathroom (3)	**1**
Additional Half bath (2)	
Additional Sink/Fixture (1)	

Next, at the top of the PRC next to the first column, there is a space to detail the number of rooms. This is for informational purposes only. Bathrooms, closets and foyers are not included in the total.

Living Accommodations		
Total Rooms	Bedrooms	Family Room
6	**3**	--

No adjustments for additional interior finish costs are needed since they are not applicable in this single-story dwelling with a crawl space.

Interior Finish			
Finished Basement / Lower Level	Living area	SF:	
	Recreation	SF:	
Half Upper Sty Finished Living Area		SF:	

The subject property has both an open frame porch on the front and a wood deck on the rear. Both features can be listed on the next section of the property record card. Both the porch and deck will be additions to the base cost. The square footage is calculated from the dimensions indicated on the drawing on the PRC. The actual dollar calculations will be completed on the computation ladder.

Porches / Wood Deck										
SF:	**100**	(OFP)	Scrn-in	Kn-Wal	EFP	OMP	EMP			2-Sty
SF:		OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP			2-Sty
SF:		OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP			2-Sty
SF:	**150**	(Wood deck)						No Steps	/ No Rail	

The subject has one prefab, metal wood-burning fireplace; make an addition to the base cost. List the type, number of fireplaces and stacks, as well as story height of the stack.

Fireplaces					
Type:	**Pre-fab**	# **1**	# Stacks:	**1**	Sty Hght: **1**

Next, there is an attached garage with the same exterior cover as the dwelling; an addition to the base cost is needed and will be calculated on the computation ladder. Cost Group 1 and 400SF are recorded.

Garage			
Type	Cost Grp	SF	Area over Garage
Attached	**1**	**400**	Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

For informational purposes, list the dates if the structure has been remodeled or sold, along with the sale amount and the neighborhood. List the age or year built, and the CDU and Quality Grade.

Remodeled	Sold Date: Mo. Day Yr.	Age:	**10**	Adj. Age:	**10**
NH	Amount $	CDU:	**Avg**	Grade:	**C**

The driveway and sidewalk were original to the home when built. They are listed in the "Summary of Other Improvements" section. List the construction type (or Cost Group for detached garages), SF, Grade, Age and CDU.

The wood deck is listed in this section also. Note: it is only 2 years old so it will have an REL factor that differs from the home.

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)												
Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Driveway		**Asphalt**	**1,200'**			**C**			**10**	**Avg**		
Walk		**Concrete**	**108'**			**C**			**10**	**Avg**		
Deck		**Wood**	**150'**			**C**			**2**	**Avg**		

All dwelling improvements have been listed on the PRC-2. Now the process is to use the cost schedules to complete the computation ladder to determine the market value.

Using the Computation Ladder to compute RCN and Market Value

Beginning at the top of the computation ladder, calculate the base cost of the main structure.

Base Cost Computation						
Sty	CG	% (if app.)	x Rate	x SF	=	Sub-total
1/Main	**1**	**-**		**1,200**		$

The stud frame structure with vinyl siding is Cost Group 1. The number of stories and which floor is being calculated is recorded as well as the square footage. In this exercise, there is no pro-rated percentage needed.

One-Story or First Floor

Base cost includes standard design from stock plans and average material and workmanship. The following features are included: a kitchen, water heater, one full bath, hot air heat (gas fired), central air conditioning, asphalt/fiberglass shingles, painted drywall interior, and a slab foundation (i.e., no basement).

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
600	106.93	108.55	113.73	120.05	167.05	126.31	132.57	179.62	206.85
700	101.93	103.40	108.09	113.82	156.38	119.48	125.15	167.77	192.43
800	99.44	100.82	105.22	110.59	150.49	115.89	121.21	161.16	184.28
900	95.72	97.02	101.20	106.29	144.12	111.32	116.36	154.24	176.16
1,000	93.92	95.18	99.20	104.11	140.54	108.94	113.81	150.29	171.41
1,100	91.11	92.33	96.22	100.98	136.28	105.67	110.38	145.72	166.18
1,200	88.97	90.16	93.98	98.64	133.21	103.23	107.84	142.46	162.50
1,300	87.22	88.38	92.11	96.66	130.41	101.14	105.64	139.44	159.01
1,400	84.74	85.85	89.42	93.77	126.06	98.06	102.37	134.70	153.42

Multiply the rate of $88.97 in the 1st story row to calculate the sub-total. No other story levels need to be computed for a one-story home. Multiply 1,200 SFLA (Square Foot Living Area) by $88.97/SF for a total base cost of $106,764.

Base Cost Computation

Sty	CG	% (if app.)	x Rate	x SF	=	Sub-total
1/Main	**1**	**-**	**88.97**	**1,200**	$	**106,764**
SFLA:		**1,200 SF**	Total Base Cost:		$	**106,764**

Next, list and calculate any additions to or subtractions from the base cost due to features that differ from base cost amenities. Refer to each appropriate cost schedule. Calculate a subtotal.

Crawl Space

Basement/Foundation (+)				
For finished or partially finished basements, first cost the total unfinished basement area. Then add the cost of the finished area from the applicable "Basement Finish" column using the SF of the actual finished area. **Split-level & Bi-level:** see Unfinished Lower Level schedule to first determine the unfinished cost. Then add the cost of the actual finished area using the "Basement Finish" rates.				
Total SF	Crawl Space	Unfinished Bsmt	Basement Finish	
			Living Area Quality	Rec Room Quality
400	11.26	37.20	33.25	17.12
500	10.57	34.71	32.50	16.71
600	9.81	32.11	31.74	15.89
700	8.99	29.86	30.64	15.23
800	8.50	28.68	30.44	14.83
900	8.12	27.45	29.47	14.52
1,000	7.85	26.54	29.02	14.31
1,100	7.64	26.05	28.57	14.14
1,200	7.50	25.47	28.12	14.03
1,300	7.35	25.04	27.67	13.91

The crawl space of 1,200 SF is correlated to a rate of $7.50/SF; 1,200 SF x $7.50 = $9,000. This is entered in the Basement row of the computation ladder.

Plumbing

The next item is the adjustment for an additional full bathroom. Refer to the **Plumbing schedule** to determine the pre fixture cost of $930.00. Since there are 3 fixtures in a full bathroom, multiply the per fixture rate by 3; $930 x 3 = $2,790. This value is entered in the Plumbing row of the computation ladder.

Plumbing (+/-)	
Plumbing cost per fixture; add or deduct for each fixture above or below the residential standard five fixtures.	$930

Porches

Next, refer to the **Porches schedule**, and correlate 100SF in the Open Frame column to determine the rate of $36.04/SF. 100SF x $36.04 = $3,604. The value is entered in the Porches row of the computation ladder.

Porches (+)						
SFGA	Open Frame	Screened-in Frame	Knee Wall with Glass	Solid Wall Encl. Frame	Open Masonry	Enclosed Masonry
25	65.60	90.94	113.24	100.08	77.36	147.60
50	45.92	62.82	80.12	70.80	52.14	102.28
75	39.36	53.44	69.06	61.03	43.25	86.68
100	36.04	48.71	63.51	56.12	38.75	78.84
125	34.74	45.89	57.98	51.42	37.30	73.30

Garages

In the Attached Garages section of the **Garages schedule**, correlate 400SF (20' x 20') in the Cost Group 1 column since the garage has the same vinyl exterior cover; 400SF x $31.89/SF = $12,756. This value is recorded in the Garage row of the computation ladder.

Garages

The cost of a garage is not included in the base residence cost. The garage costs include wall surfaces, roof surfaces when applicable, a concrete floor, doors, and electric lighting. Total SF refers to the actual square footage of the garage. Determine the applicable Group column by the exterior wall construction and cover material of the garage.

Attached Garages

Attached garages share one or more common wall(s) with the residence and costs include interior finish for only the common wall(s).

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	39.40	41.05	46.33	52.72	100.66	59.14	65.53	113.47	141.21
250	37.58	39.03	43.64	49.23	91.18	54.85	60.44	102.38	126.66
300	35.75	37.06	41.24	46.29	84.24	51.38	56.44	94.38	116.35
350	33.92	35.16	39.12	43.91	79.86	48.73	53.51	89.47	110.28
400	31.89	33.00	36.55	40.84	73.05	45.16	49.45	81.65	100.29
450	31.17	32.27	35.79	40.05	72.01	44.33	48.59	80.55	99.04

Add all the values of these additional features to the base cost to determine the Sub-total.

SFLA:	**1,200 SF**	Total Base Cost:		$	**106,764**
Basement	**Crawl**	**1,200 SF**	(+)		**9,000**
Heating/Central air			-		
Plumbing		(+) **3**	-		**2,790**
Attic			+		
Porches	**OFP**	**100 SF**	(+)		**3,604**
(Attach)/Built-in garage		**400 SF**	(+)		**12,756**
Sub-total					**134,914**

Apply the quality grade factor, if applicable. In this example, the quality grade is "C" so the factor applied is 1.00 (and does not impact the graded total). Other features listed below the "Graded total" may have their own quality grade. In this example, there is a prefab fireplace that also has a "C" grade. This should be listed in "Other Features" as indicated.

Sub-total			**134,914**
Grade	**C**	x	**1.00**
Graded total			**134,914**

Fireplace

In the **Fireplace schedule**, correlate the Pre-fab metal fireplace in the 1-story column (since the structure is only 1-story high).

Fireplace (+)			
Type	1-Story	2-Story	3-Story
Masonry 5' base brick fireplace & stack	5,500	6,100	6,700
Second masonry fireplace on same stack	4,600	5,000	5,400
Pre-fab metal wood burning fireplace	2,100	2,500	3,000
Second Pre-fab metal fireplace on same stack	1,000	1,400	1,800

Add the value of applicable Other Features to the Graded total to calculate the Structure's Replacement Cost New (RCN).

Sub-total				**134,914**
Grade	**C**		x	**1.00**
Graded total				**134,914**
Other features				
Pt. Msy Trim		+		
Fireplace	**Grade C**	+		**2,100**
Finished basement		+		
Schedule's RCN				**137,014**

The next step in the computation ladder is applying any applicable factors (e.g. cost, design, neighborhood and appraiser). For this example, we do not have any factors to apply, so there is no calculation necessary for determining the **True replacement cost new –** it is the same as the **Schedule's RCN.**

Schedule's RCN			**137,014**
C x D	**1.00 x 1.00**	x	**1.00**
NH x AP	**1.00 x 1.00**		
True replacement cost new			**137,014**

Determine the REL Factor

Apply the factors (if any) and determine the REL. Now refer to the REL table.

Use Schedules A and B in the Residential REL Table to determine the REL Factor *(use this table for all dwelling types in Pub-123 except Mobile Homes).* Correlate the Age of 10 in the A (average) CDU Rating column in Schedule A.

Residential REL Table

Schedule A - Effective Age												Schedule B - REL %			
Age	CDU Rating					Age	CDU Rating					Eff. Age	REL Percent	Eff. Age	REL Percent
	E	G	A	P	U		E	G	A	P	U				
1	1	1	1	14	27	36	19	30	36	48	62	1	99	52	50
2	1	1	2	15	28	37	20	31	37	50	64	2	97	53	49
3	1	2	3	16	29	38	21	31	38	51	64	3	96	54	48
4	1	2	4	16	30	39	22	32	39	53	65	4	95	55	47
5	1	3	5	17	31	40	23	33	40	54	66	5	94	56	47
6	2	4	6	17	32	41	24	34	41	55	67	6	93	57	47
7	2	5	7	18	33	42	25	35	42	56	67	7	92	58	46
8	2	6	8	19	34	43	25	36	43	57	68	8	91	59	46
9	2	6	9	20	35	44	26	38	44	59	69	9	90	60	46
10	2	7	10	21	38	45	27	39	45	60	70	10	89	61	45
11	3	7	11	22	39	46	28	39	46	60	70	11	88	62	45
12	3	8	12	23	39	47	29	40	47	61	70	12	87	63	44

Correlate the Effective Age of 10 in Schedule B to determine the REL value of 89%. Enter .89 in the REL field and 11% (100% - 89%) in the Depreciation field.

Residential REL Table

Schedule A - Effective Age												Schedule B - REL %			
Age	CDU Rating					Age	CDU Rating					Eff. Age	REL Percent	Eff. Age	REL Percent
	E	G	A	P	U		E	G	A	P	U				
1	1	1	1	14	27	36	19	30	36	48	62	1	99	52	50
2	1	1	2	15	28	37	20	31	37	50	64	2	97	53	49
3	1	2	3	16	29	38	21	31	38	51	64	3	96	54	48
4	1	2	4	16	30	39	22	32	39	53	65	4	95	55	47
5	1	3	5	17	31	40	23	33	40	54	66	5	94	56	47
6	2	4	6	17	32	41	24	34	41	55	67	6	93	57	47
7	2	5	7	18	33	42	25	35	42	56	67	7	92	58	46
8	2	6	8	19	34	43	25	36	43	57	68	8	91	59	46
9	2	6	9	20	35	44	26	38	44	59	69	9	90	60	46
10	2	7	10	21	38	45	27	39	45	60	70	10	89	61	45
11	3	7	11	22	39	46	28	39	46	60	70	11	88	62	45
12	3	8	12	23	39	47	29	40	47	61	70	12	87	63	44

Apply the REL Factor to the True RCN to calculate the dwelling's Full Value. $137,014 x 0.89 = $121,942.

True replacement cost new				**137,014**
Eff. Age:	**10**	REL	x	**0.89**
Depr:	**11** %			
Full Value				**121,942**

Summary of Other Improvements

Next, determine the value of the improvements listed in the "Summary of Other Improvements".

Paving

Use the **Paving schedule** to determine the rates for the asphalt drive and concrete walk. Enter these rates in the Rate column in the Summary of other Improvements section.

Paving (+)	
Crushed stone, 6"	$1.17/SF
Concrete, 6" with wire mesh, no base	$6.15/SF
Asphalt, 2" with 4" base	$4.74/SF

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)										
Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU
Driveway		**Asphalt**	**1,200'**	**4.74**		**C**			**10**	**Avg**
Walk		**Concrete**	**108'**	**6.15**		**C**			**10**	**Avg**

Deck

Use the **Stoops, Decks, Patios schedule** to correlate the rate for the 150SF elevated wood deck. Since the deck is elevated, there is no need to deduct for No Steps or No Rail.

Stoops, Decks, Patios (+)					
Total SF	Stoop - Masonry Elevated		Deck - Wood Elevated		
	1 Riser	2 Risers	Steps & Rail	No Steps (-)	No Rail (-)
25	31.52	42.64	36.55	10.72	10.91
50	22.34	28.28	27.58	5.36	7.30
75	19.28	23.51	24.59	3.57	6.08
100	17.74	21.11	23.07	2.68	5.47
125	16.36	19.15	21.88	2.14	4.81
150	15.27	17.64	20.96	1.79	4.25
175	14.63	16.74	20.42	1.53	3.96
200	14.03	15.91	19.90	1.34	3.64

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)										
Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU
Driveway		**Asphalt**	**1,200'**	**4.74**		**C**			**10**	**Avg**
Walk		**Concrete**	**108'**	**6.15**		**C**			**10**	**Avg**
Deck		**Wood**	**150'**	**20.96**		**C**			**2**	**Avg**

Determine REL for Other Improvements

Next, Determine the REL value for all three improvements. For the driveway and the sidewalk, use the same REL as the dwelling since they have the same Age and CDU as the dwelling; enter .89 in the REL column. Since the deck is only 2 years old, use the REL Table to correlate the correct REL. The REL is .97.

Residential REL Table															
Schedule A - Effective Age												Schedule B - REL %			
Age	CDU Rating					Age	CDU Rating					Eff. Age	REL Percent	Eff. Age	REL Percent
	E	G	A	P	U		E	G	A	P	U				
1	1	1	1	14	27	36	19	30	36	48	62	1	99	52	50
2	1	1	2	15	28	37	20	31	37	50	64	2	97	53	49
3	1	2	3	16	29	38	21	31	38	51	64	3	96	54	48
4	1	2	4	16	30	39	22	32	39	53	65	4	95	55	47
5	1	3	5	17	31	40	23	33	40	54	66	5	94	56	47
6	2	4	6	17	32	41	24	34	41	55	67	6	93	57	47

There are no other features listed, so calculations are ready to be completed.

Multiply Size by Rate to calculate Sub-total. Chain multiply grade factor with other factors and enter the result in the Factor(s) column. Multiply the Sub-total by the Factors to calculate the RCN.

Calculate the Full Value of Other Improvements

Multiply the RCN by the REL Factor to calculate the Full Value of each improvement.

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)												
Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Driveway		Asphalt	1,200'	4.74	5,688	C	1.00	5,688	10	Avg	0.89	5,062
Walk		Concrete	108'	6.15	664	C	1.00	664	10	Avg	0.89	591
Deck		Wood	150'	20.96	3,144	C	1.00	3,144	2	Avg	0.97	3,050

Total

Total all the “Other Improvements” and add the Full Value of the dwelling to the Total Full Value of Other Improvements. The Total Full Value of all of the structures (excluding land) is $130,645.

age, deck, patio, driveway, storage shed, etc.)						
Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
C	1.00	5,688	10	Avg	0.89	5,062
C	1.00	664	10	Avg	0.89	591
C	1.00	3,144	2	Avg	0.97	3,050
	Total full value other improvements					8,703
	Total full value all bldgs & improvements					130,645

The Property Record Card is complete.

Using the Schedules and the Property Record Card
Exercise 7-4 2-story residence

The subject property is a 2-year old, 2-story stud frame structure with 8 rooms, including 4 bedrooms and a family room. The foundation is poured concrete. There is a full unfinished basement. The dwelling has central warm air heat and central air conditioning on the upper two floors. The plumbing consists of the standard 5 plumbing fixtures, plus an additional full bath and a separate half-bath. The home is located north of the central Illinois area where costs of building, materials and labor are approximately 6% higher than in central Illinois.

The exterior walls are covered with vinyl siding. There is also 300 sf of partial masonry trim. The basement floor is concrete and the first and second floors are covered with tile and carpet. The interior finish is drywall on the first and second floors. In addition, there is one prefabricated fireplace. There is also an attached 600 square foot frame 2-car garage with vinyl siding, with a 600-square foot asphalt drive in front. There is a 5-ft. deep open frame porch across the front of the structure, as well as an 75-square foot wood deck with stairs and railings on the rear of the structure. The property has a CDU of “average”, and a quality grade “C”.

The property record card for this property follows. Refer to the PRC to complete the questions on page 141.

Exercise 7-4 — Building Record - Residential - Rural (Property - Type 1)

Occupancy: 1 Vacant Lot | **2 Dwelling** | 3 Other | 4 Mobile Home | 5 A. | 6 Summer Home | 7 Row House | 8 Post Frm. | 9 Log e

Style/No. stories: 2 — Unit type:

Exterior Wall Construction: **Stud Frame** | Concrete Block | Solid Stone

Exterior Wall Cover Material

	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)		X	X		
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 9)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim: SF: 300 | Quality: C | Brk. [1] | **Stone** [2] | Art. [3]

Roof

Shingle - **Asphalt**/Composite/wood	
Slate/tile	
Metal/Other	
Solar Panel	

Attic: **1 None** | 2 Unfinished | 3 Part fin. | 4 Full fin. — % finished

Basement: **1 Full** | 3 Crawl | 4 Slab — Area without bsmt. SF

Heating / AC: 1 None | **2 Central Heat** | **3 Air Cond.** | 4 Other — Other (descr.)

Plumbing

Standard (5)	1
Additional Bathroom (3)	1
Additional Half bath (2)	1
Additional Sink/Fixture (1)	

Living Accommodations

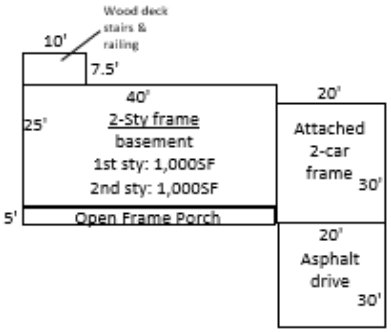
Total Rooms	Bedrooms	Family Room
8	4	1

Interior Finish

Finished Basement / Lower Level	Living area	SF:
	Recreation	SF:
Half Upper Sty Finished Living Area		SF:

Porches / Wood Deck

SF: 200	**OFP**	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF: 75	**Wood deck**	No Steps / No Rail					



Remodeled: NH | Sold Date: Mo. Day Yr. | Amount $

Fireplaces

Type:	#	# Stacks:	Sty Hght:
Pre-fab	1	1	2

Garage

Type	Cost Grp	SF	Area over Garage
Attached	1	600	Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

Memo

Age: 2 | Adj. Age: 2 | CDU: Avg. | Grade: C

Base Cost Computation

Sty	CG	x (if app.)	x Rate	x SF	= Sub-total
1/Main	1		93.9	1,000	93,920
2	1		59.5	1,000	59,490

SFLA: 2,000 SF	Total Base Cost:	153,410
Basement	+	26,540
Heating/Central air	-	
Plumbing (+) 5	-	4,650
Attic	+	
Porches 200 SF OFP	+	6,044
	+	
Attach/Built-in garage	+	17,466
Sub-total		208,110
Grade C	1	1.00
Graded total		208,110
Other features		
Pt. May Trim	+	10,290
Fireplace	+	2,500
Finished basement	+	
Schedule's RCN		220,900
C x D / NH x AP	x	1.06
True replacement cost new		234,154
Eff. Age: 2 / Depr: 3%	REL x	0.97
Full Value		227,129

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)

Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Drive	1	Asphalt	600	4.74	2,844	C	1.06	3,015	2	Avg.	0.97	2,924
Wood Deck	1	Wood	75	24.59	1,844	C	1.06	1,955	2	Avg.	0.97	1,896

Listed by: | Date:

Total full value other improvements 4,820

Total full value all bldgs & improvements 231,949

PRC-2 (R-11/19) (opposite PRC-1)

Exercise 7-4

1. What is the total $ adjustment for all additional plumbing fixtures?

   _____.
2. What is the $/SF cost for the Open Frame Porch?

   _____.
3. What is the Schedule's RCN?

   _____.
4. What is the percentage of depreciation on this property?

   _____.
5. What is the Total Full Value of all items on the "Summary of Other Improvements"?

   _____.
6. What is the Full Value of All Buildings and Other Improvements?

   _____.

.

Using the Schedules and the Property Record Card

Exercise 7-5 1- Story Residence

Cost factor **1.06**

The lot is improved with a 3-year-old 1-story 1800 SF stud frame/vinyl home with stone veneer trim on a slab with an attached 2 car garage (frame/viny as well). There is an open frame porch, concrete drive and walkway as well as a patio in the back.

Foundation	Poured concrete slab
Heating	Gas fired forced air — central air conditioning
Plumbing	Standard 5, plus an additional full bath and a half-bath — average grade fixtures and galvanized piping
Exterior walls	Vinyl on stud frame with 250 SF partial stone trim Grade C—1 3/4" doors — 1 3/8" double-hung windows
Roof	2" x 6" rafters, 1/2" plywood sheathing and asphalt shingles
Floors	2"x 6" wood joist, sanded oak and some tile
Interior finish	Drywall — oak doors and trim throughout — higher grade maple kitchen cabinets
Miscellaneous	Average quality electrical fixtures — average quality workmanship. 20' x 25' attached garage; 20'x 60' concrete drive; 15' x 4' concrete walkway as well as a 300 SF open frame front porch and a 14'x 16' concrete patio.
CDU	**Good** (CDU on Summary of Other Improvements is A for Average)
Quality grade	**C**

Complete the PRC-2 on page 145 utilizing this information and the information on the PRC-2 sketch.

Exercise 7-5

Building Record - Residential - Rural (Property - Type 1)

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A.	6 Summer Home	7 Row House	8 Post Frm.	9 Log e

Style/No. stories: Unit type:

Exterior Wall Construction

Stud Frame | Concrete Block | Solid Stone

Exterior Wall Cover Material

	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)					
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 9)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim

SF: Quality: Brk.[1] Stone[2] Art.[3]

Roof

Shingle - asphalt/composite/wood	
Slate/tile	
Metal/Other	
Solar Panel	

Attic

1 None	2 Unfinished	3 Part fin.	4 Full fin.

% finished

Basement

1 Full	3 Crawl	4 Slab

Area without bsmt. SF

Heating / AC

1 None	2 Central Heat	3 Air Cond.	4 Other

Other (descr.)

Plumbing

Standard (5)	
Additional Bathroom (3)	
Additional Half bath (2)	
Additional Sink/Fixture (1)	

Living Accommodations

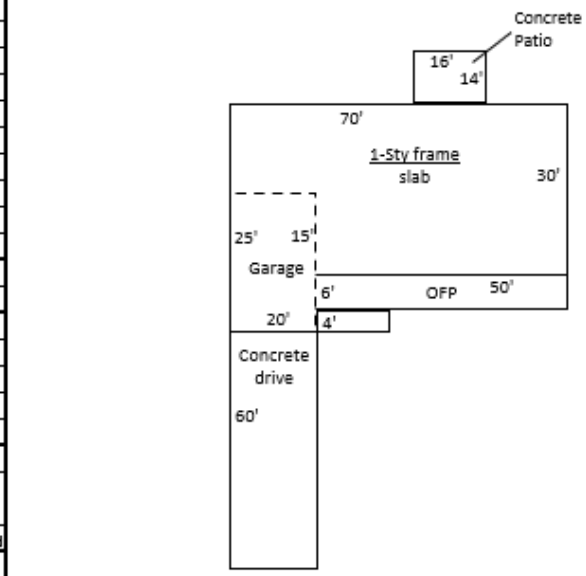
Total Rooms	Bedrooms	Family Room

Interior Finish

Finished Basement / Lower Level	Living area	SF:
	Recreation	SF:
Half Upper Sty Finished Living Area		SF:

Porches / Wood Deck

SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	OFP	Scrn-in	Kn-Wal	EFP	OMP	EMP	2-Sty
SF:	Wood deck		No Steps / No Rail				



Remodeled | Sold Date: Mo. Day Yr. | Age: | Adj. Age:

NH | Amount $ | CDU: | **Grade:**

Fireplaces

Type:	#	# Stacks:	Sty Hght:

Garage

Type	Cost Grp	SF	Area over Garage
Attached			Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

Memo

Base Cost Computation

Sty	CG	x (if app.)	x Rate	x SF	= Sub-total
1/Main	**1**				

SFLA: Total Base Cost:

Basement	+	
Heating/Central air	-	
Plumbing	+ -	
Attic	+	
Porches	+	
	+	
Attach./Built-in garage	+	
Sub-total		
Grade		
Graded total		
Other features		
Pt. Msy Trim	+	
Fireplace	+	
Finished basement	+	
Schedule's RCN		
C x D		x
NH x AP		
True replacement cost new		
Eff. Age:	REL	x
Depr:		
Full Value		

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)

Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Drive	1					C	1.06			Avg.		
Sidewalk	1					C	1.06			Avg.		
Patio	1					C	1.06			Avg.		

Listed by: **Total full value other improvements**

Date: **Total full value all bldgs & improvements**

PRC-2 (R-11/19) (opposite PRC-1)

Unit 7 Summary

The purpose of **mass appraisal** is to produce equitable and efficient appraisals of all property in a jurisdiction for *ad valorem* tax purposes.

Mass appraisal systems provide quickly obtainable value estimates with reasonable substantiation in the records. A mass appraisal system should incorporate all three approaches to value, but most systems are primarily based on the cost approach.

A **cost factor** is designed to adjust the Publication 123 **replacement cost new (RCN)** value to reflect the local cost of labor and materials.

The **quality grade** represents quality of construction, workmanship, and material used in a project. The quality of workmanship and materials can greatly affect cost.

To determine a **design factor**, the assessor must determine the percentage increase, or decrease, in cost due to the design features. The design factor is handled in the same manner as a quality grade factor; it is assigned to individual properties and should remain unchanged during the life of the structure.

An **appraiser factor** is sometimes utilized by the CCAO or supervisor of assessments to account for differences in appraisal consistency among various assessors in the county.

The **remaining economic life (REL) factor** is applied to the true Replacement Cost New (RCN) to arrive at the full market value, which then reflects the adjustment made for depreciation.

Unit 7 Review Questions

1. What type of quality does the quality grade factor “D” represent and what is the factor applied from the schedules?

   _____

2. A local assessor notices that an improvement has been greatly neglected and its physical condition is extremely poor. He or she notes that this improvement was originally built with excellent materials and workmanship. Which one of the following will the assessor adjust?

   _____ Cost
   _____ Quality grade
   _____ CDU rating used to determine the REL factor

3. Quality grade refers to the_____

True or False

4. **T** or **F** A PRC-2 is used for calculating land values.

5. **T** or **F** A frame house of 1,000 square feet on a slab will not have an adjustment for a basement.

6. **T** or **F** All detached garages are calculated using the Summary of Other Buildings on the bottom of the PRC

7. **T** or **F** The quality grade is used to determine a REL factor.

8. **T** or **F** To compute the value for an enclosed frame porch of 60 square feet and an enclosed frame porch of 40 square feet, you should add the square footage of the porches together and price out a porch of 100 square feet from the cost tables.

Unit 8 – Sales Comparison Approach (Market Approach) to Value

This unit covers the Sales Comparison Approach (Market Approach) to value. The purpose of this unit is to provide a basic understanding of the appraisal process and how the sales comparison method can be used to determine market value.

Learning Objectives

After completing the assigned readings, you should be able to

- understand the Principle of Substitution.
- understand the Principle of Highest and Best Use.
- complete a sales comparison grid.
- identify units of comparison when analyzing comparable sales data.
- make the appropriate adjustments to the comparable sales.
- select the property that is most comparable to the subject property.

Terms and Concepts

Highest and best use
Principle of Substitution
Sales Comparison or Market Approach
Sales price
Adjusted sales price
Unit price
Units of comparison

The Principle of Highest and Best Use

Before determining a property's market value, the property's highest and best use must first be determined. Property has its highest value at its highest and best use. Highest and best use is defined as "that use that will produce the highest net return to the land for a given period of time, within the limits of those uses which are economically feasible, probable, and legally permissible."

The property's highest and best use is generally its current use. However, let's take a single-family residential property in a commercially zoned area along a busy street. The highest and best use of this property could easily be a store or an office building. The use that would lead to the highest net return to the property would be the highest and best use.

Principle of Substitution

The principle provides the basis of the three approaches to value and states that a buyer is not going to pay more for a property than it would cost to acquire an equally desirable, substitute property. That is, the value of a property is established as the amount equally desirable and comparable properties are being bought and sold for in the open market.

Sales Comparison or Market Approach

The sales comparison, or market approach, to value arrives at a value for the subject property by comparing it to comparable properties that have sold. Consideration must be given to all the tangible and intangible factors influencing value, such as location, construction, age, physical features, condition, desirability, and usefulness. It is the best approach for an assessor to use when valuing residential property that is *not* new and there are comparable sales available.

Units of Comparison

Units of comparison are those components into which a property may be divided for purposes of comparison. Different units of comparison are used depending on the type of property that is being analyzed.

Examples of Units of Comparison

- Residential property - square feet, number of bathrooms, age, number of stories.
- Warehouse property - gross building area, gross building volume, number of loading docks, location.

- Apartment building - number of units, number of bedrooms, gross income multipliers.
- Hotel - number of rooms.
- Nursing Home - number of beds.

In the sales comparison approach, consideration must be given to all tangible and intangible factors influencing value, such as location, construction, age, physical features, condition, desirability, and utility.

The appraiser **adjusts the comparable sales** to the subject property. If the comparable property is superior in some manner to the subject property, the sales price of the comparable property is adjusted downward to the subject property. Likewise, if the comparable property is inferior in some manner to the subject property, the sales prices of the comparable property is adjusted upward to the subject property. Generally, the comparable property with the fewest number of adjustments demonstrates the most probably value of the subject property.

Comparable is **SUPERIOR = SUBTRACT (Comparable Better Subtract - CBS)**
If the comparable **property is better** than the subject property, then you **subtract** a dollar amount from the sale price of the comparable property.

Comparable is **INFERIOR = INCREASE (Comparable Inferior Add - CIA)**
If the comparable property sale is **inferior to** the subject property, then you **add (increase)** a dollar amount to the sale price of the comparable property.

When making adjustments in the Sales Comparison Approach, **never adjust the subject**; **always adjust the comparable** sales.

Example of an upward adjustment

An upward adjustment of $25,000 may be warranted if two comparable residential sales are alike in every way except Sale #1, sold for $150,000, and it has four bedrooms. Sale #2 sold for $125,000 but only has three bedrooms. If several other sales indicate similar trends, a $25,000 upward adjustment would be required before the inferior Sale #2 can be used to estimate the value of the subject property with four bedrooms.

Example of a downward adjustment

A downward adjustment may necessary if a comparable sale is superior to the subject property because the comparable sale property has four bedrooms and the subject property only has three bedrooms. Using the above example, the adjustment for one bedroom is $25,000. The sale price of the superior comparable property would be adjusted downward by $25,000.

The significance of this approach to value lies in its ability to produce estimates of value that directly reflect the opinions of buyers and sellers in the market.

The first step in the Sales Comparison Approach is to gather information on comparable properties that have sold. Three to five comparable properties must be used when conducting a sales comparison study. Generally, you will choose the one best property that has the fewest number of adjustments, NOT the one that has the lowest dollar amount of adjustments. The time adjustment does not count towards the total number of adjustments.

Once the information is gathered, the appraiser should study the properties to determine if any adjustments are needed. Recall the units of comparison that we outlined for single family, residential property: square feet, number of bathrooms, number of bedrooms, age, number of stories, and other physical features of the residence. Let's discuss potential sources of this data.

Sales Data Collection and Analysis – Suggested Sources of Information

Information on properties sold can be found through multiple sources. Most are public sources of information. However, before retrieving the actual data, you must first identify the type of data that would be most helpful in your comparisons.

Comparative Data

- Sales data - data is collected from recent property sales transfer declarations, and from which basic adjustments are developed. These adjustments may include time since the sale occurred or the property's location, as well as adjustments for different property characteristics. As a result, benchmark properties for comparison purposes are established.
- Income data - data is gathered from income and expense statements. The assessor may develop economic rents, vacancy and collection loss allowances, discount, effective tax and recapture (owner's equity) rates.

Data Sources

Public records are extremely useful in locating pertinent information. Some common examples are as follows:

- PTAX 203-Real Estate Transfer Declarations (most often used)
- City or County Recorder's Office
- Planning and Zoning
- Private Data sources (Real estate MLS services, newspaper ads, and commercial sales data from other available sources)

Exercise 8-1 Together

Completing a Sales Grid and Determining the Most Comparable Property

Let's look at the process for finding the value for a subject property using data from comparable sales.

For this exercise, the following will be true:

- Newer is better than older
- A crawl space is better than a slab
- A basement is better than a crawl
- An attached garage is better than a detached
- A 2-car garage is better than a 1-car
- The more beds and baths, the better

Adjustment Values

Sale Date = 5% per year

1 bathroom fixture = $500

1 bedroom = $1,500

Crawl = $3,000

Basement, unfinished = $10,000

Fireplace =$2,500

Garage Space = $5,000

Each sale has its own column. Try to enter the data known into the grid on Page 157. You don't have to enter the dollar value yet. Let's do the first column together. Enter the subject's information, then start with adjustments for features that are different in each comparable' s column.

SUBJECT: 1211 Sherman Dr.

One story ranch home
20 Years Old
3 Bedrooms
6 Bathroom Fixtures
Crawl Space
2 Car Attached Garage
No Fireplace

Comparable Sale # 1: 810 N. Oak St. SALE PRICE: $128,000

One story ranch home
Current Sale
28 Years Old
3 Bedrooms
5 Bathroom Fixtures
Crawl Space
1 Car Attached Garage
1 Fireplace

Comparable Sale # 2: 512 W. White St. SALE PRICE: $120,000

One story ranch home
Current Sale
22 Years Old
3 Bedrooms
3 Bathroom Fixtures
Crawl Space
2 Car Attached Garage
No Fireplace

Comparable Sale # 3: 912 E. Grand Ave. SALE PRICE: $134,000

One story ranch home
Sold 3 years ago-adjust for 3 years, not current
9 Years Old
4 Bedrooms
8 Bathroom Fixtures
Partial Basement—500 Sq. Ft. Unfinished
3 Car Attached Garage
1 Fireplace

Comparable Sale # 4: 1001 Douglas Ave. SALE PRICE: $135,500

One story ranch home
Current Sale
31 Years Old
3 Bedrooms
6 Bathroom Fixtures
Full Basement--1400 Sq. Ft. Unfinished
2 Car Attached Garage
No Fireplace

Enter the Sales Date, Age, Basement, # Beds and # Bathroom Fixtures, # of Fireplaces and # Bays of the Garage in the Subject column.

The goal of this exercise is to determine the Adjusted Sales Price of the Subject Property, 1211 Sherman Drive.

Next, fill in the number of adjustments in each column for the 4 Comparable Properties. If there is No Change as compared to the Subject, just enter NC.

Then, calculate the dollar value of each of the adjustments, and applying the CBS and CIA rules, make each adjustment a plus (add) or minus (subtract) adjustment.

After completing the grid on Page 157, carefully total all the plus and minus adjustments for a total dollar amount and apply the adjusted $ amount to the known Adjusted Sales Price. The Final Adjusted Sales Price of each comparable is now known.

When all the spaces are filled in, ask yourself:

How do we get to the value of the subject property?

_____

_____

Is it based on least number of adjustments? _____

Is it based on least dollar amount of adjustments? _____

This is the part where your judgement comes into action.

The best value for the subject property would be:

$_____

Exercise 8-1 Together

	Subject	Sale 1	Sale 2	Sale 3	Sale 4
Address	1211 Sherman Drive				
Sales Date					
Sales Price					
Adj. Sales Price					
Basement	None-crawl				
# Bedrooms	3				
# Bathroom Fixtures	6				
Fireplace	none				
Garage	2-car attached				
# of Adjustments					
$$$ Adjustments					
Final Adj. Sales Price					

Exercise 8-2

Adjustment Values

Sale Date = 2% per month

1 bathroom fixture = $750

1 bedroom = $2,500

Basement, unfinished = $5,000

Fireplace =$1,500

Garage Space = $6,000

	Subject	Sale 1	Sale 2	Sale 3	Sale 4
Sales Date		2 months ago	current	current	6 months ago
Sales Price		$160,000	$175,000	$165,500	$155,000
Adj. Sales Price					
Basement	yes	no	no	yes	yes
# Bedrooms	4	3	4	4	3
# Bathroom Fixtures	5	6	8	5	5
Fireplace	1	0	1	2	1
Garage	2-car attached	2-car	3-car	2-car	2-car
# of Adjustments					
$$$ Adjustments					
Final Adj. Sales Price					

Now that you have completed the Exercise 8-2 grid, complete the following:

	Final Adj. Sales Price	No. of Adj.
Comparable 1	_____	_____
Comparable 2	_____	_____
Comparable 3	_____	_____
Comparable 4	_____	_____

After making all of the necessary adjustments and calculations, study the grid to determine the sale most comparable to the subject property. Once the comparable has been selected, values can be determined for the subject property.

Looking at the least number of adjustments, which sale is most comparable to the subject property?

_____

What other factor did you have to consider?

_____

In the previous two exercises, you were given the adjustment values for each tangible feature. However, in your assessment work, you will have to determine these values based on the market data that you analyze, similar to what you did for land features in Unit 5. Let's look at the following information together to determine the market values of each feature.

Exercise 8-3 Together

	Sale Price	Months since sale	Foundation	Plumbing Fixtures	Bedrooms	Garage (# of stalls)	AC
Comp 1	$171,000	0	Basement	5	4	1	yes
Comp 2	$170,000	3	Basement	8	3	1	yes
Comp 3	$167,500	0	Slab	5	3	1	yes
Comp 4	$164,500	6	Slab	5	3	1	yes
Comp 5	$167,000	6	Basement	5	3	1	yes
Comp 6	$170,000	0	Basement	5	3	1	yes
Comp 7	$163,000	6	Slab	5	3	1	no
Comp 8	$176,000	0	Basement	5	4	2	yes
Comp 9	$168,500	3	Basement	5	3	1	yes

Step 1

Analyze the information shown to determine common and variables features. Note the features of the comparable properties, and identify features that are the same as and that differ from the subject property.

Step 2

Compare the values associated with the various features.

Step 3

Determine values for the adjustments.

1. A home with a basement is worth $_____ more than a home with a slab foundation.
   Hint: Look at Comps 3 and 6. All other variables are equal, such as plumbing fixtures, garage stalls, etc.

2. A home that was sold 6 months ago is worth $_____ (per month) less than a sale that just occurred.
   Hint: Look at Comps 5 and 6.

3. Based on the above sales, each extra bedroom is worth $_____ more than a home with fewer bedrooms.
   Hint: Look at Comps 1 and 6.

4. A home with a higher number of garage stalls is worth $_____ (per stall) more than a sale with fewer.
   Hint: Look at Comps 1 and 8.

5. A home with additional plumbing fixtures is worth $_____ (per fixture) more than a home with the standard 5 fixtures.
   Hint: Comps 2 and 9 can be used to determine this value.

6. A home with AC is worth $_____ more than a home without AC.
   Hint: Look at Comps 4 and 7.

Now that we have finished analyzing the features of comparable sales to determine adjustment values together, practice by yourself with Exercise 8-4.

Exercise 8-4

Use the table below to answer questions on pages 167 and 168.

	Sale Price	Months since sale	Foundation	Plumbing Fixtures	Bedrooms	Garage (# of stalls)	AC	Fireplaces	Location Description	Lot size
Comp 1	$195,500	12	Slab	7	4	2	no	1	Interior	1.5 acre
Comp 2	$187,800	9	Basement	8	3	1	yes	0	Corner	1 acre
Comp 3	$201,500	0	Basement	5	3	2	yes	1	Corner	1.5 acre
Comp 4	$193,350	3	Slab	5	4	1	yes	1	Interior	1 acre
Comp 5	$191,700	6	Basement	5	4	1	yes	1	Corner	1 acre
Comp 6	$189,000	9	Basement	8	3	1	yes	1	Corner	1 acre
Comp 7	$197,000	0	Basement	5	4	1	yes	1	Interior	1 acre
Comp 8	$193,500	0	Basement	5	4	1	yes	1	Corner	1 acre
Comp 9	$198,500	0	Basement	8	4	1	yes	1	Interior	1 acre
Comp 10	$196,100	3	Basement	5	4	1	yes	1	Interior	1 acre
Comp 11	$199,500	0	Basement	5	3	2	yes	1	Corner	1 acre
Comp 12	$195,500	3	Slab	8	4	1	yes	1	Interior	1 acre
Comp 13	$192,000	0	Basement	5	3	1	yes	1	Corner	1 acre
Comp 14	$197,500	12	Slab	7	4	2	yes	1	Interior	1.5 acre

Step 1

Analyze the information shown to determine common and variables features. Note the features of the comparable properties and identify features that are the same as and that differ from the subject property.

Step 2

Compare the values associated with the various features.

Step 3

Determine values for the adjustments.

1. Based on the above sales, each extra bedroom is worth $_____ more than a home with fewer bedrooms.

   Hint: By comparing Comp 8 and Comp 13, note that all other variables are equal, such as foundation, garage stalls, etc. The only variable is the number of rooms.

2. A home that was sold 6 months ago is worth $_____ (per month) less than a sale that just occurred.

3. A home with a higher number of garage stalls is worth $_____ (per stall) more than a sale with fewer.

4. A home with an interior location is worth $_____ more than a corner location.

5. A home with a basement is worth $_____ more than a home with a slab foundation.

6. A home with additional plumbing fixtures is worth $_____ (per fixture) more than a home with the standard 5 fixtures.

7. A home with AC is worth $_____ more than a home without AC.

8. A home with at least 1 fireplace is worth $_____ (per fireplace) more than a home without a fireplace.

9. A home with extra lot acreage is worth $_____ (per additional half acre) more than a sale on a one-acre lot.

After determining the appropriate values for the variables, you could then use this information to adjust any of the properties you needed to value.

Unit 8 Summary

Highest and best use is defined as “that use that will produce the highest net return for a given period of time, within the limits of those uses which are economically feasible, probable, and legally permissible.” Property has its highest value at its highest and best use. The property’s highest and best use is generally its current use.

The Principle of Substitution is the basis of the three approaches to value. It states that a buyer is not going to pay more for a property than it would cost to acquire an equally desirable, substitute property.

The Sales Comparison or Market Approach is generally the best approach for valuing residential property that is *not new*. Different Units of Comparison are used with different types of property. When trying to determine the value of a subject property, all adjustments are made to the comparable properties, never the subject.

If the comparable property is superior to the subject property, then you subtract a dollar amount from the sale price of the comparable property. If the comparable property sale is inferior to the subject property, then you add (increase) a dollar amount from the sale price of the comparable property.

Comparable is **SUPERIOR = SUBTRACT (Comparable Better Subtract - CBS)**
Comparable is **INFERIOR = INCREASE (Comparable Inferior Add - CIA)**

Determining value is based on available data and the application of the assessor’s knowledge and application of known appraisal and assessment practices.

Unit 8 Review Questions

True or False

1. **T** or **F** When using the sales comparison or market approach, one never adjusts the subject property.

2. **T** or **F** Make a minus adjustment to the comparable property if it is inferior to the subject property.

3. **T** or **F** The market is showing an annual increase in value of 3%. A comparable property sold 2 years ago. It would have a minus adjustment of 6%.

4. **T** or **F** The comparable sale with the fewest adjustments is sometimes the best indicator of value for the subject property.

5. Complete the sales comparison table on the next page using the adjustment values determined in Exercise 8-4. After completing the table, complete the following:

	Final Adj. Sales Price	**No. of Adj.**
Comparable 1	_____	_____
Comparable 2	_____	_____
Comparable 3	_____	_____
Comparable 4	_____	_____
Comparable 5	_____	_____

After making all of the necessary adjustments and calculations, study the grid to determine the sale most comparable to the subject property. Once the comparable has been selected, values can be determined for the subject property.

Looking at the least number of adjustments, which sale is most comparable to the subject property?

_____

Time Adj. _____ A/C Adj. _____

Foundation Adj. _____ Fireplaces Adj. _____

Plumbing Fixtures Adj. _____ Location Adj. _____

Bedrooms Adj. _____ Lot Size Adj. _____

Garage Stalls Adj. _____

	Subject Property	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
Sale Price		$175,000	$182,000	$187,500	$172,500	$163,000
Number of months since sale	0	5	4	3	5	12
Adjusted sale price						
Foundation	Basement	Basement	Slab	Slab	Basement	Slab
Number of plumbing fixtures	7	8	5	6	7	5
Number of bedrooms	4	3	4	4	3	4
Garage (# of stalls)	2	1	2	2	1	2
Central air conditioning	Yes	Yes	Yes	No	No	Yes
Number of fireplaces	0	1	1	2	1	0
Location adjustment	Interior	Corner	Interior	Corner	Interior	Interior
Lot size adjustment	1.5 acre	1.5 acre	1 acre	1 acre	1.5 acre	1.5 acre
Net adjustment						
Total number of adjustments						
Final adjusted sale price (adj. sale price + net adj.)						

Unit 9 – Income Approach to Value

This unit covers the ways to use the IRV formula to calculate the market value of an income producing property.

Learning Objectives

After completing the assigned readings, you should be able to

- determine the capitalization rate for a property when given the net income and the value.
- determine the value for a property when given the appropriate capitalization rate and income of a property.
- determine the income for a property when given the appropriate capitalization rate and value of a property.
- determine the Potential Gross Income (PGI) for the subject property.
- determine the Effective Gross Income (EGI) for the subject property.
- determine allowable expenses.
- determine net income.

Terms and Concepts

Allowable expenses
Effective Gross Income (EGI)
IRV Formula
Market Value (MV)
Net Operating Income (NOI)
Potential Gross Income (PGI)
Vacancy and Collection Losses
Capitalization
Capitalization Rate
Recapture Rate
Mortgage Interest Rate
Effective Tax Rate
Reserves for Replacement

The Income Approach

Properties such as parking lots, apartments, and office buildings are often valued based on the net income these properties produce for their owners. The Income Approach has its widest application in appraisal of income-producing property. Commercial property is universally bought and sold on its ability to generate and maintain a stream of income for its owner. The value of such property is a measure of the amount, quality and durability of the future net income the property can be expected to return to its investor.

The process of converting the net income produced by a property into an indication of its value is called **capitalization**.

With the IRV formula, the income, capitalization rate or value can be determined.

The IRV formula is**:** $\frac{I}{R \times V}$

In the IRV formula:

I = Net Operating Income
R = Capitalization Rate
V = Value

If you know any two factors of the formula, the third can be calculated.

Net Operating Income

Net operating income can be most easily thought of as gross income minus expenses. In evaluating an income producing property, there are a couple of additional variables that are used in rental properties. To arrive at the net operating income, use the following formula:

Potential Gross Income
\- Vacancy and Collection Losses
\+ Miscellaneous Income
= **Effective Gross Income**
\- Allowable Expenses (or Expenses allowed)
\- Reserves for Replacement
= **Net Operating Income**

A mnemonic to help you remember this formula is:
Please **V**iew **M**y **E**lectronic **E**mail **R**ight **N**ow……or feel free to make up your own

Potential Gross Income

The **Potential Gross Income** (PGI) is the economic rent for a property at 100 percent occupancy. When estimating the PGI, it is important to base it on the **economic or market rent** (rent based on the market), which may not be the same as the contract rent (actual rent) for the subject property. For instance, an owner may be charging $750 rent for his 1-bedroom apartments in a property. But other landlords are getting $825 for their comparable 1-bedroom apartments. The $825 would be the economic or market rent.

It is highly unlikely that a property will be rented to 100 percent capacity at all times, so a deduction for **vacancy losses** is allowed. The amount of the deduction, again, is based on market standards, which may or may not be the same for the subject property.

Deductions are also allowed for **collection losses.** Collection losses are losses that result from tenants' failure to pay rent. Again, these losses are based on market standards.

The amounts deducted will be a **percentage of the PGI.**

Effective Gross Income

The **Effective Gross Income (EGI)** is calculated by estimating the PGI, subtracting the vacancy and collection losses, and then adding in miscellaneous income, such as income from vending machines or laundry facilities.

Net Operating Income

The Net Operating Income (NOI) is derived from the **Effective Gross Income,** minus the **Allowable Expenses** and minus **Reserves for Replacements.**

Allowable Expenses

Allowable Expenses are the expenses necessary for the operation of the business to keep it competitive with other similar properties in the area. Some examples of allowable expenses are management fees, utilities, insurance, supplies, materials, repairs, and maintenance.

For assessment purposes, **property taxes and mortgage interest are *not* allowable expenses**. They are taken into consideration in the capitalization rate. Other items not considered allowable expenses are income taxes, depreciation, capital improvements, and the owner's business expenses that are not necessary for maintaining the rent produced by the property.

Reserves for Replacements

The final deduction is for **Reserves for Replacements**. Annual expense deductions are made to replace such items as roofs, carpeting, appliances, furnaces, and air conditioning units.

The Capitalization, or "Cap" Rate

The process of converting the net income produced by a property into an indication of its value is called **Capitalization.** The "R" in the IRV Formula refers to the capitalization rate that consists of the equity (or recapture) rate, the mortgage interest (or discount) rate and the effective tax rate.

- Recapture Rate - the annual rate at which invested capital is returned to the investor over a specified period of time.

- Mortgage Interest or Discount Rate - the interest rate used to convert future payments or receipts into present value.

- Effective Tax Rate - the tax rate is expressed as a percentage of market value.

All three rates are combined to come up with an overall **"Cap" rate** for improved properties. If you are trying to determine a cap rate for property with no improvement, (vacant land), you do not use the recapture rate; only use the effective tax rate and the mortgage interest rate. The reason for this is that recapture is related to depreciation, and land usually does not depreciate.

Selecting the proper capitalization rate and accurately estimating a realistic potential gross income, along with applicable operating expenses, are essential to the capitalization process and arriving at a credible market value for a property.

It is important to note that land in these examples can also be a gravel parking lot.

For many assessors, a gravel parking lot is not considered in the income approach to value. It is considered to be unimproved. A paved parking lot is considered to have a greater value, can be different in condition and grade, and can depreciate in value.

In this course, do not use a recapture rate in your calculations of parking lots, unless it is specifically indicated that the lot is paved.

Using the IRV Formula

The IRV formula can be used to determine any one of the three factors. If you cover up the letter representing the component you are trying to determine, the formula for determining the value of that component is left.

To find the income of a property, cover up the "I" in the formula so you are left with **R x V.**

Multiply the appropriate capitalization rate "R" by the value "V."

If you know the net income of a property and the value, to find the appropriate capitalization rate, cover up the "R" in the formula so you are left with

$$\frac{I}{V}.$$

Divide the net income "I" by the value "V."

To determine the value of the property cover up the "V" in the formula so you are left with

$$\frac{I}{R}.$$

Divide the net income "I" by the capitalization rate "R".

Any one of the factors in the IRV formula can be determined if the other two factors are known.

An Example of Determining an Income Property Value

An apartment building has 15 units that rent for $500 per month. The appropriate capitalization rate is 10.25 percent.

What is the value of the property?

To arrive at the value, you need to know the Income and the Capitalization Rate.

1. Determine the Income
   15 (# of units) x $500 x 12 (months) = $90,000

2. Determine the capitalization rate
   Given as 10.25%

3. Determine the Value.
   Apply the IRV Formula “V” = “I” ÷ “R”

$$\frac{\mathbf{I}}{\mathbf{R \times V}}$$

$$\frac{\text{I} = \$90{,}000}{\text{R} = .1025} = \$878{,}049$$

The value of the property is $878,049.

Exercise 9-1
Using the IRV Formula

1. An apartment building recently sold for $250,000. The building has 10 units each of which rents for $250 per month. What is the capitalization rate?

   _____

2. A paved parking lot provides its owner with a net operating income of $16,740. The appropriate capitalization rate is 9.3%. What is the value of the parking lot?

   _____

3. The capitalization rate for an office building is 11.37%. The building value in a recent sale was $452,600. What is the net operating income for the office building that an investor would expect?

   _____

4. An apartment building recently sold for $375,700. The annual income for the building is $53,428. What is the capitalization rate?

   _____

5. A run-down triplex recently sold for $157,000. The cap rate is 11.41%. What is the property's annual income?

   _____

6. An apartment building has 20 units that rent for $800 per month. The capitalization rate is 14.5%. What is the value of the property?

   _____

Example - Determining the net operating income to use in the IRV formula.

An investor owns a small apartment building in his hometown. There are 12 one-bedroom units in his building. Six of his tenants have resided there for over 10 years. The rest have been there three or more years. The long-term renters are paying $400 per month, and the newer six pay $550 per month. Similar one-bedroom units in the area rent for $600 per month. The building experiences a 9% vacancy and collection loss. Other buildings have a more typical 7% loss.

There is a parking lot that residents can rent spaces in at $20 per month. The income from parking is $2,400 yearly. There is also a laundry room that brings in $100 per month.

The expenses for the building run $50 per unit per month. The owner reserves $5,000 per year for repairs and replacements.

What is the NOI for this apartment building?

PGI=	12 units x $600 x 12 months = $86,400
Vacancy and Collection Loss=	- 7% of PGI = $6,048
Miscellaneous Income=	+ $2,400 parking fees annually
	+ $ 100 laundry x 12 months = $1,200
Effective Gross Income=	**$83,952**
Allowable Expenses=	- 12 units x $50 x 12 months = $7,200
Reserves for Replacement=	- $5,000 annually
Net Operating Income=	**$71,752**

Remember that some calculations use market (or potential) numbers.

Now, let's assume an owner is interested in purchasing this property but he needs a cap rate of 12%. What value might he place on the property using the IRV formula?

Income (NOI = 71,752) divided by Rate (12% or .12) = **$597,933**

Unit 9 Summary

IRV Formula: $\frac{I}{R \times V}$

I = Net Operating Income
R = Capitalization Rate
V = Market Value

Formula for NOI

Potential Gross Income
- Vacancy and Collection Losses
+ Miscellaneous Income
= **Effective Gross Income**
- Allowable Expenses (or Expenses allowed)
- Reserves for Replacement
= **Net Operating Income**

Allowable Expenses are the expenses necessary for the operation of the business to keep it competitive with other similar properties in the area. Some examples of allowable expenses are management fees, utilities, insurance, supplies, materials, repairs, and maintenance. For assessment purposes, **property taxes and mortgage interest are *not* allowable expenses**.

Reserves for Replacements are the annual expense deductions made to replace such items as roofs, carpeting, appliances, furnaces, and air conditioning units.

The **Potential Gross Income** (PGI) is the economic rent for a property at 100 percent occupancy. When estimating the PGI, it is important to base it on the **economic or market rent** (rent based on the market), which may not be the same as the contract rent (actual rent) for the subject property.

Unit 9 Review Questions

1. What is the formula for the Income Approach to value?

   _____

2. A 100 space parking lot rents for $30 a month per space. The cap rate is 11.89%. What is the value of the parking lot?

   _____

3. A two-story commercial building has a value of $960,000. The building provides its owner with a monthly net income of $6,000 per floor. What is the capitalization rate?

   _____

4. A 4-unit quadruplex recently sold for $270,000. The cap rate is 10.65%. What is the income of this apartment building?

   _____

5. A 12-unit apartment building has (6) 1-bedroom units, (4) 2-bedroom units, and (2) 3-bedroom units. The 3-bedroom units rent for $400 per month, the 2-bedroom units rent for $350 per month, and the 1-bedroom units rent for $275 per month. What is the value of this 12-unit apartment building if the capitalization rate is 9.75%?

   _____

6. An assessor is trying to value a small rental property.

   What is the NOI? _____ What is the Value? _____

   PGI = $48,000
   Cap Rate 9%
   Rents = 5 units at $800 per month
   Vacancy = 3% or .03
   Misc. income = 1 coin operated washer and 1 coin dryer = $65 per month
   Reserves = $7,500 annually

Unit 10 – Sales Ratio and Equalization

This unit covers the purpose of Sales Ratio Studies and the Equalization process.

Learning Objectives

After completing this unit, you should be able to

- explain the use of a Sales ratio study.
- define Equalization.
- understand how to find the median.
- calculate an equalization factor (or multiplier).

Terms and Concepts

Sales Ratio Study
Coefficient of Dispersion (COD)
Mean
Median
Mode
Equalization
Equalization Factors or Multipliers
Equalized Assessed Value (EAV)

Sales Ratio and Equalization

Mean, Median and Mode

Mean	The average. To determine the mean, add up the values in the data set and then divide by the number of values that you added.
Median	The midpoint in a list of values. To determine the median, list the data set in numerical order and identify which value appears in the middle.
Mode	The value which occurs most often in the data set.

In assessment work, the **median** is the measure most often used.

The Sales Ratio Study

The starting point in the equalization process is the **sales ratio study.** The sales ratio study provides the ratio of Sales Price divided by the Assessed Value or the **median level of assessments** for that jurisdiction for the year of the study. It also provides information on the percentage relationship of assessed value to market value for real property in certain classes and geographic areas. In addition, sales ratio studies furnish information on the variation in assessment levels among and within classes of property and geographic areas.

Sales Ratio Studies are used for the following purposes:

- **In the computation of equalization factors.** State-issued county multipliers are used by the Department to carry out the statutory responsibility of equalizing the levels of assessments among counties (**Inter-county**). Township multipliers are issued by the county (**Intra-county**) to equalize the level of assessments within that county.
- **In the review and appeal of assessments.**
  The sales ratio studies provide a measure of the average assessment level for a given geographic area or category of property against which assessments of individual parcels may be judged in determining the degree of over or understatement, if any. One of the reasons to appeal an assessment is that the level of assessment on the property is higher than the township or county median level of assessments.
- **As a diagnostic tool to evaluate local assessment practices.**
  It is the responsibility of local assessing officials to use the assessment/sales ratio study to evaluate their assessment policies and make assessment changes to sales and non-sales when warranted so that the final assessment of all properties in their jurisdictions are at a uniform percentage of value. Certain measures of

assessment uniformity (coefficient of dispersion, coefficient of concentration, median absolute deviation) are based on the median level of assessments. A sales ratio study can be completed at any time and even multiple times throughout the year to support the evaluation of the trending for the real estate market. Studies that gather information on current sales for a particular neighborhood, subdivision, location/proximity that make the properties more desirable and other characteristics of properties within the township are just a few viable possibilities.

- **To determine eligibility for the assessor bonus award**.
  In order to qualify for the assessor bonus award, the average of the median levels of assessments of the prior 3 years must be between 31.33% and 35.33% and the Coefficient of Dispersion (COD) must be below the appropriate COD as determined by the population of the county.

- **In reimbursement to a county** of a portion of the Supervisor of Assessment's salary.
  In order to qualify for the reimbursement to the county, the average of the median levels of assessments of the prior 3 years must be between 31.33% and 35.33%.

A minimum of 25 useable sales (market value, arms-length transactions) are needed to conduct any sales ratio study. Randomly selected appraisals, or sales trending, may be used for intra-county studies if there are not enough usable sales available.

The Department's emphasis is slightly different from local concerns. The State's concern is developing inter-county equalization and does not focus on inconsistencies that may exist among individual properties. Local jurisdictions must focus on valuing all property uniformly and equitably, assuring that all assessed values represent current market values. The sales ratio study becomes a tool of the county to evaluate assessment policies and make assessment changes when warranted. The final assessments of all properties in the jurisdictions are then at a uniform percentage of value to provide an equitable distribution of the property tax burden.

The following are examples of some types of sales that would **not** be used in a sales ratio study:

1. Sales that are not Arm's Length Transactions.
   - Not advertised for sale
   - Family transfer (same surname)
   - Transfer to a bank, credit union, or savings and loan
   - Transfer in Lieu of Foreclosure (different than a sale in lieu of foreclosure which is left in the sales ratio study per statute)
   - Sheriff's deed
   - Court Officer's deed
   - Transfers to a Governmental unit

2. A prior year sale recorded in the current year.
3. Sales where the prior year's assessed value and the sales price are not comparable.
    - A new improvement was added
    - Property was demolished
    - Partial or pro-rated assessment
    - Sales involving parcels from multiple townships
    - Sale involved exempt or specially-assessed property

Form PTAX-203, Real Estate Transfer Declaration, (RETD or Declaration) is the primary source of sale information used in a sales ratio study. The Declaration contains information on the amount of the sale, the use of the property, and the conditions of the sale. The RETD must be filed with the county recorder when a deed is recorded. The RETDs are then given to the CCAO, who supplies copies to the township or multi-township and IDOR.

PTAX-203
Illinois Real Estate Transfer Declaration

Please read the instructions before completing this form.
This form can be completed electronically at **tax.illinois.gov/retd**.

Do not write in this area. County Recorder's Office use.
County:
Date:
Doc. No.:
Vol.:
Page:
Received by:

Step 1: Identify the property and sale information.

1 Street address of property (or 911 address, if available)

City or village ZIP

Township

2 Write the total number of parcels to be transferred.

3 Write the parcel identifying numbers and lot sizes or acreage.

	Property index number (PIN)	Lot size or acreage
a		
b		
c		
d		

Write additional property index numbers, lot sizes or acreage in Step 3.

4 Date of instrument: Month / Year

5 Type of instrument (Mark with an "X."): ____ Warranty deed ____ Quit claim deed ____ Executor deed ____ Trustee deed ____ Beneficial interest ____ Other (specify):

6 ____ Yes ____ No Will the property be the buyer's principal residence?

7 ____ Yes ____ No Was the property advertised for sale? (i.e., media, sign, newspaper, realtor)

8 Identify the property's current and intended primary use.

	Current	Intended	(Mark **only one item per column** with an "X.")
a	____	____	Land/lot only
b	____	____	Residence (single-family, condominium, townhome, or duplex)
c	____	____	Mobile home residence
d	____	____	Apartment building (6 units or less) No. of units:
e	____	____	Apartment building (over 6 units) No. of units:
f	____	____	Office
g	____	____	Retail establishment
h	____	____	Commercial building (specify):
i	____	____	Industrial building
j	____	____	Farm
k	____	____	Other (specify):

9 Identify any significant physical changes in the property since January 1 of the previous year and **write the date of the change.**
Date of significant change: Month / Year
(Mark with an "X.")
____ Demolition/damage ____ Additions ____ Major remodeling
____ New construction ____ Other (specify):

10 Identify only the items that apply to this sale. (Mark with an "X.")

a ____ Fulfillment of installment contract — year contract initiated :
b ____ Sale between related individuals or corporate affiliates
c ____ Transfer of less than 100 percent interest
d ____ Court-ordered sale
e ____ Sale in lieu of foreclosure
f ____ Condemnation
g ____ Short sale
h ____ Bank REO (real estate owned)
i ____ Auction sale
j ____ Seller/buyer is a relocation company
k ____ Seller/buyer is a financial institution or government agency
l ____ Buyer is a real estate investment trust
m ____ Buyer is a pension fund
n ____ Buyer is an adjacent property owner
o ____ Buyer is exercising an option to purchase
p ____ Trade of property (simultaneous)
q ____ Sale-leaseback
r ____ Other (specify):
s ____ Homestead exemptions on most recent tax bill:
1 General/Alternative $
2 Senior Citizens $
3 Senior Citizens Assessment Freeze $

Step 2: Calculate the amount of transfer tax due.

Note: Round Lines 11 through 18 to the next highest whole dollar. If the amount on Line 11 is over $1 million and the property's current use on Line 8 above is marked "e," "f," "g," "h," "i," or "k," complete Form PTAX-203-A, Illinois Real Estate Transfer Declaration Supplemental Form A. If you are recording a beneficial interest transfer, do not complete this step. Complete Form PTAX-203-B, Illinois Real Estate Transfer Declaration Supplemental Form B.

11	Full actual consideration	11	$
12a	Amount of personal property included in the purchase	12a	$
12b	Was the value of a mobile home included on Line 12a?	12b	____ Yes ____ No
13	Subtract Line 12a from Line 11. This is the net consideration for real property.	13	$
14	Amount for other real property transferred to the seller (in a simultaneous exchange) as part of the full actual consideration on Line 11	14	$
15	Outstanding mortgage amount to which the transferred real property remains subject	15	$
16	If this transfer is exempt, use an "X" to identify the provision.	16	____b ____k ____m
17	Subtract Lines 14 and 15 from Line 13. **This is the net consideration subject to transfer tax.**	17	$
18	Divide Line 17 by 500. Round the result to the next highest whole number (e.g., 61.002 rounds to 62).	18	
19	Illinois tax stamps — multiply Line 18 by 0.50.	19	$
20	County tax stamps — multiply Line 18 by 0.25.	20	$
21	Add Lines 19 and 20. **This is the total amount of transfer tax due.**	21	$

This form is authorized in accordance with 35 ILCS 200/31-1 *et seq.* Disclosure of this information is REQUIRED. This form has been approved by the Forms Management Center. IL-492-0227

PTAX-203 (R-10/10)

Coefficient of Dispersion

There are several statistical measures of assessment uniformity. The most common measure of assessment uniformity is the **Coefficient of Dispersion (COD).** The COD provides a measure of the variation of individual assessment ratios around the median level of assessments.

If individual ratios are found to be grouped closely around the median, assessments are relatively **uniform and the COD will be low.**

Higher CODs indicate that individual ratios vary widely from the median, so the properties are **not uniformly assessed**. This also indicates that the property tax burden is not fairly distributed among taxpayers in that particular region or jurisdiction.

In Illinois, a bonus of $3,000 is paid to assessors who maintain a level of assessment between 31 1/3% and 35 1/3% and have a COD of no greater than 15. In counties with 50,000 or fewer inhabitants, the COD must be 30 or less.

Formulas

$$\textbf{Sales Ratio} = \frac{\text{Assessed Value}}{\text{Sales Price}} \times 100\%$$

$$\textbf{Deviation} = \text{Sales Ratio} - \text{Median*}$$

$$\textbf{Average Deviation} = \frac{\text{Sum of Deviations}}{\text{Number of Sales}}$$

$$\textbf{COD} = \frac{\text{Average Deviation}}{\text{Median}} \times 100\%$$

*Ignore plus or minus signs when subtracting the median from the sales ratios

Exercise 10-1 - Sales Ratio Study

Step 1

Determine the percent relationship of assessed value to actual market value using the sales ratio formula. For each sale, divide the prior year's assessed value by the current year's selling price and then multiply it by 100 to change it to a percent.

The first sale has an assessed value for the prior year of $10,000 and the current year's selling price is $35,000. Divide the assessed value of $10,000 by the sale price of $35,000, then multiply it by 100%. This gives you a sales ratio of 28.57%.

Round to 2 decimal places throughout this exercise. To round numbers, first carry the answer out 3 decimal places. If the last digit is 5 or greater, round up the number in the second decimal place. If the last digit is less than 5, leave the number in the second decimal place as it is. For example, 28.575 is rounded to 25.58 and 28.571 is rounded to 28.57.

$$\text{Sales Ratio} = \frac{\text{Assessed Value}}{\text{Sales Price}} \times 100\%$$

$$\text{Sales Ratio} = \frac{\$10{,}000}{\$35{,}000} \times 100\% = 28.57\%$$

Follow Step 1 to find the sales ratios for the remaining 10 sales.

Exercise 10-1 Worksheet
Sales Ratio Study

Assessed Value	Sale Price	Sales Ratio
$10,000	$35,000	28.57
$17,500	$42,500	
$1,900	$12,000	15.83
$9,000	$26,000	
$9,000	$31,000	29.03
$1,400	$8,000	
$7,200	$23,000	31.30
$8,000	$24,500	
$5,600	$19,500	28.72
$14,000	$50,000	
$19,000	$67,000	28.36

Next, rank all the ratios and determine the median level of assessments. Rank your ratios from highest to lowest, or vice-versa, because either ranking will produce the same result. **The middle ratio is the median** when there are an odd number of ratios. This example has an odd number of ratios.

	Rank the Ratios	
1		
2		
3		
4		
5		
6		**- Median or Middle**
7		
8		
9		
10		
11		

When you rank all 11 ratios, starting with the lowest ratio of 15.83% and ending with the highest ratio of 41.18%, the middle ratio, or median, is 28.72%. There are exactly 5 ratios above 28.72%, and 5 ratios below 28.72%. **Therefore, for this jurisdiction, the median level of assessments has been determined to be 28.72%.**

Note: The **mean**, or average, of the middle two ratios is the median when there are an even number of ratios.

Equalization

Equalization is defined as the application of a uniform percentage increase or decrease to assessed values of various areas or classes of property to bring assessments, on average, to a uniform percentage of market value. Uniform percentage means that an **equalization factor**, sometimes referred to as a **multiplier**, is applied uniformly to all properties (except farmland, farm buildings, wind turbines*, commercial solar systems, coal, and state-assessed properties).

Township Assessors, CCAOs, Boards of Review (*except in Cook County*), and IDOR have the authority to apply equalization factors.

Assessors in Cook County do not have the authority to apply equalization factors.

Equalization that occurs within a county is called **intra-county** equalization. Examples of intra-county equalization include neighborhood or township multipliers.

Inter-county equalization factors, sometimes called State multipliers or State equalization factors, are issued annually for each county by IDOR. The application of these factors to the appropriate property ensures the median level of assessment in all counties is at the statutory level of 33 1/3%.

Without applying the equalization factors, the taxpayers in overlapping taxing districts would not pay the same amount to the taxing districts, even though both properties have the same assessed value. Equalization also “evens out” the tax burden within the county.

If a county receives an equalization factor (multiplier) of 1.0000, it means that the median level in that county is already at 33 1/3% or within +/- 1% of 33.33.

Equalization factors will not correct inequities in individual assessments.

Inequities in individual assessments may result in a lack of assessment uniformity within an area or class and may necessitate a reassessment of individual properties before intra-county equalization. The importance of having uniform assessment levels that are grouped closely around the median level of assessments cannot be over-emphasized, because it is the median level of assessments that is adjusted to 33 1/3%.

Equalization is the process of applying a factor to each jurisdiction so that all jurisdictions throughout the state have assessment levels at the same average percentage of market value. The following example shows how the tax bills of two similar properties in one school district, which overlaps two counties, are affected by unequal assessment levels. The example then shows how the application of an equalization factor establishes equity.

* wind turbines with at least 0.5 MW nameplate capacity

Equalization vs. No Equalization

Without applying the equalization factors, the taxpayers in this overlapping taxing district would not pay the same amount to the taxing district, even though both properties have a market value of $90,000. With the application of equalization factors, the **equalized assessed values (EAV)** of both properties are the same and both property owners share equally in the tax burden.

No Equalization	County A	County B
Property Market Value	$90,000	$90,000
3-Year Average Assessment Level	33.33%	23.00%
Assessed Value (AV)	$30,000	$20,700
Overlapping District Tax Rate $3.43/$100 EAV	3.4300%	3.4300%
Tax Bill (for District)	$1,029	$710

	County A			County B		
Equal. Factor 3-year Level	$\frac{33.33\%}{33.33\%}$	=	**1.0000**	$\frac{33.33\%}{23.00\%}$	=	**1.4491**

With Equalization	County A	County B
Same Properties' Assessed Values	$30,000	$20,700
Equalization Factor	1.0000	1.4491
Equalized Assessed Value (EAV)	$30,000	$30,000
Overlapping District Tax Rate $2.90/$100 EAV*	2.9000%	2.9000%
Tax Bill (for District)	$870	$870

Not all properties are subject to equalization factors. Some types of properties that are not affected by equalization include:

- developed coal rights
- farmland
- farm buildings

- wind turbines*
- commercial solar energy systems
- state-assessed property

These are not affected by State multipliers; their assessed values are defined by law as equalized assessed values. However, both the farm residence and home site are subject to the State multiplier because their assessed values are based on market values.

* Wind turbines with at least 0.5 MW nameplate capacity

Unit 10 Summary

The starting point in the equalization process is the **sales ratio study.** The sales ratio study provides the median level of assessments for a particular jurisdiction for the year of the study. A minimum of 25 sales must be used to perform a valid study.

The Sales ratio study is used:

- in the computation of equalization factors.
- in the review and appeal of assessments.
- as a diagnostic tool to evaluate local assessment practices.
- to determine the assessor bonus.
- for reimbursement to a county of a portion of the S/A salary.

There are many types of property sales that cannot be used in a sales ratio study. Only current sales of one year or less can be used in a sales ratio study. Disregard any older sales.

If the number of ranked ratios is odd, the middle number will be chosen as the median. If the number of ranked ratios is even, the middle two ratios will be averaged and provide the mean, or average. The mean will be used as the median.

Equalization is the process of applying a factor to each jurisdiction so that all jurisdictions throughout the township, county and/or state have assessment levels at the same average percentage of market value. In Illinois, the statutory level of assessments is 33 1/3% of market value.

The **state equalization factor (state multiplier)** is determined by taking the statutory level of assessment and dividing it by the prior 3-year average median level of assessments for a jurisdiction. The equalization factor is applied to the assessed values for the current year. A 2021 equalization multiplier is applied to 2021 assessments, taxes payable in 2022.

Farmland, farm buildings, wind turbines with at least 0.5 MW nameplate capacity, developed coal, commercial solar energy systems, and State-assessed properties are examples of property that is not subject to equalization.

Unit 10 Review Questions

1. Name four types of properties that are not affected by equalization factors at the local level.

   a. _____

   b. _____

   c. _____

   d. _____

2. Name four types of sales that would not be used in a sales ratio study.

   a. _____

   b. _____

   c. _____

   d. _____

True or False

1. **T** or **F** Equalization means a factor is applied to each jurisdiction so that all jurisdictions are assessed at the same average percentage of market value.

2. **T** or **F** The state equalization factor is always 1.0000.

3. **T** or **F** Equalization factors will not correct inequities in individual assessments.

4. **T** or **F** A Coefficient of Dispersion is a measure of uniformity of assessments.

5. **T** or **F** Form PTAX-203 Real Estate Transfer Declaration (RETD) is the primary source of sale information used in a sales ratio study.

Exam Preparation

Examination Information

- You must have a calculator- one that displays up to 10 decimal points is best.
- The exam consists of 50 multiple choice questions.
- Each question is worth an equal number of points when the exam is graded.
- There is only one best answer for each question on the examination.
- Two hours are allotted for completion of the exam.
- The exam is closed book. All class materials, papers, computers, and cellular devices must be removed from the table before taking the exam.
- Cellular phones may not be used as calculators.

Test-Taking Strategies

- Read each question thoroughly and choose the one best answer provided.
- Review the answer sheet for any skipped answers or multiple answers for the same question.
- Some test-takers prefer to answer questions that they are confident in the answers first and choose to skip over harder questions or questions that involve math calculations. If this is done, be sure to complete the correct answer on the answer sheet for the questions being answered. The answer sheets are graded by hand, so question numbers may be circled so that they can be easily identified during the second pass through the exam.
- Be mindful of the time allotted. If a question is taking a lot of time to answer, move past it and come back to it later.
- Guessing an answer is better than leaving it blank if time becomes an issue.

Appendix A –
Relevant Statutes from the Illinois Property Tax Code – 35 ILCS 200

Article 2. Township Assessment Officials

Article 4. Assessment Officials – Other Provisions

Article 9. General Valuation Procedures.

Division 1. Office operations

Division 2. Assessment authority

Division 3. Assessment books

Division 4. Valuation procedures

Division 6. Farmland, open space, and forestry management plan

Division 7. Coal

Division 9. Nurseries

Division 11. Low-income housing

Division 14. Valuation of certain leases of exempt property

Division 15. Valuation of supportive living facilities

Division 18. Wind energy property assessment

Division 20. Commercial solar energy systems

Article 15. Exemptions

Homestead Exemptions

Article 25. Penalties

Exercise A-1

Use the following excerpt of the Illinois Property Tax Code to answer the following questions. The applicable section number(s) are provided.

1. What is the education requirement for the assessor in a township or multi-township with a non-farm, non-mineral equalized assessed valuation of less than $10 million and less than $1 million commercial and industrial valuation?

   _____ Section **2-45**

2. Are assessing officials required to take an oath of office?

   _____ Section **4-30**

3. Must a supervisor of assessments hold an annual meeting for his or her township and multi-township assessors?

   _____ Section **9-15**

4. Are individuals permitted to obtain copies of property record cards?

   _____ Section **9-20**

5. Are township assessors required to provide the supervisor of assessments with a copy of all new property record cards as they are added to the tax rolls?

   _____ Section **9-25**

6. Must the supervisor of assessments provide “rules” for the assessment of property by township assessors?

   _____ Section **9-15**

7. Is there a provision in the statutes for the revisions of assessment in counties of less than 3 million?

   _____ Section **9-75**

8. What is the date specified by statute for the return of the assessment books by the township assessor to the supervisor of assessments?

Section **9-230**

9. May township assessors appoint deputies to assist them with their duties?

Section **2-65**

10. Is there a provision in the statutes for setting the salary of an assessor?

Section **2-70**

11. Can township assessors be reimbursed for their education expenses?

Section **2-80**

12. Are there any penalties for assessors who knowingly fail to perform their duties?

Section **25-15,25-20,25-25**

13. Who is responsible for prosecuting violators of the Property Tax Code?

Section **25-45**

14. How are vacancies in the office of township assessor filled?

Section **2-60**

15. What is the statutory level of assessment?

Section **9-145**

16. Can candidates “get qualified” after they are elected or appointed, as long as they are qualified when they take their oath?

Section **2-45**

17. Section _____ outlines the pre-election and pre-appointment requirements for township and multi-township assessors.

18. Section _____ provides for the revision of assessor qualifications.

19. Individuals in jurisdictions with more than _____in non-farm/non- mineral EAV or more than _____in commercial/industrial EAV, are required to have a CIAO designation before running for office or being appointed to office.

Section **2-45**

20. Individuals in jurisdictions with more than $10 million and less than $25 million of non-farm/non-mineral EAV and less than $1 million of commercial/industrial EAV who have previously held office will be required to have an approved _____ prior to running for office.

Section **2-45**

Appendix B – Base Cost Schedules for Single-Family Residential Structures

One-Story or First Floor									
Base cost includes standard design from stock plans and average material and workmanship. The following features are included: a kitchen, water heater, one full bath, hot air heat (gas fired), central air conditioning, asphalt/fiberglass shingles, painted drywall interior, and a slab foundation (i.e., no basement).									
Total SF	**Group 1**	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**	**Group 7**	**Group 8**	**Group 9**
600	106.93	108.55	113.73	120.05	167.05	126.31	132.57	179.62	206.85
700	101.93	103.40	108.09	113.82	156.38	119.48	125.15	167.77	192.43
800	99.44	100.82	105.22	110.59	150.49	115.89	121.21	161.16	184.28
900	95.72	97.02	101.20	106.29	144.12	111.32	116.36	154.24	176.16
1,000	93.92	95.18	99.20	104.11	140.54	108.94	113.81	150.29	171.41
1,100	91.11	92.33	96.22	100.98	136.28	105.67	110.38	145.72	166.18
1,200	88.97	90.16	93.98	98.64	133.21	103.23	107.84	142.46	162.50
1,300	87.22	88.38	92.11	96.66	130.41	101.14	105.64	139.44	159.01
1,400	84.74	85.85	89.42	93.77	126.06	98.06	102.37	134.70	153.42
1,500	82.69	83.78	87.26	91.52	123.07	95.70	99.92	131.52	149.81
1,600	81.20	82.27	85.68	89.85	120.76	93.95	98.07	129.03	146.95
1,700	80.11	81.16	84.53	88.65	119.14	92.69	96.76	127.31	144.99
1,800	79.38	80.42	83.74	87.82	117.95	91.81	95.83	126.01	143.48
1,900	77.77	78.78	82.01	85.96	115.20	89.83	93.74	123.03	139.98
2,000	76.76	77.74	80.88	84.73	113.17	88.50	92.29	120.79	137.28
2,100	76.25	77.21	80.27	84.02	111.74	87.69	91.39	119.16	135.23
2,200	75.59	76.52	79.51	83.17	110.24	86.76	90.37	117.48	133.18
2,300	74.58	75.49	78.41	82.00	108.46	85.50	89.03	115.55	130.89
2,400	74.14	75.03	77.89	81.40	107.32	84.83	88.29	114.26	129.29
2,500	73.36	74.25	77.10	80.60	106.44	84.02	87.47	113.35	128.34
2,600	72.78	73.67	76.51	80.00	105.76	83.41	86.85	112.66	127.60
2,700	72.54	73.43	76.26	79.74	105.44	83.14	86.57	112.31	127.21
2,800	72.26	73.14	75.97	79.44	105.08	82.84	86.26	111.94	126.80
2,900	72.12	73.00	75.82	79.29	104.86	82.67	86.08	111.71	126.53
3,000	71.93	72.81	75.63	79.08	104.60	82.46	85.86	111.43	126.23
3,100	71.44	72.32	75.13	78.58	104.04	81.95	85.35	110.86	125.63
3,200	71.22	72.09	74.87	78.28	103.44	81.60	84.96	110.18	124.77
3,300	70.72	71.58	74.34	77.72	102.69	81.02	84.36	109.37	123.85
3,400	70.40	71.26	73.99	77.35	102.13	80.63	83.93	108.76	123.13
3,500	70.09	70.94	73.65	76.99	101.59	80.24	83.53	108.18	122.45
3,600	70.06	70.90	73.60	76.91	101.35	80.14	83.41	107.89	122.06
Over 3,600	70.04	70.88	73.56	76.85	101.13	80.06	83.30	107.63	121.71

Unfinished Half Upper Story Structure

Use this schedule to separately cost half story structural components. Structural components included are higher roof pitch, dormers, floor joists, subfloor, and stairs. In this schedule, **Total SF** refers to the half story footprint size on the floor level below the half story. Add the actual half story finished living area cost from the separate Half Upper Story Finished Living Area cost schedule.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
400	29.24	29.74	31.34	33.14	47.71	35.19	37.12	51.58	58.61
500	26.60	27.10	28.70	30.50	45.07	32.55	34.48	48.94	55.97
600	24.70	25.20	26.80	28.60	43.17	30.65	32.58	47.04	54.07
700	23.19	23.69	25.29	27.09	41.66	29.14	31.07	45.53	52.56
800	22.06	22.56	24.16	25.96	40.53	28.01	29.94	44.40	51.43
900	21.22	21.70	23.22	25.06	38.89	26.91	28.76	42.58	50.59
1,000	20.54	21.00	22.47	24.24	37.57	26.03	27.80	41.13	47.84
1,100	19.51	19.93	21.26	22.88	34.99	24.50	26.11	38.22	45.23
1,200	18.74	19.15	20.46	22.04	33.94	23.64	25.22	37.11	44.00
1,300	18.13	18.56	19.83	21.60	33.09	22.80	24.53	36.03	43.15
1,400	17.48	17.88	19.16	20.70	32.30	22.05	23.80	34.88	42.10
1,500	16.93	17.31	18.50	19.94	30.76	21.39	23.05	33.65	39.91
1,600	16.50	16.87	18.03	19.49	30.27	20.84	22.38	33.15	38.99
1,700	16.07	16.43	17.54	18.89	29.03	20.25	21.60	32.04	38.02
1,800	15.75	16.10	17.18	18.58	28.76	19.84	21.15	31.48	37.38
1,900	15.39	15.72	16.78	18.07	27.72	19.36	20.65	30.29	35.88
2,000	15.30	15.62	16.63	17.85	27.01	19.07	20.30	29.46	34.76
2,100	15.04	15.35	16.35	17.61	26.85	18.74	19.94	28.94	34.17
2,200	14.77	15.07	16.05	17.22	26.04	18.40	19.58	28.40	33.51
2,300	14.52	14.81	15.78	16.86	25.30	18.00	19.12	27.85	32.44
2,400	14.33	14.61	15.57	16.71	25.28	17.77	18.87	27.35	31.99
2,500	14.31	14.59	15.50	16.60	24.82	17.70	18.79	27.02	31.78
2,600	14.11	14.38	15.25	16.31	24.22	17.37	18.42	26.33	30.91
2,700	13.93	14.28	15.03	16.05	23.66	17.07	18.08	25.70	30.40
2,800	13.87	14.16	15.00	15.95	23.51	17.01	18.01	25.55	30.07
2,900	13.80	14.06	14.90	15.88	23.30	16.88	17.88	25.37	29.70
3,000	13.64	13.96	14.80	15.71	22.95	16.70	17.70	24.88	29.07
3,100	13.59	13.91	14.75	15.60	22.60	16.65	17.65	24.65	28.65
3,200	13.54	13.81	14.65	15.54	22.44	16.55	17.55	24.55	28.55
3,300	13.47	13.72	14.56	15.39	22.33	16.46	17.46	24.46	28.46
3,400	13.43	13.67	14.51	15.28	22.01	16.41	17.41	24.41	28.41
3,500	13.39	13.63	14.47	15.19	21.73	16.37	17.37	24.37	28.37
3,600	13.35	13.61	14.45	15.12	21.48	16.35	17.35	24.35	28.35
3,700	13.30	13.57	14.41	15.07	21.42	16.31	17.31	24.31	28.31
3,800	13.26	13.52	14.36	15.02	21.37	16.26	17.26	24.26	28.26
3,900	13.23	13.50	14.34	14.96	21.30	16.24	17.24	24.24	28.24
4,000	13.20	13.46	14.30	14.90	21.20	16.20	17.20	24.20	28.20
Over 4,000	13.10	13.36	14.20	14.82	21.00	16.10	17.10	24.10	28.10

Full Upper Story

Use this cost schedule to separately cost each full upper floor level. A full upper floor level has all or almost all vertical 8' or higher exterior walls. This schedule improves the cost estimate when the floor levels are different sizes. Use the "One-Story or First Floor" cost schedule for the ground floor level. Use this schedule for the second and third full story levels.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
400	76.46	78.34	84.36	91.68	146.22	98.94	106.22	160.81	192.41
500	73.36	75.12	80.75	87.62	138.70	94.42	101.23	152.36	181.95
600	70.49	72.11	77.29	83.61	130.61	89.87	96.13	143.18	170.41
700	66.03	67.50	72.19	77.92	120.48	83.58	89.25	131.87	156.53
800	63.37	64.75	69.15	74.52	114.42	79.82	85.14	125.09	148.21
900	60.78	62.08	66.26	71.35	109.18	76.38	81.42	119.30	141.22
1,000	59.49	60.75	64.77	69.68	106.11	74.51	79.38	115.86	136.98
1,100	58.31	59.53	63.42	68.18	103.48	72.87	77.58	112.92	133.38
1,200	56.71	57.90	61.72	66.38	100.95	70.97	75.58	110.20	130.24
1,300	55.87	57.03	60.76	65.31	99.06	69.79	74.29	108.09	127.66
1,400	54.72	55.83	59.40	63.75	96.04	68.04	72.35	104.68	123.40
1,500	53.69	54.78	58.26	62.52	94.07	66.70	70.92	102.52	120.81
1,600	53.39	54.46	57.87	62.04	92.95	66.14	70.26	101.22	119.14
1,700	53.23	54.28	57.65	61.77	92.26	65.81	69.88	100.43	118.11
1,800	52.53	53.57	56.89	60.97	91.10	64.96	68.98	99.16	116.63
1,900	51.68	52.69	55.92	59.87	89.11	63.74	67.65	96.94	113.89
2,000	51.15	52.13	55.27	59.12	87.56	62.89	66.68	95.18	111.67
2,100	50.88	51.84	54.90	58.65	86.37	62.32	66.02	93.79	109.86
2,200	50.12	51.05	54.04	57.70	84.77	61.29	64.90	92.01	107.71
2,300	50.10	51.01	53.93	57.52	83.98	61.02	64.55	91.07	106.41
2,400	49.49	50.38	53.24	56.75	82.67	60.18	63.64	89.61	104.64
2,500	49.09	49.98	52.83	56.33	82.17	59.75	63.20	89.08	104.07
2,600	48.98	49.87	52.71	56.20	81.96	59.61	63.05	88.86	103.80
2,700	48.86	49.80	52.58	56.06	81.76	59.47	62.90	88.64	103.54
2,800	48.75	49.63	52.46	55.93	81.57	59.33	62.75	88.43	103.29
2,900	48.66	49.54	52.36	55.83	81.40	59.21	62.62	88.25	103.07
3,000	48.58	49.46	52.27	55.73	81.25	59.11	62.51	88.08	102.88
3,100	48.50	49.38	52.19	55.64	81.10	59.01	62.41	87.92	102.69
3,200	48.35	49.22	52.00	55.41	80.57	58.73	62.09	87.31	101.90
3,300	48.17	49.03	51.79	55.17	80.14	58.47	61.81	86.82	101.30
3,400	48.06	48.92	51.65	55.01	79.79	58.29	61.59	86.42	100.79
3,500	47.92	48.77	51.48	54.82	79.42	58.07	61.36	86.01	100.28
3,600	47.82	48.67	51.36	54.67	79.23	57.90	61.29	85.77	99.94
3,700	47.72	48.56	51.24	54.53	78.81	57.74	60.98	85.31	99.39
3,800	47.66	48.49	51.16	54.43	78.63	57.62	60.91	85.09	99.08
3,900	47.60	48.42	51.08	54.33	78.45	57.50	60.84	84.88	98.79
4,000	47.54	48.36	51.00	54.23	78.08	57.38	60.57	84.47	98.30
Over 4,000	47.46	48.28	50.90	54.11	77.84	57.25	60.42	84.19	97.95

Half Upper Story Finished Living Area (+)

Use this schedule to separately cost the actual existing half story finished living area. Costs included are ceiling structure, knee walls, partitions, doors, wall, ceiling and floor finish, electrical, heating, and air conditioning.

Total SF	Cost per Finished SF
Below 800	46.30
800	45.81
900	43.77
1,000	41.08
1,100	40.09
1,200	38.48
1,300	37.38
1,400	37.00
1,500	36.44
1,600	35.98
1,700	35.91
1,800	35.74
1,900	35.03
2,000	34.37
2,100	34.20
2,200	33.53
2,300	33.27
2,400	32.85
Over 2,400	32.50

In this schedule, **Total SF** refers to the total actual existing half story finished living area size. To determine the total half upper story cost, add the finished living area cost to the cost that was obtained from the Unfinished Half Upper Story Structure cost schedule.

Unfinished Lower Level

Use this schedule to separately cost the lower level of a bi-level or split-level home. Cost the main floor from the "One-Story or First Floor" schedule. The lower level is like a basement, except that it is 42" out of the ground, has exterior cover, and has windows. **Total SF** refers to the area of the footprint of the lower level. Add the actual lower level finished living area cost from the basement finish column of the separate Basement/Foundation schedule.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
400	40.61	41.27	43.41	46.00	65.41	48.60	51.18	70.60	81.83
500	37.92	38.55	40.55	42.97	61.15	45.41	47.83	66.01	76.53
600	35.16	35.74	37.58	39.81	56.54	42.05	44.28	61.01	70.69
700	32.75	33.28	34.95	36.96	52.11	38.99	41.01	56.16	64.93
800	31.48	31.97	33.54	35.43	49.63	37.33	39.23	53.43	61.65
900	30.18	30.64	32.13	33.92	47.39	35.73	37.52	50.99	58.78
1,000	29.22	29.67	31.10	32.83	45.80	34.56	36.29	49.27	56.77
1,100	28.64	29.08	30.46	32.13	44.70	33.82	35.49	48.06	55.33
1,200	27.99	28.41	29.77	31.41	43.72	33.06	34.70	47.01	54.13
1,300	27.43	27.84	29.17	30.77	42.79	32.38	33.98	46.00	52.95
1,400	26.70	27.09	28.36	29.89	41.39	31.43	32.96	44.46	51.12
1,500	26.15	26.54	27.78	29.27	40.51	30.78	32.28	43.51	50.02
1,600	25.70	26.08	27.29	28.76	39.77	30.23	31.70	42.71	49.08
1,700	25.47	25.85	27.05	28.49	39.35	29.95	31.40	42.26	48.54
1,800	25.09	25.46	26.64	28.07	38.81	29.51	30.94	41.67	47.88
1,900	24.65	25.01	26.16	27.54	37.96	28.94	30.33	40.74	46.77
2,000	24.55	24.90	26.02	27.37	37.50	28.73	30.08	40.21	46.07
2,100	24.01	24.35	25.44	26.75	36.63	28.07	29.39	39.26	44.98
2,200	23.69	24.02	25.08	26.36	36.01	27.66	28.94	38.58	44.16
2,300	23.43	23.76	24.80	26.05	35.48	27.32	28.57	38.00	43.46
2,400	23.13	23.44	24.46	25.69	34.92	26.93	28.16	37.39	42.73
2,500	23.06	23.38	24.39	25.62	34.82	26.85	28.08	37.28	42.61
2,600	22.99	23.31	24.32	25.54	34.72	26.77	27.99	37.17	42.48
2,700	22.88	23.19	24.20	25.42	34.57	26.65	27.87	37.02	42.32
2,800	22.84	23.15	24.16	25.37	34.50	26.60	27.81	36.94	42.23
2,900	22.78	23.10	24.10	25.31	34.42	26.53	27.75	36.86	42.13
3,000	22.74	23.05	24.06	25.27	34.36	26.48	27.70	36.79	42.05
3,100	22.62	22.93	23.93	25.14	34.21	26.36	27.56	36.64	41.89
3,200	22.50	22.81	23.80	24.99	33.96	26.19	27.39	36.35	41.54
3,300	22.37	22.68	23.66	24.84	33.74	26.04	27.22	36.12	41.26
3,400	22.30	22.60	23.57	24.75	33.58	25.93	27.11	35.94	41.05
3,500	22.19	22.49	23.46	24.62	33.39	25.80	26.97	35.73	40.81
3,600	22.08	22.38	23.34	24.50	33.21	25.67	26.83	35.53	40.57
Over 3,600	22.02	22.32	23.27	24.42	33.07	25.58	26.73	35.38	40.39

Post Frame Homes

Base cost includes a kitchen, water heater, one full bath, gas-fired hot air heat, central air conditioning, painted drywall on stud partition interior walls, and no basement. Exterior walls are frequently metal, but can be any material not requiring a concrete foundation for support such as brick or stone. Roof cover is frequently metal, but can also be 3-tab fiberglass or asphalt shingles. If masonry trim or veneer exists, it must be costed separately with a foundation. If a post frame home has a brick or stone exterior, use the traditional residential schedules for costing. Use the regular half story and attic schedules where these exist in post frame homes.

Total SF	One-story/First Floor Post Frame		
	Group 1	Group 2	Group 3
400	114.84	116.72	122.74
500	108.19	109.95	115.58
600	101.44	103.06	108.24
700	96.85	98.32	103.01
800	94.08	95.44	99.81
900	91.59	92.91	97.15
1,000	89.16	90.42	94.44
1,100	86.55	87.77	91.66
1,200	84.51	85.70	89.52
1,300	82.78	83.94	87.67
1,400	80.50	81.61	85.18
1,500	78.59	79.68	83.16
1,600	77.17	78.24	81.65
1,700	76.17	77.22	80.59
1,800	75.47	76.51	79.83
1,900	73.97	74.98	78.21
2,000	73.07	74.05	77.19
2,100	72.61	73.57	76.63
2,200	72.03	72.96	75.95
2,300	71.11	72.02	74.94
2,400	70.70	71.59	74.45
2,500	69.96	70.85	73.70
2,600	69.41	70.30	73.14
2,700	69.20	70.09	72.92
2,800	68.92	69.80	72.63
2,900	68.81	69.69	72.51
3,000	68.64	69.52	72.34
3,100	68.18	69.06	71.87
3,200	67.97	68.84	71.62
3,300	67.51	68.37	71.13
3,400	67.07	67.93	70.66
3,500	66.78	67.63	70.34
3,600	66.42	67.27	69.97
3,700	66.39	67.23	69.91
3,800	66.13	66.96	69.63
3,900	65.88	66.71	69.36
4,000	65.59	66.41	69.05
Over 4,000	65.26	66.08	68.70

Total SF	Full Upper Story Post Frame		
	Group 1	Group 2	Group 3
400	76.17	78.05	84.07
500	73.13	74.89	80.52
600	70.33	71.95	77.13
700	65.96	67.43	72.12
800	63.30	64.66	69.03
900	60.98	62.30	66.54
1,000	59.56	60.82	64.84
1,100	58.40	59.62	63.51
1,200	56.83	58.02	61.84
1,300	56.01	57.17	60.90
1,400	54.88	55.99	59.56
1,500	53.87	54.96	58.44
1,600	53.59	54.66	58.07
1,700	53.43	54.48	57.85
1,800	52.75	53.79	57.11
1,900	51.91	52.92	56.15
2,000	51.40	52.38	55.52
2,100	51.14	52.10	55.16
2,200	50.40	51.33	54.32
2,300	50.38	51.29	54.21
2,400	49.78	50.67	53.53
2,500	49.39	50.28	53.13
2,600	49.28	50.17	53.01
2,700	49.17	50.05	52.89
2,800	49.06	49.94	52.77
2,900	48.97	49.85	52.67
3,000	48.89	49.77	52.58
3,100	48.81	49.69	52.50
3,200	48.67	49.54	52.32
3,300	48.48	49.34	52.10
3,400	48.24	49.10	51.83
3,500	48.12	48.97	51.68
3,600	48.04	48.89	51.59
3,700	47.81	48.65	51.33
3,800	47.71	48.54	51.21
3,900	47.61	48.44	51.09
4,000	47.32	48.14	50.78
Over 4,000	47.25	48.07	50.69

Log Homes

Base cost includes standard design from stock plans and average material and workmanship. The following features are included: post & beam frame, log exterior walls, a kitchen, water heater, one full bath, hot air heat (gas fired), central air conditioning, asphalt/fiberglass shingles, painted drywall interior, and a slab foundation (i.e., no basement).

* For half story, add cost per SF for existing finished living area from the Half Upper Story Finished Living Area schedule.

Total SF	One-Story or First Floor		Unfinished Half Story*		Full Upper Story	
	6-10" Logs	12" Logs	6-10" Logs	12" Logs	6-10" Logs	12" Logs
400	165.91	170.99	39.20	40.32	121.74	126.82
500	156.65	161.41	35.93	36.98	115.77	120.53
600	145.95	150.33	33.28	34.25	109.51	113.89
700	137.27	141.24	30.96	31.84	101.37	105.34
800	132.57	136.29	29.35	30.17	96.50	100.22
900	127.13	130.66	28.13	28.91	92.19	95.72
1,000	124.18	127.58	27.20	27.95	89.75	93.15
1,100	120.43	123.72	25.96	26.68	87.63	90.92
1,200	117.68	120.91	25.06	25.77	85.42	88.65
1,300	115.25	118.40	24.30	24.99	83.90	87.05
1,400	111.56	114.57	23.38	24.04	81.54	84.55
1,500	108.90	111.84	22.70	23.34	79.90	82.84
1,600	106.88	109.76	22.15	22.78	79.07	81.95
1,700	105.45	108.29	21.64	22.27	78.57	81.41
1,800	104.41	107.22	21.26	21.87	77.56	80.37
1,900	102.07	104.79	20.74	21.33	75.98	78.70
2,000	100.39	103.05	20.50	21.08	74.78	77.44
2,100	99.28	101.87	20.11	20.68	73.91	76.50
2,200	98.08	100.60	19.72	20.27	72.61	75.13
2,300	96.57	99.04	19.36	19.90	72.09	74.56
2,400	95.68	98.09	19.07	19.60	71.03	73.44
2,500	94.83	97.24	19.03	19.56	70.56	72.97
2,600	94.19	96.59	18.82	19.35	70.39	72.79
2,700	93.89	96.29	18.63	19.16	70.22	72.61
2,800	93.56	95.95	18.55	19.08	70.05	72.44
2,900	93.37	95.75	18.48	19.00	69.91	72.29
3,000	93.13	95.51	18.30	18.83	69.78	72.16
3,100	92.60	94.98	18.22	18.74	69.66	72.04
3,200	92.13	94.48	18.14	18.66	69.26	71.61
3,300	91.47	93.80	18.11	18.62	68.92	71.25
3,400	90.99	93.30	17.94	18.45	68.65	70.96
3,500	90.54	92.83	17.79	18.29	68.37	70.66
3,600	90.34	92.62	17.75	18.25	68.25	70.53
3,700	90.15	92.42	17.71	18.21	67.90	70.16
3,800	89.97	92.22	17.67	18.17	67.78	70.03
3,900	89.84	92.08	17.61	18.11	67.57	69.81
4,000	89.72	91.95	17.56	18.05	67.36	69.59
Over 4,000	89.23	91.44	17.44	17.92	67.18	69.39

Appendix C – Adjustment Schedules for Single-Family Residential Structures

Plumbing (+/-)	
Plumbing cost per fixture; add or deduct for each fixture above or below the residential standard five fixtures.	$930

Paving (+)	
Crushed stone, 6"	$1.17/SF
Concrete, 6" with wire mesh, no base	$6.15/SF
Asphalt, 2" with 4" base	$4.74/SF

No Central Air Conditioning Schedule (-)

Subtract per SF cost for any dwelling with no central air conditioning. For mobile homes, see Mobile Home Supplemental Schedules for rate.

Total SF of Living Area	Deduct per SF
Up to 400	9.52
600	7.02
800	4.17
1,000	3.34
1,200	2.78
Over 1,200	2.55

No Heat Schedule (-)

Subtract per SF cost for any dwelling type with no heat.

Total SF of Living Area	Deduct per SF
Up to 1,000	5.95
1,200	5.74
1,400	5.37
1,600	5.01
1,800	4.72
Over 1,800	4.60

Fireplace (+)			
Type	1-Story	2-Story	3-Story
Masonry 5' base brick fireplace & stack	5,500	6,100	6,700
Second masonry fireplace on same stack	4,600	5,000	5,400
Pre-fab metal wood burning fireplace	2,100	2,500	3,000
Second Pre-fab metal fireplace on same stack	1,000	1,400	1,800

Basement/Foundation (+)

For finished or partially finished basements, first cost the total unfinished basement area. Then add the cost of the finished area from the applicable "Basement Finish" column using the SF of the actual finished area.

Split-level & Bi-level: see Unfinished Lower Level schedule to first determine the unfinished cost. Then add the cost of the actual finished area using the "Basement Finish" rates.

Total SF	Crawl Space	Unfinished Bsmt	Basement Finish	
			Living Area Quality	Rec Room Quality
400	11.26	37.20	33.25	17.12
500	10.57	34.71	32.50	16.71
600	9.81	32.11	31.74	15.89
700	8.99	29.86	30.64	15.23
800	8.50	28.68	30.44	14.83
900	8.12	27.45	29.47	14.52
1,000	7.85	26.54	29.02	14.31
1,100	7.64	26.05	28.57	14.14
1,200	7.50	25.47	28.12	14.03
1,300	7.35	25.04	27.67	13.91
1,400	7.08	24.45	27.24	13.69
1,500	6.94	24.00	26.73	13.58
1,600	6.83	23.60	26.62	13.53
1,700	6.76	23.39	26.39	13.50
1,800	6.69	23.02	26.13	13.44
1,900	6.53	22.61	25.71	13.31
2,000	6.38	22.54	25.42	13.18
2,100	6.25	22.02	25.34	13.07
2,200	6.14	21.72	25.26	12.99
2,300	6.03	21.49	25.13	12.89
2,400	5.93	21.20	25.01	12.85
2,500	5.91	21.14	24.83	12.82
2,600	5.89	21.07	24.65	12.80
2,700	5.88	20.96	24.59	12.78
2,800	5.87	20.92	24.53	12.77
2,900	5.86	20.87	24.48	12.75
3,000	5.85	20.83	24.45	12.74
3,100	5.84	20.71	24.43	12.72
3,200	5.79	20.60	24.37	12.69
3,300	5.75	20.48	24.33	12.68
3,400	5.72	20.41	24.30	12.65
3,500	5.68	20.31	24.27	12.62
3,600	5.65	20.21	24.25	12.60
Over 3,600	5.62	20.15	24.23	12.57

Garages

The cost of a garage is not included in the base residence cost. The garage costs include wall surfaces, roof surfaces when applicable, a concrete floor, doors, and electric lighting. Total SF refers to the actual square footage of the garage. Determine the applicable Group column by the exterior wall construction and cover material of the garage.

Attached Garages

Attached garages share one or more common wall(s) with the residence and costs include interior finish for only the common wall(s).

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	39.40	41.05	46.33	52.72	100.66	59.14	65.53	113.47	141.21
250	37.58	39.03	43.64	49.23	91.18	54.85	60.44	102.38	126.66
300	35.75	37.06	41.24	46.29	84.24	51.38	56.44	94.38	116.35
350	33.92	35.16	39.12	43.91	79.86	48.73	53.51	89.47	110.28
400	31.89	33.00	36.55	40.84	73.05	45.16	49.45	81.65	100.29
450	31.17	32.27	35.79	40.05	72.01	44.33	48.59	80.55	99.04
500	30.25	31.32	34.76	38.91	70.07	43.08	47.23	78.39	96.42
550	29.33	30.34	33.58	37.50	66.92	41.44	45.36	74.78	91.80
600	29.11	30.07	33.15	36.88	64.84	40.63	44.35	72.31	88.50
650	28.64	29.58	32.64	36.33	64.00	40.05	43.72	71.40	87.42
700	28.17	29.11	32.13	35.78	63.17	39.45	43.10	70.49	86.34
800	27.87	28.70	31.34	34.53	58.50	37.74	40.93	64.90	78.77
1,000	27.27	27.98	30.26	33.01	53.69	35.78	38.54	59.21	71.17
1,200	25.62	26.27	28.36	30.89	49.87	33.43	35.96	54.94	65.92
1,500	25.22	25.85	27.85	30.27	48.45	32.71	35.13	53.30	63.82

Built-in Garages

Built-in garages have areas of the residence that are both adjacent to and above the garage.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	43.18	44.32	47.95	52.34	85.29	56.75	61.14	94.10	113.18
250	39.58	40.51	43.48	47.07	74.03	50.68	54.28	81.24	96.84
300	38.53	39.32	41.85	44.91	67.88	47.99	51.05	74.02	87.31
350	37.34	38.06	40.37	43.17	64.14	45.98	48.77	69.74	81.88
400	35.10	35.69	37.59	39.89	57.11	42.20	44.49	61.72	71.69
450	34.38	34.96	36.84	39.10	56.07	41.37	43.63	60.61	70.44
500	33.42	33.98	35.76	37.92	54.09	40.08	42.24	58.42	67.78
550	32.90	33.44	35.18	37.29	53.09	39.41	41.51	57.31	66.45
600	32.47	33.00	34.71	36.77	52.25	38.85	40.91	56.39	65.35
650	32.16	32.69	34.42	36.39	51.62	38.44	40.45	55.69	64.50
700	31.86	32.38	34.03	36.02	51.00	38.03	40.02	55.00	63.68
800	31.11	31.52	32.84	34.44	46.42	36.05	37.64	49.63	56.56

Garages - continued

Detached Garages

Detached garages are freestanding structures with totally independent foundation and roof structures from the residence. There is no interior finish included in the costs.

Total SF	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
200	47.39	50.08	58.66	69.03	146.93	79.47	89.85	167.75	212.82
250	42.58	44.93	52.46	61.56	129.87	70.71	79.81	148.12	187.65
300	39.33	41.46	48.28	56.53	118.45	64.83	73.08	135.00	170.83
350	38.99	40.97	47.28	54.92	112.28	62.61	70.25	127.60	160.79
400	35.36	37.01	42.29	48.68	96.62	55.10	61.49	109.42	137.17
450	33.88	35.46	40.52	46.64	92.58	52.80	58.92	104.86	131.44
500	32.69	34.22	39.10	45.01	89.35	50.95	56.86	101.20	126.86
600	29.83	31.33	36.13	41.94	85.52	47.78	53.58	97.16	122.38
700	28.71	30.19	34.92	40.64	83.58	46.39	52.12	95.06	119.91
800	28.68	30.08	34.54	39.95	80.51	45.38	50.79	91.35	114.82
1,000	26.69	28.16	32.88	38.58	80.00	44.32	49.77	91.02	112.50
1,200	25.89	27.33	31.96	37.54	79.49	43.16	48.75	90.70	110.21
1,500	25.04	26.30	30.32	35.19	71.75	40.09	44.96	81.51	102.67
1,800	24.25	25.44	29.23	33.82	68.28	38.44	43.03	77.48	97.42

Basement Garages

Add lump sum to unfinished basement or lower level costs: **1 car:** $3,100 **2 car:** $4,200 **3 car:** $5,600

Areas over Garage

If an area over an attached garage is equal to the residence in interior finish, include that area in the total square footage of the upper story of the residence and price the garage as a built-in. If minimal finish, like a bonus room, use 65% of the garage SF cost. If storage only with high-pitched gable roof, add 30% to the garage cost to cover roof and floor costs.

Attic (+)			
Use the attic footprint SF on the floor level below the attic.			
Total SF	**Unfinished**	**1/2 Finished**	**Finished**
400	12.37	22.85	33.33
600	10.30	20.77	31.24
800	9.49	19.28	29.07
1,000	8.76	17.60	26.45
1,200	8.25	16.63	25.01
1,400	7.90	16.02	24.13
1,600	7.63	15.57	23.52
1,800	7.42	15.39	23.36
2,000	7.23	14.92	22.62
2,200	7.09	14.62	22.15
2,400	6.97	14.38	21.80
2,600	6.86	14.16	21.50
2,800	6.78	14.12	21.44
3,000	6.70	14.07	21.40
3,200	6.64	13.96	21.36
3,400	6.58	13.92	21.32
3,600	6.56	13.90	21.28
3,800	6.54	13.88	21.24
4,000	6.52	13.87	21.22

Partial Masonry Trim (+)				
Per SF of surface area				
Quality	**A**	**B**	**C**	**D**
Brick	19.07	15.51	12.71	10.42
Stone	51.45	41.85	34.30	28.13
Artificial stone	24.68	20.07	16.45	13.49

Porches (+)						
SFGA	Open Frame	Screened-in Frame	Knee Wall with Glass	Solid Wall Encl. Frame	Open Masonry	Enclosed Masonry
25	65.60	90.94	113.24	100.08	77.36	147.60
50	45.92	62.82	80.12	70.80	52.14	102.28
75	39.36	53.44	69.06	61.03	43.25	86.68
100	36.04	48.71	63.51	56.12	38.75	78.84
125	34.74	45.89	57.98	51.42	37.30	73.30
150	32.68	42.54	53.43	47.59	35.92	66.65
175	31.35	40.52	50.91	45.43	34.01	62.93
200	30.22	38.67	48.37	43.30	32.44	59.24
225	29.46	37.53	46.98	42.12	31.35	57.17
250	28.75	36.35	45.35	40.75	30.98	54.80
275	28.40	35.62	44.00	39.62	30.62	53.85
300	28.05	34.89	42.86	38.67	30.27	52.97
350	27.76	34.16	41.11	37.20	29.92	50.18
375	27.39	33.59	40.40	36.61	29.56	49.06
400	27.06	33.08	39.78	36.08	29.04	48.08
500	25.78	31.27	37.00	33.60	28.23	45.26
600	24.54	29.47	34.50	31.45	26.88	42.07
700	23.68	28.21	32.73	29.92	25.93	39.81
800	22.85	27.07	31.42	28.79	24.71	37.79
900	22.39	26.38	30.41	27.92	24.23	36.53
1,000	21.87	25.67	29.62	27.24	23.45	35.27

Stoops, Decks, Patios (+)					
Total SF	Stoop - Masonry Elevated		Deck - Wood Elevated		
	1 Riser	2 Risers	Steps & Rail	No Steps (-)	No Rail (-)
25	31.52	42.64	36.55	10.72	10.91
50	22.34	28.28	27.58	5.36	7.30
75	19.28	23.51	24.59	3.57	6.08
100	17.74	21.11	23.07	2.68	5.47
125	16.36	19.15	21.88	2.14	4.81
150	15.27	17.64	20.96	1.79	4.25
175	14.63	16.74	20.42	1.53	3.96
200	14.03	15.91	19.90	1.34	3.64
225	13.68	15.40	19.60	1.19	3.48
250	13.29	14.87	19.28	1.07	3.28
275	12.97	14.44	19.01	0.97	3.11
300	12.70	14.07	18.79	0.89	2.97
350	12.29	13.51	18.45	0.77	2.76
375	12.12	13.28	18.31	0.71	2.67
400	11.97	13.08	18.19	0.67	2.60
500	11.53	12.48	17.83	0.54	2.37
600	11.10	11.93	17.49	0.45	2.12
700	10.79	11.53	17.26	0.38	1.95
800	10.56	11.23	17.08	0.34	1.82
900	10.38	11.00	16.94	0.30	1.72
1,000	10.24	10.81	16.83	0.27	1.64
Patio - concrete.....		$6.15 per SF	**Patio - brick in sand**.....		$12.90 per SF

Residential Pools in ground (+)		
Cost includes excavation, filtering system, chlorinator, pump, ladder, and 3' concrete apron 4" thick around pool. Price permanent type above-ground pools at 40% of vinyl liner cost.		
SFSA	Gunite/Concrete	Vinyl Liner
300	22,000	18,000
450	28,100	23,000
525	30,800	25,200
650	35,000	28,600
800	39,600	32,400
1,000	45,300	37,100
Note: Prices in this schedule represent pool costs. The extent to which a pool may enhance an individual property's market value is determined by the area or subdivision in which it is located. In certain areas, the presence of a swimming pool may even diminish the market value.		

Pool Heaters (+)	
Gas	
155 MBH	2,500
190 MBH	3,000
500 MBH	7,500
Electric	
15KW	3,000
24KW	4,500
54KW	5,000

Answer Key

I-T Township Assessor

Introductory Course

Guide to Math Terms-Answers

Exercise 1 — Converting decimals to percent to $/100AV.

	Decimal	Percent	$/$100 AV
1.	**.1200**	12.00 %	**$ 12.00/$100**
2.	**.0175**	1.75 %	**$ 1.75/$100**
3.	.0325	**3.25 %**	**$ 3.25/$100**
4.	.0004	**.04 %**	**$ .04/$100**
5.	**.0255**	**2.55 %**	$ 2.55/$100
6.	**.0006**	.06 %	**$ .06/$100**
7.	.1234	**12.34 %**	**$ 12.34/$100**
8.	**.00033**	**.033 %**	$ .0331/$100
9.	.0225	**2.25%**	**$ 2.25/$100**
10.	**.0045**	**.45%**	**$ .45/$100**

Unit 1 Review Answers

1. Define ad valorem tax.

   A tax that is based on the value of the property owned. It is assessed according to its value.

2. If a CCAO disagrees with the assessed value entered in the books by the Township Assessor, what does the CCAO need to do to update this value?

   The CCAO (and/or the Board of Review later) must make a separate entry in the books to apply the changes.

3. **Property Tax** is the major source of tax revenue for local governments.

4. What are the two classifications of property?

   Real and Personal

5. What four steps are involved in the assessment of any property?

   Discover

   List

   Assess

   Value

6. List the 3 types of property assessed by the state.

   Railroad operating property

   Qualifying water treatment facilities

   Pollution control facilities

7. What happens if an individual does not pay a property tax bill?

The county treasurer prepares a delinquent tax list and publishes in a newspaper. If unpaid, the courts order a lien for unpaid taxes, penalty, and fees to be sold at a tax sale.

8. List, in order, the offices that handle the assessment books, from the time they are created until the taxes are extended.

County clerk

Chief county assessment officer (CCAO)

Township assessor

Chief county assessment officer (CCAO)

Board of review

County clerk

9. In all counties except Cook, property is to be viewed, inspected, and revalued once every **4 years**

Cook County has a **3** year assessment cycle.

Unit 2 Answers

Exercise 2-1 Tax rates

	L	A	R
1.	$ 590,000	$ 30,000,000	**1.9667% (.0197)**
2.	**$ 450,000**	$ 10,000,000	4.5000 %
3.	$ 45,000	**$ 6,545,455**	.6875 %
4.	**$ 2,254,760**	$ 95,480,000	2.3615 %
5.	$ 240,000	$ 50,000,000	**.4800% (.0048)**
6.	$ 800,000	**$106,666,667**	.7500 %
7.	$ 41,600	$ 54,257,900	**.0767% (.0007667)**
8.	$ 150,000	**$ 42,253,521**	.3550 %
9.	**$ 83,436**	$ 12,750,000	.6544 %

Exercise 2-2 Tax bills

	District	Levy	Taxable EAV	Rate	Prop EAV	Tax
1	School	$8,804,294	$235,408,929	3.7400 %	$ 36,108	$ 1350.44
2	County	$ 175,017	$ 36,461,834	**.4800 %**	**$ 36,108**	**$ 173.32**
3	Township	$ 226,355	$ 34,337,844	**.6592 %**	**$ 36,108**	**$ 238.02**
4	City	$ 250,047	$ 26,549,879	**.9418 %**	**$ 36,108**	**$ 340.07**
5	Fire	$ 58,575	$ 18,761,915	**.3122 %**	**$ 36,108**	**$ 112.73**
6	Library	$ 8,031	$ 2,477,989	**.3241 %**	**$ 36,108**	**$ 117.03**
	Totals			**6.4573 %**		**$ 2,331.60**

Aggregate tax rate x Taxable EAV of this property = Tax Bill for this property

6.4573 % **X $ 36,108** **$ 2,331.60**

Effective tax rate = Taxes billed = $ 2,331.60 = **2.1522 %**

Market Value $ 108,333

Exercise 2-3 Tax bills

District	Levy	Taxable EAV	Rate	Property EAV	Tax
School	$93,452,105	$1,796,119,642	5.2030%	$ 71,878	$3,739.81
County	$ 4,232,750	$ 560,926,319	**0.7546%**	**$ 71,878**	**$ 542.39**
Township	$ 1,062,962	$1,164,251,916	**0.0913%**	**$ 71,878**	**$ 65.62**
City	$ 1,378,780	$ 146,913,160	**0.9385%**	**$ 71,878**	**$ 674.58**
Fire	$ 1,272,125	$1,781,687,675	**0.0714%**	**$ 71,878**	**$ 51.32**
Library	$ 642,132	$1,716,930,481	**0.0374%**	**$ 71,878**	**$ 26.88**
Totals			**7.0962 %**		**$ 5,100.61***

Aggregate tax rate x Taxable EAV of this property = Tax Bill for this property

7.0962 % **X $ 71,878** **$ 5,100.61***

*The amount of the tax bill is rounded to the nearest even number for two equal installment amounts.

Effective tax rate = Taxes billed = $ **5,100.61** = **2.3652%**

Market value $ **215,655**

The Aggregate rate is applied to the Taxable EAV.

The Effective tax rate is applied to Market Value.

Unit 2 Review Answers

1. If the levy for a local taxing body is $60,000 and the EAV for the local taxing body is $15,000,000, the tax rate for this taxing district will be:
   .4000 %

2. If the levy for a local taxing body is $1,200,000 and the tax rate for the local taxing body is $3.25/$100 EAV, the equalized assessed value for this taxing district will be:
   $ 36,923,077

3. The equalized assessed value for a local taxing body is $26,660,000 and the tax rate is $2.95/$100 equalized assessed value. The levy for this taxing body will be:
   $ 786,470

4. The EAV for a local taxing body is $65,000,000 and the levy is $22,750. The tax rate for this taxing body will be:
   .0350 %

5. If the levy for a local taxing body is $75,000 and the EAV for the local taxing body is $15,000,000, the tax rate for this taxing district will be:
   $ 0.50 / $100AV

Unit 3 Review Answers

1. List two reference sources for assessors looking for information about ethics in their jurisdiction:

   Professional Organization (like IPAI), township board, CCAO

2. Is it a violation of the Open Meetings Act for an assessor to meet at the local diner with a taxpayer to discuss his assessment?

   No

Unit 4 Review Answers

1. The 3 most common types of taxpayer complaints are:

   Fair market value

   Lack of assessment equity

   Inaccurate information

2. Individuals in jurisdictions with a non-farm/non-mineral EAV of **$ 25 M** or more or a commercial/industrial EAV of **$ 1M** or more are required to have a CIAO designation before running for office or being appointed to office.

3. Individuals in jurisdictions with more than $10 million and less than $25 million of non-farm/non-mineral EAV and less than $1 million of commercial/industrial EAV who have previously held office will be required to have an approved **Designation** prior to running for office.

4. **T** or **F** Once a pre-election qualification is set for a jurisdiction, it will never change. **False. IDOR certifies these every 4 year prior to the township election. These qualifications can change due to their connection to EAVs in the jurisdiction.**

5. **T** or **F** If a designation is required for a jurisdiction, there are multiple options. These options include, but are not limited to: CIAO, AAS, CAE, IFA, ASA. **True. Section 2-45(c) of the Property Tax Code details acceptable designations and can be referenced for the complete listing.**

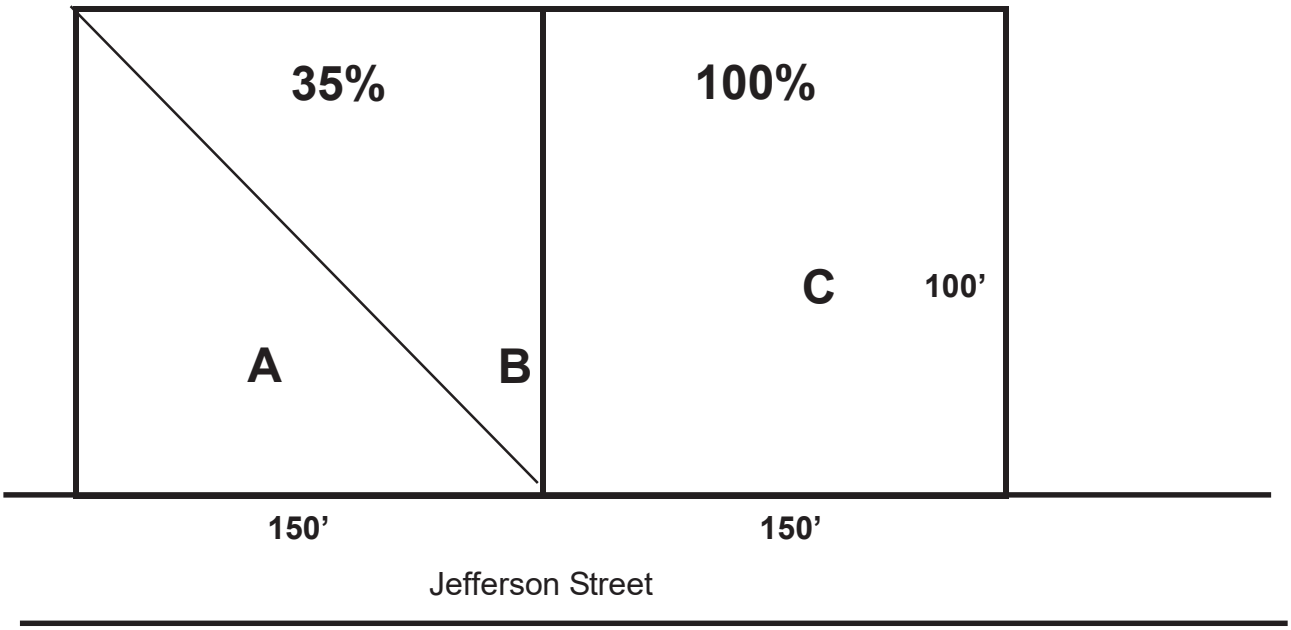
6. **T** or **F** When seeking a township assessor position (elected, appointed, or contractual), there is no need to contact IDOR in advance. **False. Candidates who meet the minimum education requirements for the jurisdiction in which they are seeking the position must file a PTAX-1176, Certification Application for elected, appointed, or contracted Assessors and forward it to IDOR so a Certificate of Educational Qualification can be issued.**

Unit 5 Answers

Exercise 5-1 Land Values

Site Shape	Measurements	Square Footage	Approx. Acreage
1. Rectangle	400’ x 800’	320,000	7.34
2. Rectangle	320’ x 480’	**153,600**	**3.53**
3. Triangle	320’ x 480’	76,800	1.76
4. Triangle	150’ x 180’	**13,500**	**.31**
5. Square	150’ x 150’	**22,500**	**.52**
6. Triangle	600’ x 900’	**270,000**	**6.20**

Exercise 5-2 65/35 Rule (Applies to Front Foot Only)



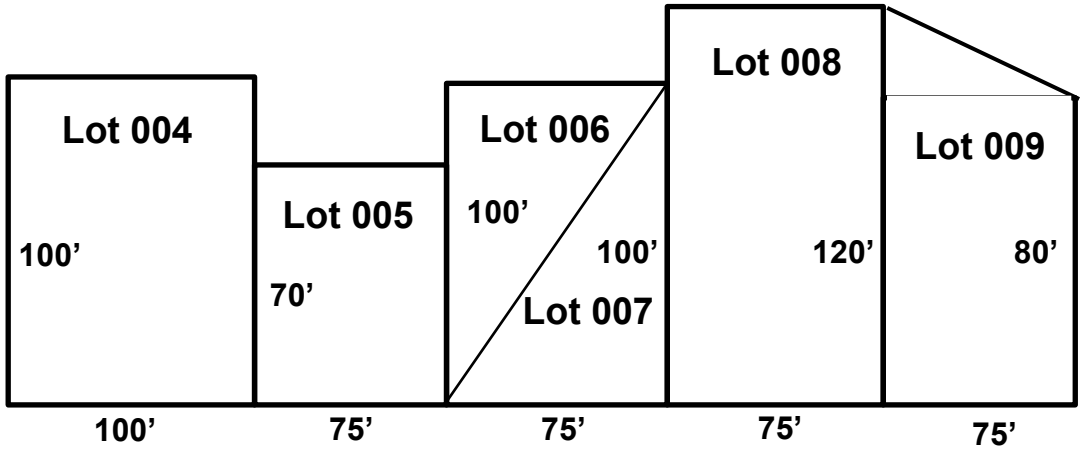
Compute the values for the three parcels above if the front foot value is $100/FF.

A $ **9,750** (150' X $100/FF X 65%)

B $ **5,250** (150' X $100/FF X 35%)

C $ **15,000** (150' X $100/FF)

Exercise 5-3 Residential Lots – Measuring by Square Foot $1/SF



Cherry Blossom Lane

Square Foot Results

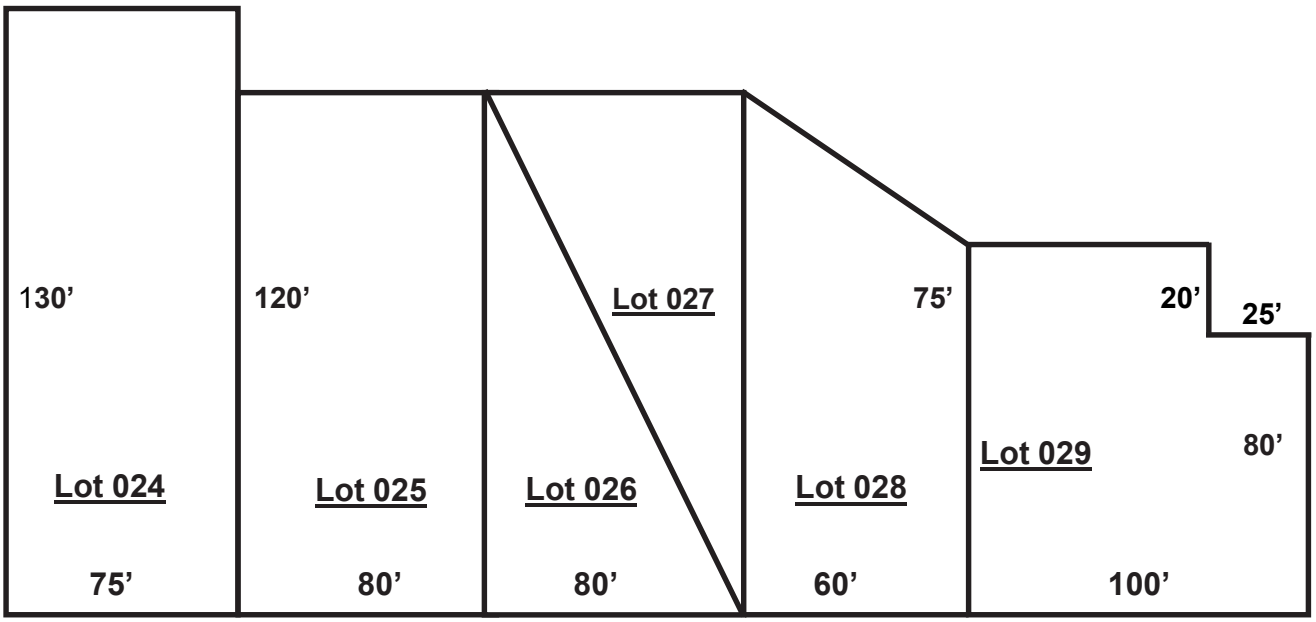
Lot # **004**	# Square Feet **10,000**	$1.00 per SF	Lot Value	**$10,000**
Lot # **005**	# Square Feet **5,250**	$1.00 per SF	Lot Value	**$ 5,250**
Lot # **006**	# Square Feet **3,750**	$1.00 per SF	Lot Value	**$ 3,750**
Lot # **007**	# Square Feet **3,750**	$1.00 per SF	Lot Value	**$ 3,750**
Lot # **008**	# Square Feet **9,000**	$1.00 per SF	Lot Value	**$ 9,000**
Lot # **009**	# Square Feet **7,500**	$1.00 per SF	Lot Value	**$ 7,500**

Exercise 5-4 Calculating FF Values and SF Values

Calculate the FF values and the SF values for lots 024 through 029.

The FF value is $140/FF

The SF value is .80/SF



Lot 024

75' x $140 =

$10,500 FF

130' x 75'= 9750 SF

9750 SF x .80= **$7,800**

Lot 025

80' x $140 =

$11,200 FF

120' x 80 =

9600 SF

9600 SF x .80= **$7,680**

Lot 026

80' x $140 = $11,200 x .65 = **$7,280** FF

Lot 027

80' x 140 = 11,200 x .35 = **$3,920** FF

80' x 120' = 9600 SF x .80 = 7680/2 = **$3,840**

= Both Lots SF

Lot 028

60' x $140 =**$8,400** FF

120' x 60 = 7200 SF

Minus

20' x 60' = 1200 SF = 600

2

7200–600= $6,600 SF

6,600 SF x .80 = **$5,280** SF

Lot 029

100' x $140 =

$14,000 FF

100' x 100' = 10,000 SF

Minus

20' x 25' = 500 SF

10,000 – 500 = 9500 SF x .80 =

$**7,600** SF

Lot 024	FF value = **10,500**	Lot 027	FF value = **3,920**
	SF value = **7,800**		SF value = **3,840**
Lot 025	FF value = **11,200**	Lot 028	FF value = **8,400**
	SF value = **7,680**		SF value = **5,280**
Lot 026	FF value = **7,280**	Lot 029	FF value = **14,000**
	SF value = **3,840**		SF value = **7,600**

Exercise 5-5 Site Unit of Value

Site	Sales price	Sale date	Location	Physical features
1	$ 9,000	Current	Interior	Level - trees
2	$ 8,500	Current	Corner	Level - trees
3	$ 10,000	Current	Interior	Rolling - trees
4	$ 9,000	1 year ago	Interior	Rolling - trees
5	$ 8,000	Current	Interior	Level - no trees
6	$ 6,500	1 year ago	Corner	Level - no trees
7	$ 7,500	Current	Corner	Level - no trees

1. Based on the above sales, a site that sold today is worth $**1,000** more than a site that sold a year ago. **(3 & 4 — 6 & 7)**
2. A site that is on rolling terrain is worth $ **1,000** more than a site on level terrain. **(1 & 3)**
3. A site that has trees is worth $ **1,000** more than a site without trees. **(1 & 5 — 2 & 7)**
4. An interior site is worth $**500** more than a corner site. **(1 & 2 — 5 & 7)**

Unit 5 Review Answers

Match these terms with the correct definition.

1.	**B**	**"**65-35 Rule"	**A**	As vacant and at its highest and best use.
2.	**C & D**	Front foot	**B**	Based on the premise that the utility of a right-angle triangular shaped lot is affected by its shape.
3.	**A**	How land is valued	**C**	A strip of land 1 foot wide running from the front to the rear of the lot.
4.	**E**	$\frac{b \times h}{2}$	**D**	**B**ased on the assumption that the front portion of the lot is more valuable on a unit basis than the rear portion
5.	**F**	$\frac{SP}{\#\ units}$	**E**	Area of a triangular-shaped lot
			F	Unit value

Unit 6 Answers

Exercise 6-1

Sale No.	Age	Sale Price	Lot Value	Building Residual	Manual Value	Cost Factor
1	N	112,000	20,000	92,000	88,000	1.05
2	N	99,300	20,000	79,300	75,000	1.06
3	22	66,200	15,500	50,700	55,200	0.92
4	N	72,500	14,000	58,500	50,000	1.17
5	N	97,000	15,500	81,500	85,000	0.96
6	N	89,200	18,000	71,200	70,900	1.00
7	N	89,300	18,000	71,300	70,900	1.01
8	N	106,500	21,000	85,500	82,000	1.04
9	N	78,200	14,000	64,200	65,000	0.99
10	N	108,900	21,000	87,900	81,000	1.09
11	N	88,800	15,500	73,300	77,200	0.95
12	37	86,500	15,000	71,500	77,500	0.92
13	N	99,000	12,000	87,000	81,000	1.07
14	N	101,000	19,500	81,500	82,000	0.99
15	3	115,000	20,500	94,500	90,000	1.05

Rank
1.17
1.09
1.07
1.06
1.05
1.04
1.01
1.00
0.99
0.99
0.96
0.95

The only ratios used in the study are <u>current</u> sales. Therefore, sales numbers 3, 12 and 15 are not included.

Median is $\frac{\textbf{1.04 + 1.01}}{\textbf{2}}$ or 1.025 or **1.03** rounded to 2 places

Unit 6 Review Answers

1. What are the three types of depreciation? Place an "X" beside the one which is generally incurable.

_____	**Physical**
_____	**Functional**
X	**Economic (or External)**

2. What is the formula for calculating a cost factor?

   Building Residual divided by the Publication Manual Value.

3. What is the formula to find Building Residual?

   Sales Price minus Land Value.

4. What is the formula to calculate Market Value?

   Land Value + (Replacement Cost New – Depreciation) or
   MV = LV + (RCN-Dep)

5. What is a mass appraisal system?

   The valuation of many properties as of January 1 of the assessment year, using standard procedures that provide uniformity.

6. Complete the cost study on the next page and find the median.

Review Question 6 (from previous page)

Sale No.	Age	Sale Price	Lot Value	Building Residual	Publication RCN Value	Cost Factor
1	N	112,000	20,000	92,000	88,000	1.05
2	26	99,300	20,000	79,300	75,000	
3	N	66,200	15,500	50,700	55,200	0.92
4	29	72,500	14,000	58,500	50,000	
5	N	97,000	15,500	81,500	85,000	0.96
6	20	89,200	18,000	71,200	70,900	
7	N	89,300	18,000	71,300	70,900	1.01
8	N	106,500	21,000	85,500	82,000	1.04
9	N	78,200	14,000	64,200	65,000	0.99
10	N	108,900	21,000	87,900	81,000	1.09
11	N	88,800	15,500	73,300	77,200	0.95
12	37	86,500	15,000	71,500	77,500	
13	N	99,000	12,000	87,000	81,000	1.07
14	N	101,000	19,500	81,500	82,000	0.99
15	3	115,000	20,500	94,500	90,000	

Rank
.92
.95
.96
.99
.99
1.01
1.04
1.05
1.07
1.09

Median = 1.00

Unit 7 Answers

Exercise 7-1

Cost	X	Design	X	Neighborhood	X	Appraiser	=	Factor
1.06	x	1.07	x	1.01	x	1.02	=	1.17
1.06	x	1.00	x	.98	x	1.03	=	**1.07**
1.06	x	1.03	x	1.00	x	.97	=	**1.06**
1.06	x	1.05	x	1.10	x	.95	=	**1.16**

Exercise 7-2

Answer shown directly in Unit 7.

Exercise 7-3

Walkthrough provided directly in Unit 7.

Exercise 7- 4

1. What is the total $ adjustment for all additional plumbing fixtures?

   $ 4,650.

2. What is the $/SF cost for the Open Frame Porch?

   30.22.

3. What is the Schedule's RCN?

   $220,900.

4. What is the percentage of depreciation on this property?

   3% (100% - REL (.97).

5. What is the Total Full Value of all items on the "Summary of Other Improvements"?

   $4,820.

6. What is the Full Value of All Buildings and Other Improvements?

   $231,949.

Exercise 7-5

Building Record - Residential - Rural (Property - Type 1)

Occupancy

1 Vacant Lot	2 Dwelling	3 Other	4 Mobile Home	5 A	6 Summer Home	7 Row House	8 Post Frm.	9 Log c

Style/No. stories: 1-sty Unit type:

Exterior Wall Construction

Stud Frame	Concrete Block	Solid Stone

Exterior Wall Cover Material

	LL	1	2	3	½
Wood (Cost Grps 1, 2, 3)					
Vinyl (Cost Grp 1)		X			
Metal (Cost Grps 1, 2)					
Fiber/Comp. (Cost Grps 1, 2)					
Resin (Cost Grp 3)					
EIFS (Cost Grps 3, 6)					
Stucco (Cost Grps 3, 6)					
Paint on CC Blk (Cost Grp 3)					
Brick Veneer (Cost Grps 4, 7)					
Stone Veneer (Cost Grps 5, 8)					
Limestone Blks (Cost Grp 3)					
6-10" Logs (Log Hm Sch)					
12" Logs (Log Hm Sch)					
Other					

Partial Masonry Trim

SF: 250 Quality: C Brk.[1] (Stone)[2] Art.[3]

Roof

Shingle - (Asphalt)/Composite/wood	X
Slate/tile	
Metal/Other	
Solar Panel	

Attic

(1) None	2 Unfinished	3 Part fin.	4 Full fin.

% finished

Basement

1 Full	3 Crawl	(4) Slab

Area without bsmt. SF

Heating / AC

1 None	(2) Central Heat	(3) Air Cond.	4 Other

Other (descr.)

Plumbing

Standard (5)	1
Additional Bathroom (3)	1
Additional Half bath (2)	1
Additional Sink/Fixture (1)	

Living Accommodations

Total Rooms	Bedrooms	Family Room
7	3	1

Interior Finish

Finished Basement / Lower Level	Living area	SF:
	Recreation	SF:
Half Upper Sty Finished Living Area		SF:

Porches / Wood Deck

SF: 300 (OFP) Scrn-in Kn-Wal EFP OMP EMP 2-Sty

SF: OFP Scrn-in Kn-Wal EFP OMP EMP 2-Sty

SF: OFP Scrn-in Kn-Wal EFP OMP EMP 2-Sty

Wood deck | No Steps / No Rail

Remodeled | Sold Date: Mo. Day Yr. | Age: 3 | Adj. Age: 2

NH | Amount $ | CDU: Good | Grade: C

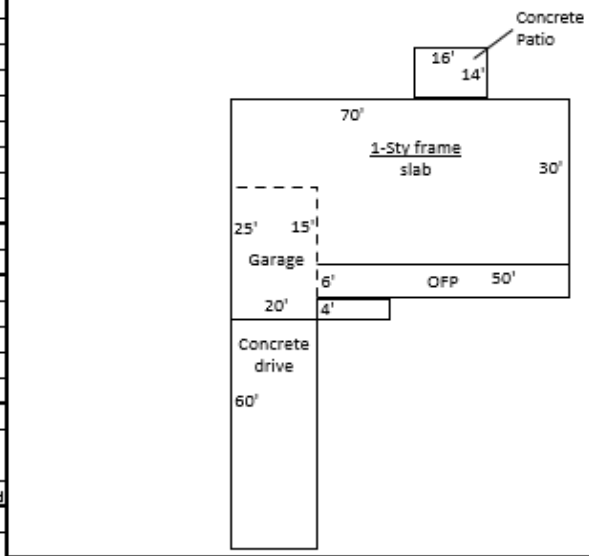
Fireplaces

Type:	#	# Stacks:	Sty Hght:

Garage

Type	Cost Grp	SF	Area over Garage
Attached	1	500	Bonus Rm / Storage
Built-in			(On grade)
Basement garage		1-Car 2-Car 3-Car	

Memo



Base Cost Computation

Sty	CG	x (if app.)	x Rate	x SF	= Sub-total
1/Main	1		79.4	1,800	142,884

SFLA: 1,800 SF	Total Base Cost:	142,884
Basement	+	
Heating/Central air	-	
Plumbing (+) 5	-	4,650
Attic	+	
Porches 300 SF OFP	+	8,415
	+	
(Attach)/Built-in garage	+	15,125
Sub-total		171,074
Grade C 1		1.00
Graded total		171,074
Other features		
Pt. Msy Trim	+	8,575
Fireplace	+	
Finished basement	+	
Schedule's RCN		179,649
C x D	x	1.06
NH x AP		
True replacement cost new		190,428
Eff. Age: 2 / Depr: 3%	REL x	0.97
Full Value		184,715

Summary of Other Improvements (Detached garage, deck, patio, driveway, storage shed, etc.)

Type	No.	Constr./CG	Size	Rate	Sub-total	Grade	Factor(s)	RCN	Age	CDU	REL	Full Value
Drive	1	Concrete	1200	6.15	7,380	C	1.06	7,823	3	Avg.	0.96	7,510
Sidewalk	1	Concrete	60	6.15	369	C	1.06	391	3	Avg.	0.96	375
Patio	1	Concrete	224	6.15	1,378	C	1.06	1,460	3	Avg.	0.96	1,402

Listed by:

Date:

Total full value other improvements 9,287

Total full value all bldgs & improvements 194,002

PRC-2 (R-11/19) (opposite PRC-1)

Unit 7 Review Answers

1. What type of quality does the quality grade factor “D” represent and what is the factor applied from the schedules?

   Inferior quality 82% or .82

2. A local assessor notices that an improvement has been greatly neglected and its physical condition is extremely poor. He or she notes that this improvement was originally built with excellent materials and workmanship. Which one of the following will the assessor adjust?

   _____ Cost

   _____ Quality grade

   ___✓___ CDU rating used to determine the REL factor

3. Quality grade refers to the **Quality of materials and workmanship.**

4. **T or F** The PRC-2 is used for calculating land values.

5. **T or F** A frame house of 1000 SF on a slab will not have an adjustment for a basement.

6. **T or F** All detached garages are calculated using the Summary of Other Buildings section on the PRC.

7. **T or F** The quality grade is used to determine an REL factor.

8. **T or F** To compute the value for an EFP of 60 SF and a 40 SF EFP, add the square footage of the porches together and price out a porch of 100 SF from the cost tables.

Unit 8 Answers

Exercise 8-1 Together

	Subject	Sale 1		Sale 2		Sale 3		Sale 4	
Address	1211 Sherman Drive	810 N. Oak St.		512 W. White St.		912 E. Grand Ave.		1001 Douglas Ave.	
Sales Date		Current		Current		3 Years Ago +15% ($20,100)		Current	
Sales Price		$128,000		$120,000		$134,000		$135,500	
Adj. Sales Price		$128,000		$120,000		$154,100		$135,500	
Basement	None-crawl	Crawl	NC	Crawl	NC	Par. Unf.	-5,000	Full unf.	-10,000
# Bedrooms	3	3	NC	3	NC	4	-1,500	3	NC
# Bathroom Fixtures	6	5	+500	3	+1,500	8	-1,000	6	NC
Fireplace	none	1	-2,500	0	NC	1	-2,500	0	NC
Garage	2-car attached	1-car	5,000	2-car	NC	3-car	-5,000	2-car	NC
# of Adjustments		3		1		5		1	
$$$ Adjustments		+3,000		+1,500		-15,000		-10,000	
Final Adj. Sales Price		$131,000		$121,500		$139,100		$125,500	

How do we get to the value of the subject property?
Compare the subject with the comp with the least number of adjustments.

Is it based on least number of adjustments?
Most often.

Is it based on least dollar amount of adjustments?
The dollar value amount of adjustments is only used if there are multiple properties with the same number of adjustments.

The best value for the subject property would be the value of **Sale 2, $121,500.**

Although Sale 4 also only has 1 adjustment as well, that adjustment is for a full unfinished basement valued at $10,000. Sale 2 has an adjustment for 1 bathroom valued at $1,500.

Exercise 8-2

	Subject	Sale 1		Sale 2		Sale 3		Sale 4	
Sales Date		2 months ago +4% ($6,400)		current		current		6 months ago +12% ($18,600)	
Sales Price		$160,000		$175,000		$165,500		$155,000	
Adj. Sales Price		$166,400		$175,000		$165,500		$173,600	
Basement	yes	no	+5,000	no	+5,000	yes	NC	yes	NC
# Bedrooms	4	3	+2,500	4	NC	4	NC	3	+2,500
# Bathroom Fixtures	5	6	-750	8	-2,250	5	NC	5	NC
Fireplace	1	0	+1,500	1	NC	2	-1,500	1	NC
Garage	2-car attached	2-car	NC	3-car	-6,000	2-car	NC	2-car	NC
# of Adjustments		4		3		1		1	
$$$ Adjustments		+$8,250		-$3,250		-$1,500		+$2,500	
Final Adj. Sales Price		$174,250		$171,750		$164,000		$176,100	

Now that you have completed the Exercise 8-2 grid, complete the following:

	Final Adj. Sales Price	No. of Adj.
Comparable 1	**$174,250**	**4**
Comparable 2	**$171,750**	**3**
Comparable 3	**$164,000**	**1**
Comparable 4	**$176,100**	**1**

After making all of the necessary adjustments and calculations, study the grid to determine the sale most comparable to the subject property. Once the comparable has been selected, values can be determined for the subject property.

Looking at the least number of adjustments, which sale is most comparable to the subject property?

Comparable 3

What other factor did you have to consider?

Because Comparables 3 and 4 had the same number of adjustments, you must move to consider the value of the adjustments that were required. Comparable 3 was adjusted only for an extra fireplace (-$1,500)

Exercise 8-3 Together

Step 3

Determine values for the adjustments.

1. A home with a basement is worth **$2,500** more than a home with a slab foundation.
   Hint: Look at Comps 3 and 6. All other variables are equal, such as plumbing fixtures, garage stalls, etc.

2. A home that was sold 6 months ago is worth **$500** (per month) less than a sale that just occurred.
   Hint: Look at Comps 5 and 6.

3. Based on the above sales, each extra bedroom is worth **$1,000** more than a home with fewer bedrooms.
   Hint: Look at Comps 1 and 6.

4. A home with a higher number of garage stalls is worth **$5,000** (per stall) more than a sale with fewer.
   Hint: Look at Comps 1 and 8.

5. A home with additional plumbing fixtures is worth **$500** (per fixture) more than a home with the standard 5 fixtures.
   Hint: Comps 2 and 9 can be used to determine this value.

6. A home with AC is worth **$1,500** more than a home without AC.
   Hint: Look at Comps 4 and 7.

Exercise 8-4

Step 3

Determine values for the adjustments.

1. Based on the above sales, each extra bedroom is worth **$1,500** more than a home with fewer bedrooms.
   Hint: By comparing Comp 8 and Comp 13, note that all other variables are equal, such as foundation, garage stalls, etc. The only variable is the number of rooms.

2. A home that was sold 6 months ago is worth **$300** (per month) less than a sale that just occurred.

3. A home with a higher number of garage stalls is worth **$7,500** (per stall) more than a sale with fewer.

4. A home with an interior location is worth **$3,500** more than a corner location.

5. A home with a basement is worth **$2,750** more than a home with a slab foundation.

6. A home with additional plumbing fixtures is worth **$500** (per fixture) more than a home with the standard 5 fixtures.

7. A home with AC is worth **$2,000** more than a home without AC.

8. A home with at least 1 fireplace is worth **$1,200** (per fireplace) more than a home without a fireplace.

9. A home with extra lot acreage is worth **$2,000** (per additional half acre) more than a sale on a one-acre lot.

Unit 8 Review Answers

True or False

1) **T** or **F** — When using the Sales Comparison or Market Approach, one never adjusts the subject property.

2) **T** or **F** — Make a minus adjustment to the comparable property if it is inferior to the subject property.

3) **T** or **F** — The market is showing an annual increase in value of 3%. A comparable property sold 2 years ago. It would have a minus adjustment of 6%.

4) **T** or **F** — The comparable sale with the fewest adjustments is sometimes the best indicator of value for the subject property.

5. Complete the sales comparison table on the next page using the adjustment values determined in Exercise 8-4. After completing the table, complete the following:

	Final Adj. Sales Price	No. of Adj.
Comparable 1	**$187,300**	**5**
Comparable 2	**$187,750**	**4**
Comparable 3	**$196,750**	**6**
Comparable 4	**$183,800**	**4**
Comparable 5	**$170,350**	**2**

After making all of the necessary adjustments and calculations, study the grid to determine the sale most comparable to the subject property. Once the comparable has been selected, values can be determined for the subject property.

Looking at the least number of adjustments, which sale is most comparable to the subject property?

Comparable 5

Unit 8 Review, Question 5 Table

	Subject Property	Comp 1	Comp 2	Comp 3	Comp 4	Comp 5
Sale Price		$175,000	$182,000	$187,500	$172,500	$163,000
Number of months since sale	0	5 **+$1,500**	4 **+$1,200**	3 **+$900**	5 **+$1,500**	12 **+$3,600**
Adjusted sale price		**$176,500**	**$183,200**	**$188,400**	**$174,000**	**$166,600**
Foundation	Basement	Basement NC	Slab **+$2,750**	Slab **+$2,750**	Basement NC	Slab **+$2,750**
Number of plumbing fixtures	7	8 **-$500**	5 **+$1,000**	6 **+$500**	7 NC	5 **+$1,000**
Number of bedrooms	4	3 **+$1,500**	4 NC	4 NC	3 **+$1,500**	4 NC
Garage (# of stalls)	2	1 **+$7,500**	2 NC	2 NC	1 **+$7,500**	2 NC
Central air conditioning	Yes	Yes NC	Yes NC	No **+$2,000**	No **+$2,000**	Yes NC
Number of fireplaces	0	1 **-$1,200**	1 **-$1,200**	2 **-$2,400**	1 **-$1,200**	0 NC
Location adjustment	Interior	Corner **+$3,500**	Interior NC	Corner **+$3,500**	Interior NC	Interior NC
Lot size adjustment	1.5 acre	1.5 acre NC	1 acre **+2,000**	1 acre **+2,000**	1.5 acre NC	1.5 acre NC
Net adjustment		**+$10,800**	**+$4,550**	**+$8,350**	**+$9,800**	**+$3,750**
Total number of adjustments		5	4	6	4	2
Final adjusted sale price (adj. sale price + net adj.)		**$187,300**	**$187,750**	**$196,750**	**$183,800**	**$170,350**

Unit 9 Answers

Exercise 9-1

1. An apartment building recently sold for $250,000. The building has 10 units, each of which rents for $250 per month. What is the capitalization rate?

   12 %

2. A parking lot provides its owner with a net operating income of $16,740. The appropriate capitalization rate is 9.3%. What is the value of the parking lot?

   $180,000

3. The capitalization rate for an office building is 11.37%. The building value in a recent sale was $452,600. What is the net operating income for the office building that an investor would expect?

   $51,461

4. An apartment building recently sold for $375,700. The annual income for the building is $53,428. What is the capitalization rate?

   14.22 %

5. A run-down triplex recently sold for $157,000. The cap rate is 11.41% What is the property's annual income?

   $17,914

6. An apartment building has 20 units that rent for $800 per month. The capitalization rate is 14.5%. What is the value of the property?

   $1,324,138

Unit 9 Review Answers

1. What is the formula for the income approach? $\frac{I}{R \times V}$

2. A 100 space parking lot rents for $30 a month per space. The cap rate is 11.89%
   What is the value of the parking lot?
   $\frac{I}{R \times V}$ **= 30 x 12 x 100 =** $\frac{\$\ 36{,}000}{0.1189}$ **=** **$ 302,775**

3. A 2-story commercial building has a value of $960,000. The building provides its owner with a monthly income of $6,000 per floor. What is the capitalization rate?

   $\frac{I}{R \times V}$ **= Income = $6,000 x 2 x 12 =** $\frac{\$\ 144{,}000}{960{,}000}$ **= 15%**

4. A 4-unit quadruplex recently sold for $270,000. The cap rate is 10.65%. What is the income of this apartment building?

   $\frac{I}{R \times V}$ **= R x V = $270,000 x .1065 = $28,755**

5. A 12-unit apartment building has (6) 1-bedroom units, (4) 2-bedroom units, and (2) 3-bedroom units. The 3-bedroom units rent for $400 a month, the 2-bedroom units rent for $350 a month, and the 1-bedroom units rent for $275 a month. What is the value of this building if the cap rate is 9.75%?

   2 x 400 x 12 = $ 9,600 annually for the 3-bed units

   4 x 350 x 12 = $ 16,800 annually for the 2-bed units

   6 x 275 x 12 = $ 19,800 annually for the 1-bed units.

   $ 46,200 annual income divided by 9.75% (or .0975) = $473,846

6. An assessor is trying to value a small rental property. What is the NOI? **$39,840**
What is the value? **$ 442,667**

PGI = $48,000
Cap rate = 9%
Rent = 5 units at $800/mo.
Vacancy = 3%
Misc. income = 1 coin operated washer and 1 coin dryer = $65/mo.
Reserves for replacement = $7,500 annually

48,000 x .97 (vacancy) = 46,560 + 780 (misc.) = 47,340 – 7,500 = $ 39,840

Next apply IRV: $39,840 divided by .09 (cap rate) = $442,667

Unit 10 Answers

Exercise 10-1 worksheet

Assessed Value	Sale Price	Sales Ratio
$10,000	$35,000	28.57
17,500	42,500	**41.18**
1,900	12,000	15.83
9,000	26,000	**34.62**
9,000	31,000	29.03
1,400	8,000	**17.50**
7,200	23,000	31.30
8,000	24,500	**32.65**
5,600	19,500	28.72
14,000	50,000	**28.00**
19,000	67,000	28.36

Ratios Ranked

1	**15.83**
2	**17.50**
3	**28.00**
4	**28.36**
5	**28.57**
6	**28.72**
7	**29.03**
8	**31.30**
9	**32.65**
10	**34.62**
11	**41.18**

Median is 28.72

Unit 10 Review Answers

1. Name four types of properties that are not affected by equalization factors at the local level.

   Farmland

   Railroads

   Farm buildings

   Wind turbines* (or commercial solar systems or coal rights)

2. Name four types of sales that would not be used in a sales ratio study.

   Farm home sites, residences, land and buildings

   State assessed property

   Sales between related parties

   Sales conveying less than full title; Sales involving government entities;

   Sales not advertised

   Sales using any deed other than warranty or trust deed

True or False

1. (**T** or **F**) Equalization means a factor is applied to each jurisdiction so that all jurisdictions are assessed at the same average percentage of market value.
2. **T** or (**F**) The state equalization factor is always 1.0000.
3. (**T** or **F**) Equalization factors will not correct inequities in individual assessments.
4. (**T** or **F**) A Coefficient of Dispersion is a measure of uniformity of assessments.
5. (**T** or **F**) Form PTAX-203, Real Estate Transfer Declaration (RETD) is the primary source of sale information used in a sales ratio study.

* wind turbines with at least 0.5 MW nameplate capacity

Exercise A-1 Answers

Use the Property Tax Code to answer the following questions and cite the correct section.

1. What is the education requirement for the assessor in a township or multi-township with a non-farm, non-mineral equalized assessed valuation of less than $10 million and less than $1 million commercial and industrial valuation?

   Introductory course Section **2-45**

2. Are assessing officials required to take an oath of office?

   Yes Section **4-30**

3. Must a supervisor of assessments hold an annual meeting for his or her township and multi-township assessors?

   Yes Section **9-15**

4. Are individuals permitted to obtain copies of property record cards?

   Yes Section **9-20**

5. Are township assessors required to provide the supervisor of assessments with a copy of all new property record cards as they are added to the tax rolls?

   Yes Section **9-25**

6. Must the supervisor of assessments provide “rules” for the assessment of property by township assessors?

   Yes Section **9-15**

7. Is there a provision in the statutes for the revisions of assessment in counties of less than 3 million?

   Yes Section **9-75**

8. What is the date specified by statute for the return of the assessment books by the township assessor to the supervisor of assessments?

   June 15 in most counties Section 9-230

9. May township assessors appoint deputies to assist them with their duties?

Yes Section **2-65**

10. Is there a provision in the statutes for setting the salary of an assessor?

Yes Section **2-70**

11. Can township assessors be reimbursed for their education expenses?

Yes Section **2-80**

12. Are there any penalties for assessors who knowingly fail to perform their duties?

Yes **Section** **25-15, 25-20, & 25-25**

13. Who is responsible for prosecuting violators of the Property Tax Code?

States attorney Section **25-45**

14. How are vacancies in the office of township assessor filled?

Either by appointment or contractual agreement with a person qualified under Section 2-45 Section **2-60**

15. What is the statutory level of assessment?

33 1/3 % Section **9-145**

16. Can candidates “get qualified” after they are elected or appointed, as long as they are qualified when they take their oath?

No Section **2-45**

17. Section **2-45** outlines the pre-election and pre-appointment requirements for township and multi-township assessors.

18. Section **2-52** provides for the revision of assessor qualifications.

19. Individuals in jurisdictions with more than **$25 million** in non-farm/non-mineral EAV or more than **$1 million** in commercial/industrial EAV, are required to have a CIAO designation before running for office or being appointed to office.

20. Individuals in jurisdictions with more than $10 million and less than $25 million of non-farm/non-mineral EAV and less than $1 million of commercial/industrial EAV who have previously held office will be required to have an approved **designation** prior to running for office.