GEORGIA DEPARTMENT OF REVENUE

LOCAL GOVERNMENT SERVICES DIVISION

Assessment Fundamentals

Course IA

For Educational Purposes Only:
The material within is intended to give the course participant a solid understanding of general principles in the subject area. As such, the material may not necessarily reflect the official procedures and policies of the Georgia Department of Revenue or the Department's official interpretation of the laws of the State of Georgia. The application of applicability to specific situations of the theories, techniques, and approaches discussed herein must be determined on a case-by-case basis.

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Chapter 1 - Certification

Georgia Certification Program

County Staff Appraisers

The requirements cited in this section are a combination of Georgia Code Section 48-5-260 and Department of Revenue Substantive Regulation 560-11-2-.23 through 560-11-2-.30. Minimum Job Requirements Established by Georgia Law:

Appraiser I:

Under supervision and direction as an appraiser trainee, is expected to learn and do the more routine technical work in the appraisal of real and/or personal property for assessment purposes. The Appraiser I must:

Be 21 years of age or older

Hold a high school diploma or its equivalent

Be in good physical and mental health

Have the aptitude to learn to perform assigned tasks, including reviewing maps and photography; locating property and gathering all information necessary to determine value; performing basic research on building costs and sales data; computing appraisal values for real and/or personal property

Successfully complete the appraiser exam established for this level

Appraiser II:

Under supervision and direction, makes appraisals of real and/or personal property of the more common types and assists superiors in the supervision and direction of Appraiser I personnel. The Appraiser II must:

Be 21 years of age or older

Hold a high school diploma or its equivalent

Be in good physical and mental health and have the ability to interact well with the general public

Be able to make field appraisals of the typical types of real and/or personal property. Must be able to research, analyze, and inspect property and gather all information necessary for appraisals such as size, zoning, use, location, construction quality, depreciation, and market data

Have the ability to learn, under supervision, the methods and techniques involved in the appraisal of the more complex types of property

Successfully complete the appraiser exam established for this level

Appraiser III:

Must have the ability to make accurate appraisals of all types and classes of real and/or personal property within the jurisdiction. Must be able to supervise and direct the activities of subordinate personnel effectively. The Appraiser III must:

Be 21 years of age or older; hold a high school diploma or its equivalent

Have the ability to apply correctly the three approaches to value in appraising properties within his/her jurisdiction

Have the ability to organize and direct the activities of subordinate personnel

Have the ability to perform all phases of mass appraisal and revaluation work within his/her jurisdiction, including the ability to develop pricing and valuation schedules for the valuation of all land, improvements, and personal property

Successfully complete the appraiser exam established for this level

Appraiser IV:

Supervises the work of subordinate appraisers in the appraisal of rural, residential, commercial, and industrial properties for ad valorem purposes. The Appraiser IV must:

Be 21 years of age or older

Be a graduate of an accredited college or university with a four-year degree and have at least five years of increasing responsible experience in the appraisal field (if not a college graduate, eight years of increasing responsible experience in the appraisal field may be substituted for the college degree);

Have a complete knowledge of mass appraisal techniques.

Have the ability to plan and conduct necessary training programs for subordinate appraisal personnel.

Have the ability to direct office procedures and techniques related to the appraisal/assessment process.

Have the ability to deal effectively with the general public and with other governmental agencies.

Successfully complete the appraiser exam established for this level.

Court Cases

Equity and Uniformity:

Hutchins v. Howard, (211 GA 830; (1955); Realty and tangible personal property are of the same class of property for ad valorem tax purposes, and the constitutional rule of uniformity requires that both be taxed alike.

Register v. Langdale, (226 GA 82;(1970); The uniformity provision of the Georgia constitution, Article VII Sections par III, requires that all real and personal property within the county be taxed on a uniform basis based on the fair market value of such property, and that the valuations as between owners of real property and owners of personal property be fairly and justly equalized.

Williams v. DeKalb County s (GA. Supreme Court;(1982)
The requirement that property be "uniformly assessed" means that the property be assessed uniformly with other property included in the county's own tax digest. In determining whether a county board of tax assessors has "uniformly assessed" the value of certain property, it is not significant that the board of assessors of the neighboring county might have assessed it differently.

Fulton County v. Strickland (251 GA 473; 1983); it is the responsibility of the County to provide for equalization between properties within a class and the Revenue Commissioner responsibility to provide for uniformity among the counties.

Colvard v. Ridley (218 GA 490; 1962); The tax assessors may use any system, methods, cadastral survey, books, available lists of valuations of types of property, city valuations or other instruments or other information obtainable, provided such information is the best information available in their fixing of just and fair valuations and that they be fairly and justly equalized among the individual taxpayers is justly and fairly equalized.

Rodgers v. Dekalb Co. (247 GA 746; 1981);
No requirements for tax assessors to use any definite system or method but demands only that valuations be just and that they be fairly and justly equalized among the individual taxpayers according to the best information obtainable.

Return of Property:

Dougherty Co. v. Burt Realty Company (GA Supreme Court; 1983); "All property shall be returned for taxation at its fair market value." Thus, both tangible personal property and realty must be returned for taxation at fair market value and must be taxed at the same rate.

Stewart v. Richardson, et al (Civil Action 15793, Glynn Co. Superior Court June 19, 1975); Tax assessors may not REQUIRE federal employer identification numbers, social security numbers and balance sheets from personal property taxpayers. They may, however, request such items provided it is clear such rendition is voluntary.

Tax Situs:

Joiner, Tax Collector v. Pennington (143 GA 438; 1915); A portable sawmill (or other tangible personal property) is not subject to taxation in a county where it is temporarily located on the land of another. The owner of the sawmill living in a different county returns the same for taxation as personal property together with other property in the county of his residence.

O'Neal, Mayor et al. v. Whitley (177 GA 491; 1933); Where taxpayer is engaged in business (here, as paving contractor) in different parts of state, such as business being conducted from a single office located in same city and county where taxpayer resides, and in connection with such business owns and operates machinery and equipment which was kept in other time according to the exigencies of the owner's business, the situs of such machinery and equipment for ad valorem tax purposes is at the residence and domicile of the owner.

Collins v. Mills (1983 GA 18; 1944); Personal property is ordinarily taxable in the county where the owner resides; and in order for it to acquire a situs for taxation in some other county, it must be connected with some business enterprise that is situated more or less permanently whose location is merely transitory or temporary.

Property Valuation:

Consolidated Distributors, Inc., v. City of Atlanta (1942; 193 GA 853); Federal excise taxes are an element in the cost and value of liquors.

Dotson v. Henry County s, (February 12, 1983); An assessment of property (here, dairy farm) based primarily on the property's "highest and best use" was invalid since the property's existing use was not given sufficient consideration, only limited reliance may be placed on "highest and best use" of property in determining fair market value for ad valorem tax purposes.

Cobb County v. Sibley, (244 G. 404; 1979); Assessment of property based on "highest and best use" of the property rather than existing use held invalid.

Chilivis v. Backus (236 GA 88; 1976); (1) The uniformly of taxation provision of the Georgia Constitution does not require that only one method be used in determining fair market value for all tangible property. (2) "Actual use" of property is one determinative factor in finding fair market value of property, but not the exclusive factor. The "highest and best use" of property would be a factor in determining value only if it would reflect the amount that would be realized from a cash sale of the property.

Wade v. Ray (234 GA 234; 1975); Case dealt with a complaint against different approaches to value used for real and personal property. Court held that the use of two different approaches does not violate of the constitutional uniformity clause.

Rodgers v. DeKalb County s (247 GA 726; 1981); Fair market value is the objective of any assessments appraisal. Different methods (cost, market, income) may be

used provide the “best information available” for the types of property to which they are applied so long as the objective of fair market value is obtained. Uniformity does not require the same appraisal method on all properties. It is the result that controls the methods, and not vice versa.

Dougherty County v. Burt Realty Co. (250 GA 467; US 103 S.C. 3540; 1983); Utilization of different methods for determining fair market value for purposes of taxation creates no uniformity under the U.S. Constitution or under the State Constitution or laws.

1969 Op. Atty. Gen. No. 69-504
If the fair market value property increases every two years, then it is the duty of county tax assessors to increase the valuation of property for tax purposes every two years.

1945-47 Op. Atty. Gen. Pg. 558
Merchandise used in connection with a business permanently located in a county is taxable in that county regardless of the owner’s residence.

Macon Coca-Cola Bottling Co. v. Evans (214 GA. 1, 1958); Where contractor had agreed in writing to maintain certain vending machines in operation in given county, the location of such machines in the county was such a business enterprise of the contractor as to cause the personal property thus located in that county to be subject to ad valorem taxes in the county.

Thorpe v. Benham (161 GA App. 161; 1982); Piecemeal or spot reappraisals that follow a general appraisal of residential property throughout the jurisdiction and that result in a significant increase in taxes without regard to any equalization between taxpayers is contrary to the statutory mandate and void.

General Provisions

48-5-1. Legislative intent.

The intent and purpose of the tax laws of this state are to have all property and subjects of taxation returned at the value which would be realized from the cash sale, but not the forced sale, of the property and subjects as such property and subjects are usually sold except as otherwise provided in this chapter.

48-5-2. Definitions.

As used in this chapter, the term:

(.1) "Arm's length, bona fide sale" means a transaction which has occurred in good faith without fraud or deceit carried out by unrelated or unaffiliated parties, as by a willing buyer and a willing seller, each acting in his or her own self-interest, including but not limited to a distress sale, short sale, bank sale, or sale at public auction.

(1) "Current use value" of bona fide conservation use property means the amount a knowledgeable buyer would pay for the property with the intention of continuing the property in its existing use and in an arm's length, bona fide sale and shall be determined in accordance with the specifications and criteria provided for in subsection (b) of Code Section 48-5-269.

(2) "Current use value" of bona fide residential transitional property means the amount a knowledgeable buyer would pay for the property with the intention of continuing the property in its existing use and in an arm's length, bona fide sale. The tax assessor shall consider the following criteria, as applicable, in determining the current use value of bona fide residential transitional property:

(A) The current use of such property;

(B) Annual productivity; and

(C) Sales data of comparable real property with and for the same existing use.

(3) 'Fair market value of property' means the amount a knowledgeable buyer would pay for the property and a willing seller would accept for the property at an arm's length, bona fide sale. The income approach, if data is available, shall be ~~utilized~~ considered in determining the fair market value of income-producing property, ~~and, if~~ if actual income and expense data are voluntarily supplied by the property owner, such data shall be considered in such determination. Notwithstanding any other provision of this chapter to the contrary, the transaction amount of the most recent arm's length, bona fide sale in any year shall be the maximum allowable fair market value for the next taxable year. With respect to the valuation of equipment, machinery, and fixtures when no ready market exists for the sale of the equipment, machinery, and fixtures, fair market value may be determined by resorting to any reasonable, relevant, and useful information available, including, but not limited to, the original cost of the property, any depreciation or obsolescence, and any increase in value by reason of inflation. Each tax assessor shall have access to any public records of the taxpayer for the purpose of discovering such information.

(A) In determining the fair market value of a going business where its continued operation is reasonably anticipated, the tax assessor may value the equipment, machinery, and fixtures which are the property of the business as a whole where appropriate to reflect the accurate fair market value.

(B) The tax assessor shall apply the following criteria in determining the fair market value of real property:

(i) Existing zoning of property;

(ii) Existing use of property, including any restrictions or limitations on the use of property resulting from state or federal law or rules or regulations adopted pursuant to the authority of state or federal law;
(iii) Existing covenants or restrictions in deed dedicating the property to a particular use;
(iv) Bank sales, other financial institution owned sales, or distressed sales, or any combination thereof, of comparable real property;

(v) Decreased value of the property based on limitations and restrictions resulting from the property being in a conservation easement;

(vi) Rent limitations, higher operating costs resulting from regulatory requirements imposed on the property, and any other restrictions imposed upon the property in connection with the property being eligible for any income tax credits~~)~~ with respect to real property which are claimed and granted pursuant to either Section 42 of the Internal Revenue Code of 1986, as amended, or Chapter 7 of this title or receiving any other state or federal subsidies provided with respect to the use of the property as residential rental property; provided, however, that ~~such~~ properties described in this division shall not be considered comparable real property for the assessment or appeal of assessment of properties not covered by this division;

(vii)(I) In establishing the value of any property subject to rent restrictions under the sales comparison approach, any income tax credits described in division (vi) of this subparagraph that are attributable to a property may be considered in determining the fair market value of the property provided that the tax assessor uses comparable sales of property which, at the time of the comparable sale, had unused income tax credits that were transferred in an arm's length bona fide sale.

(II) In establishing the value of any property subject to rent restrictions under the income approach, any income tax credits described in division (vi) of this subparagraph that are attributable to property may be considered in determining the fair market value of the property provided that such income tax credits generate actual income to the record holder of title to the property; and

(viii) Any other existing factors provided by law or by rule and

(B.1) The tax assessor shall not consider any income tax credits with respect to real property which are claimed and granted pursuant to either Section 42 of the Internal Revenue Code of 1986, as amended, or Chapter 7 of this title in determining the fair market value of real property.

(B.2) In determining the fair market value of real property, the tax assessor shall not include the value of any intangible assets used by a business, wherever located, including patents, trademarks, trade names, customer agreements, and merchandising agreements.

(C) Fair market value of "historic property" as such term is defined in subsection (a) of Code Section 48-5-7.2 means:

(i) For the first eight years in which the property is classified as rehabilitated historic property, the value equal to the greater of the acquisition cost of the property or the appraised fair market value of the property as recorded in the county tax digest at the time preliminary certification on such property was received by the county board of tax assessors pursuant to subsection (c) of Code Section 48-5-7.2;

(ii) For the ninth year in which the property is classified as rehabilitated historic property, the value of the property as determined by division (i) of this subparagraph plus one-half of the difference between such value and the current fair market value exclusive of the provisions of this subparagraph; and

(iii) For the tenth and following years, the fair market value of such property as determined by the provisions of this paragraph, excluding the provisions of this subparagraph.

(D) Fair market value of landmark historic property as such term is defined in subsection (a) of Code Section 48-5-7.3 means:

(i) For the first eight years in which the property is classified as landmark historic property, the value equal to the greater of the acquisition cost of the property or the appraised fair market value of the property as recorded in the county tax digest at the time certification on such property was received by the county board of tax assessors pursuant to subsection (c) of Code Section 48-5-7.3;

(ii) For the ninth year in which the property is classified as "landmark historic property," the value of the property as determined by division (i) of this subparagraph plus one-half of the difference between such value and the current fair market value exclusive of the provisions of this subparagraph; and

(iii) For the tenth and following years, the fair market value of such property as determined by the provisions of this paragraph, excluding the provisions of this subparagraph.

(E) Timber shall be valued at its fair market value at the time of its harvest or sale in the manner specified in Code Section 48-5-7.5.

(F) Fair market value of "brownfield property" as such term is defined in subsection (a) of Code Section 48-5-7.6 means:

(i) Unless sooner disqualified pursuant to subsection (e) of Code Section 48-5-7.6, for the first ten years in which the property is classified as "brownfield property," or as this period of preferential assessment may be extended pursuant to subsection (o) of Code Section 48-5-7.6, the value equal to the lesser of the acquisition cost of the property or the appraised fair market value of the property as recorded in the county tax digest at the time application was made to the Environmental Protection Division of the Department of Natural Resources for participation under Article 9 of Chapter 8 of Title 12, the "Georgia Hazardous Site Reuse and Redevelopment Act," as amended; and

(ii) Unless sooner disqualified pursuant to subsection (e) of Code Section 48-5-7.6, for the eleventh and following years, or at the end of any extension of this period of preferential assessment pursuant to subsection (o) of Code Section 48-5-7.6, the fair market value of such property as determined by the provisions of this paragraph, excluding the provisions of this subparagraph.

(G) Fair market value of 'qualified timberland property' means the fair market value determined in accordance with Article 13 of this chapter.

(4) "Foreign merchandise in transit" means personal property of any description which has been or will be moved by waterborne commerce through any port located in this state and:

(A) Which has entered the export stream, although temporarily stored or warehoused in the county where the port of export is located; or

(B) Which was shipped from a point of origin located outside the customs territory of the United States and on which United States customs duties are paid at or through any customs district or port located in this state, although stored or warehoused in the county where the port of entry is located while in transit to a final destination.

(5) "Forest land conservation value" of forest land conservation use property means the amount determined in accordance with the specifications and criteria provided for in Code Section 48-5-271 and Article VII, Section I, Paragraph III(f) of the Constitution.

(6) "Forest land fair market value" means the ~~2008~~ fair market value of the forest land determined in accordance with Article VII, Section I, Paragraph III(f) of the Constitution~~; provided, however, that when the 2008 fair market value of the forest land has been appealed by a property owner and the ultimate fair market value of the forest land is changed in the appeal process by either the board of assessors, the board of equalization, a hearing officer, an arbitrator, or a superior court judge, then the final fair market value of the forest land shall replace the 2008 fair market value of the forest land. This final fair market value of the forest land shall be used in the calculation of local assistance grants. If local assistance grants have been granted to either a county, a county board of education, or a municipality based on the 2008 fair market value of forest land and subsequently the fair market value of such forest land is reduced on an appeal, then the county or the municipality shall reimburse the state, within 12 months unless otherwise agreed to by the parties, the difference between local assistance grants paid to the county or municipality and the amount which would have been due based on the final fair market value of the forest land. Such 2008 valuation may increase from one taxable year to the next by a rate equal to the percentage change in the price index for gross output of state and local government from the prior year to the current year as defined by the National Income and Product Accounts and determined by the United States Bureau of Economic Analysis and indicated by the Price Index for Government Consumption Expenditures and General Government Gross Output (Table 3.10.4).~~

*48-5-3**. Taxable property.**

All real property including, but not limited to, leaseholds, interests less than fee, and all personal property shall be liable to taxation and shall be taxed, except as otherwise provided by law. Liability of property for taxation shall not be affected by the individual or corporate character of the property owner or by the resident or nonresident status of the property owner.

*48-5-6. **Return of property at fair market value.**

All property shall be returned for taxation at its fair market value except as otherwise provided in this chapter.

*48-5-7. **Assessment of tangible property.**

(a) Except as otherwise provided in this Code section, taxable tangible property shall be assessed at 40 percent of its fair market value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's fair market value.

(b) Tangible real property which is devoted to bona fide agricultural purposes as defined in this chapter and which otherwise conforms to the conditions and limitations imposed in this chapter shall be assessed for ad valorem property tax purposes at 75 percent of the value which other tangible real property is assessed and shall be taxed on a levy made by each respective tax jurisdiction according to said assessment.

(c) Tangible real property which qualifies as rehabilitated historic property pursuant to the provisions of Code Section 48-5-7.2 shall be assessed at 40 percent of its fair market value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's fair market value. For the purposes of this subsection, the term "fair market value" shall mean the fair market value of rehabilitated historic property pursuant to the provisions of subparagraph (C) of paragraph (3) of Code Section 48-5-2.

(c.1) Tangible real property which qualifies as landmark historic property pursuant to the provisions of Code Section 48-5-7.3 shall be assessed at 40 percent of its fair market value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's fair market value. For the purposes of this subsection, the term "fair market value" shall mean the fair market value of landmark historic property pursuant to the provisions of subparagraph (D) of paragraph (3) of Code Section 48-5-2.

(c.2) Tangible real property which is devoted to bona fide conservation uses as defined in this chapter and which otherwise conforms to the conditions and limitations imposed in this chapter shall be assessed for property tax purposes at 40 percent of its current use value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's current use value.

(c.3) Tangible real property located in a transitional developing area which is devoted to bona fide residential uses and which otherwise conforms to the conditions and limitations imposed in this chapter for bona fide residential transitional property shall be assessed for property tax purposes at 40 percent of its current use value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's current use value.

(c.4) Tangible real property which qualifies as brownfield property pursuant to the provisions of Code Section 48-5-7.6 shall be assessed at 40 percent of its fair market value and shall be taxed on a levy made by each respective tax jurisdiction according

to 40 percent of the property's fair market value. For the purposes of this subsection, the term "fair market value" shall mean the fair market value of brownfield property pursuant to the provisions of subparagraph (F) of paragraph (3) of Code Section 48-5-2.

(c.5) Tangible real property which qualifies as forest land conservation use property pursuant to the provisions of Code Section 48-5-7.7 shall be assessed at 40 percent of its forest land conservation use value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's forest land conservation use value.
(c.6) Tangible real property which qualifies as qualified timberland property in accordance with the provisions of Article 13 of this chapter shall be assessed at 40 percent of its fair market value of qualified timberland property and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of its fair market value of qualified timberland property as such value is determined by the commissioner in accordance with Article 13 of this chapter."

(d) The requirement contained in this Code section that all tax jurisdictions assess taxable tangible property at 40 percent of fair market value shall not apply to any tax jurisdiction whose ratio of assessed value to fair market value exceeded 40 percent for the tax year 1971. No tax jurisdiction so exempted shall assess at a ratio of less than 40 percent except as necessary to effect the preferential assessment provided in subsection (b) of this Code section.

(e) Each notice of ad valorem taxes due sent to taxpayers of counties and municipalities shall include both the fair market value of the property of the taxpayer which is subject to taxation and the assessed value of the property after being reduced as provided by this Code section.

Important Keys from the Appraisal Procedures Manual

560-11-10-.01(2) Specific Procedures

In order to facilitate the mass appraisal process, specific procedures are provided within this Chapter which are designed to arrive at a basic appraisal value of real and personal property. These specific procedures are designed to provide fair market value under normal circumstances. When unusual circumstances are affecting value they should be considered. In all instances, the appraisal staff will apply Georgia law and generally accepted appraisal practices to the basic appraisal values required by this manual and make any further valuation adjustments necessary to arrive at the fair market values.

560-11-10-.01(3) Board of tax assessors

The county board of tax assessors shall require the appraisal staff to observe the procedures in this manual when performing their appraisals. The county board of tax assessors may not adopt local procedures that are in conflict with Georgia law or the procedures required by this manual.

560-11-10-.02(i) Final Assessment

Final assessment. "Final assessment" means the assessed value of real property as stated on the Annual Notice of Assessment as approved by the Board of Assessors. Amendments to "Final assessment" for real property are prohibited absent a clerical error or some other lawful basis; and in the case of personal property, the appraisal staff has completed its audit of the personal property pursuant to Rule 560-11-10-.08(4)(d) within the three year statute of limitations.

560-11-10-.08(1)(d) Tax Situs

(1)(i)Tax Situs of personal property of Georgia Residents: the appraisal staff shall consider the tax situs of personal property owned by a Georgia resident as being the domicile of the owner unless such property has acquired a business situs elsewhere.

(1)(ii)Tax Situs of personal property of non-residents: the appraisal staff shall consider the tax situs of personal property owned by non-residents as being where the property is located.

(2) Tax situs of boats: the appraisal staff shall consider the tax situs of a boat to be the tax district wherein lies the domicile of the owner, even when the boat is located within another tax district in the county. When the boat is functionally located for recreational or convenience purposes for 184 days or more in a county other than where the owner is domiciled, the appraisal staff shall consider the tax situs of the boat to be where it is functionally located.

(3) Tax situs of aircraft: the appraisal staff shall consider the tax situs of an aircraft to be the tax district wherein lies the domicile of the owner, even when the aircraft is located within another tax district in the county. When the aircraft's primary home base is in a county other than where the owner is domiciled, the appraisal staff shall

consider the tax situs of the aircraft to be where it is principally hangared or tied down and out of which its flights normally originate.

560-11-10-.08(4) (d) Audits (in part)

"... The appraisal staff shall perform, consistent with Georgia law and policies that are established by the board of tax assessors, audits of the records of the property owners to verify the returns of personal property. … "

560-11-10-.08(5) Valuation Procedures

(a) General procedures: The appraisal staff shall consider the sales comparison, cost, and income approaches in the appraisal of personal property. The degree of dependence on any one approach will change with the availability of reliable data and type of property being appraised.

560-11-10-.09(1) Valuation Procedures

(a) General procedures: The appraisal staff *shall* consider the sales comparison, cost, and income approaches in the appraisal of real property. The degree of *dependence on any one approach will change with the availability of reliable data* and type of property being appraised.

560-11-10-.08(1)(b)(3) Classification

The appraisal staff shall classify real property as provided in Rule 560-11-2-.21 for inclusion in the county tax digest.

560-11-10-.09(2)(d)1. Collecting and maintaining property information

(i) Geographic information: cadastral maps or computerized geographic information systems are to be maintained by the appraisal staff for all real property located in the county…. Minimum mapping specifications shall include the following: all streets and roads plotted and identified; property lines delineated for each real property parcel; unique parcel identifier for each parcel; and physical dimensions or acreage estimate for each parcel.

(ii) Sales information: the appraisal staff shall maintain a record of all sales of real property that are available and occur within the county.

(iii) Property characteristics: the appraisal staff shall maintain a record of real property characteristics. This record shall include, but not be limited to, sufficient property characteristics to classify and value the property.

(iv)Land and location characteristics: the appraisal staff shall maintain a record of the land and location characteristics. The record should include, but not be limited to, zoning, use, legal or deed restrictions on use, covenants, parcel shape and size, neighborhood and other locational characteristics such as view, topography, corner influence, proximity to recreational bodies of water, nuisances, and similar external influences.

(v)Improvement characteristics: the appraisal staff shall maintain a record of the characteristics of the improvements to land. The record shall include, but not be limited to, the size, actual use, design, construction quality, construction materials, age and observed condition.

560-11-10-.09(2) (d)2. Collecting property information.

(i) Field inspections: the appraisal staff shall develop and present to the board of tax assessors for approval procedures that provide for periodic field inspections to identify properties and ensure the property characteristics information is complete and accurate. The procedures shall include guidelines for the physical inspection of the property by either appraisers or specially trained data collectors. The format should be designed for standardization, consistency, objectivity, completeness, easy use in the field, and should facilitate later entry into a computer assisted mass appraisal system, when one is used.

560-11-10-.09(2)(d)4(iii) Field review frequency

All real parcels should be physically reviewed at least once every three years to ascertain that property information records are current.

560-11-2-.20 Classification of Real and Personal Property on Individual Ad Valorem Tax Returns. Amended.

(1) Beginning with all ad valorem tax returns received after January 1, 1993, all taxable real and personal property returned or assessed for county taxation shall be identified according to the following classifications. Real Property receiving preferential assessment under O.C.G.A. Sec. 48-5-7.1, 48-5-7.2 or 48-5-7.3 or current use assessment under O.C.G.A. Sec. 48-5-7.4 shall be included in the classification specifically designated for those properties and not included in the general use classification that might otherwise be appropriate.

a) Residential - This classification shall apply to all land utilized, or best suited to be utilized as a single family homesite, the residential improvements and other nonresidential homesite improvements thereon. For the purposes of this subparagraph, duplexes and triplexes shall also be considered single-family residential improvements.

1. This classification shall also apply to all personal property owned by individuals that has not acquired a business situs elsewhere and is not otherwise utilized for agricultural, commercial or industrial purposes.

(b) Residential Transitional - This classification shall apply to the residential improvement and up to no more than five acres of land underneath the improvement and comprising the homesite the value of which is influenced by its proximity to or location in a transitional area and which is receiving a current use assessment under O.C.G.A. Sec. 48-5-7.4.

(c) Agricultural - This classification shall apply to all real and personal property currently utilized or best suited to be utilized as an agricultural unit. It shall include

the single family homesite that is an integral part of the agricultural unit, the residential improvement, the non-residential homesite improvements, the non-homesite agricultural land, and the production and storage improvements.

1. This classification shall also apply to all personal property owned by individuals that is not connected with the agricultural unit but has not acquired a business situs elsewhere and the personal property connected with the agricultural unit which shall include the machinery, equipment, furniture, fixtures, livestock, products of the soil, supplies, minerals and off-road vehicles.

(d) Preferential - This classification shall apply to land and improvements primarily used for bona fide agricultural purposes and receiving preferential assessment under O.C.G.A. Sec. 48-5-7.1.

(e) Conservation Use - This classification shall apply to all land and improvements primarily used in the good faith production of agriculture products or timber and receiving current use assessment under O.C.G.A. Sec. 48-5-7.4.

(f) Environmentally Sensitive - This classification shall apply to all land certified as environmentally sensitive property by the Georgia Department of Natural Resources and receiving current use assessment under O.C.G.A. Sec. 48-5-7.4.

(g) Brownfield Property – This classification shall apply to all land certified "Brownfield Property" by the Environmental Protection Division of the Department of Natural Resources and receiving preferential assessment under O.C.G.A. Sec. 48-5-7.6.

(h) Forest land conservation use property – This classification shall apply to all land and improvements primarily used in the good faith production of timber receiving current use assessment under O.C.G.A. Sec. 48-5-7.7.

(i) Commercial - This classification shall apply to all real and personal property utilized or best suited to be utilized as a business unit the primary nature of which is the exchange of goods and services at either the wholesale or retail level. This classification shall include multi-family dwelling units having four or more units.

(j) Historic - This classification shall apply to up to two acres of land and improvements thereon designated as rehabilitated historic property or landmark historic property and receiving preferential assessment under O.C.G.A. Sec. 48-5-7.2 or O.C.G.A. Sec. 48-5-7.3.

(k) Industrial - This classification shall apply to all real and personal property utilized or best suited to be utilized as a business unit, the primary nature of which is the manufacture or processing of goods destined for wholesale or retail sale.

(l) Utility - This classification shall apply to the property of companies that are required to file an ad valorem tax return with the State Revenue Commissioner, and shall include all the real and personal property of railroad companies and public utility companies and the flight equipment of airline companies.

(2) Beginning with all ad valorem tax returns received after January 1, 1993, all taxable real property returned or assessed for county taxation shall be further stratified into the following strata:

(a) Improvements - This stratum shall include all in-ground and above ground improvements that have been made to the land including lease hold improvements. This stratum excludes all production and storage improvements utilized in the operation of a farm unit and those improvements auxiliary to residential or agricultural dwellings included in the Production/Storage/Auxiliary stratum.

1. The Board of Tax Assessors are given the option under this regulation to place the value of residential auxiliary buildings in this stratum or in the Production/Storage/Auxiliary stratum described in subparagraph (2)(f) of this regulation. 2. This stratum does not include the land.

(b) Operating Utility - This stratum shall include all real and personal property of a public utility, tangible and intangible, utilized in the conduct of usual and ordinary business.

1. Real and personal property of a public utility not utilized in the conduct of usual and ordinary business, shall be designated non-operating property and shall be included in the appropriate alternative strata. (c) Lots - This stratum shall include all land where the market indicates the site is sold on a front footage or buildable unit basis rather than by acreage.

(d) Small Tracts - This stratum shall include all land that is normally described and appraised in terms of small acreage, which is of such size as to favor multiple uses.

(3) Large Tracts - This stratum shall include all land that is normally described and appraised in terms of large acreage, which is of such size as to limit multiple uses, e.g., cultivatable lands, pasture lands, timber lands, open lands, wastelands and wild lands.

1. The acreage breakpoint between small tracts and large tracts shall be designated by the Board of Tax assessors as being that point where the market price per acre reflects a distinct and pronounced change as the size of the tract changes. In the event this break point cannot easily be determined, the Board of Tax Assessors shall designate a reasonable break point not less than five (5) acres nor more than twenty-five (25) acres.

(f) Production/Storage/Auxiliary - This stratum shall include those improvements auxiliary to residential or agricultural dwellings not included in the Improvements stratum described in subparagraph (2)(a) of this regulation and all improvements to land that are utilized by an agricultural unit for the storage or processing of agricultural products.

(g) Other Real - This stratum shall include leasehold interests, mineral rights, and all real property not otherwise defined in this paragraph.

(3) Beginning with all ad valorem tax returns received after January 1, 1993, all taxable personal property returned or assessed for county taxation shall be further stratified into the following strata:

(a) Aircraft - This stratum shall include all airplanes, rotorcraft and lighter-than-air vehicles, including airline flight equipment required to be returned to the State Revenue Commissioner.

(b) Boats - This stratum shall include all craft that are operated in and upon water. This stratum shall include the motors, but not the land transport vehicles.

(c) Inventory - This stratum shall include all raw materials, goods in process and finished goods. This stratum shall include all consumable supplies used in the process of manufacturing, distributing, storing or merchandising of goods and services. This stratum shall not include inventory receiving Freeport exemption under O.C.G.A. Sec. 48-5-48-2. This stratum shall also include livestock and other agricultural products.

(d)Freeport Inventory - This stratum shall include all inventory receiving Freeport exemption under O.C.G.A. Sec. 48-5-48-2.

(e) Furniture/Fixtures/Machinery/Equipment-This stratum shall include all fixtures, furniture, office equipment, computer software and hardware, production machinery, off-road vehicles, equipment, farm tools and implements, and tools and implements of trade of manual laborers.

(f) Other Personal - This stratum shall include all personal property not otherwise defined in this paragraph.

560-11-2-.21 Classification of Tangible Property on County Tax Digests. (1) The tax receiver or tax commissioner of each county shall list all taxable real and personal property on the digest using the classifications and strata specified in Rule 560-11-2-.20.

(a) The tax receiver or tax commissioner shall further identify the properties listed on the digest by use of a two-digit code, the first character of which shall designate the property classification and the second character of which shall designate the stratum. The code is more particularly described as follows:

1st Digit – CLASSIFICATION

A - Agricultural
B - Brownfield Property
C - Commercial
H - Historic
I - Industrial
P - Preferential

R - Residential
T - Residential Transitional
U - Utility
V - Conservation Use
W - Environmentally Sensitive
F - FLPA Base Market Value Assessment
J - FLPA Conservation Use Property

2nd Digit - REAL PROPERTY STRATA

1 - Improvements
2 - Operating Utility
3 - Lots
4 - Small Tracts
5 - Large Tracts
6 - Production/Storage/Auxiliary
9 - Other Real

2nd Digit - PERSONAL PROPERTY STRATA

A - Aircraft
B - Boats
F - Furniture/Fixtures/Machinery/Equipment
I - Inventory
P - Freeport Inventory
Z - Other Personal

(2) The chairman of the board of assessors shall certify to the tax receiver or tax commissioner a list of all properties, the assessed value of which were changed by the board from the values appearing on the previous year's digest. This list shall not include previously unreturned real and personal property. It shall also exclude divisions and consolidations of property and those changes that are mere transfers of ownership.

(a) The list shall show the final assessed values on the previous year's digest and the assessed values placed on the current year's digest and shall be consolidated by the tax receiver or tax commissioner using the same classifications as are used to classify property appearing on the digest. This list shall be submitted by the tax receiver or tax commissioner to the State Revenue Commissioner at the time and in the manner the tax
digest is submitted.

(3) The tax receiver or tax commissioner of each county shall also enter the total assessed value of motor vehicle property with the consolidation of all assessed values of taxable property on the digest.

(4) The tax receiver or tax commissioner of each county shall also enter the total assessed value of mobile home property with the consolidation of all assessed values of taxable property on the digest.

(5) The tax receiver or tax commissioner of each county shall also enter the total assessed value of timber harvested or sold during the calendar year immediately preceding the year of the digest, with the consolidation of all assessed values of taxable property on the digest.

(6) The tax receiver or tax commissioner of each county shall also enter the total assessed value of heavy duty equipment property with the consolidation of all assessed values of taxable property on the digest.

560-11-2-.56 Review of County Tax Digest by the State Revenue Commissioner.

(1) General.
(a) County boards of tax assessors are required by the State Constitution and state law to continuously maintain assessments of property that are reasonably uniform and that are based on fair market value as defined in § 48-5-2 (except as otherwise stated in § 48-5-6 and § 48-5-7(c.3)). The Department is required by law to periodically review the county digests to determine if the digests are in compliance with such laws.
(b) This Regulation imposes no additional requirements on the county boards of tax assessors. It merely sets forth the statistical and other methods that are used by the Department in making its determination. The Department does not determine when to revalue property. Each county board of tax assessors determines for itself when it believes a revaluation of property is necessary for legal compliance. Failure to revalue property shall not in and of itself be a basis for assessment of any penalty.
(c) Any digest submitted shall be reviewed utilizing information established by the State Auditor to determine whether or not the county tax digest is in accordance with the uniformity requirements of § 48-5-343.
(2) Review of County Tax Digest by the State Revenue Commissioner.
(a) County Notification: In the event a county fails to meet the standards set forth in paragraphs (c) through (k) of subparagraph (2) of this Regulation, the Commissioner shall immediately notify the county. The notification shall include the findings of the State Auditor regarding assessment bias and assessment ratio, and any additional information the Commissioner believes would be of assistance to the county board of tax assessors to establish uniform values.
(b) Property Classes: For purposes of this regulation the real and personal property of each county shall be classified into five classes of property:
1. Residential (including Residential Transitional and Historic);
2. Agricultural (including Preferential, Conservation Use, Environmentally Sensitive)
3. Commercial;
4. Industrial; (including Brownfield)
5. Utility.

(c) Average Level of Assessment: The Commissioner shall maintain uniformity among the classes of property by setting standards for the average level of assessment for each.
(d) Standard For Level of Assessment: The standard for level of assessment for all classes of property will be in compliance with the Code if the upper limit of a ninety-five percent confidence interval about the average level of assessment, as established by the State Auditor, is equal to or greater than thirty-six percent, or the lower limit of a ninety-five percent confidence interval about the average level of assessment as established by the State Auditor, is less than forty-four percent.
(e) Uniformity Within a Class of Property: The average assessment variance for each class of property shall be ensured by the coefficient of dispersion of the sample for each class, as established by the State Auditor.
(f) Standard for Uniformity: The standard for uniformity will be deemed to have been met if the resulting coefficient does not exceed fifteen percent for the residential class of property or twenty percent for the non-residential classes of property.
(g) Residential Class of Property: If the State Auditor adds non-residential observations to the residential sample to determine statistics applicable to the residential class of property, the standard of uniformity for the residential class of property shall be the same as for the non-residential classes of property.
(h) Assessment Bias: The level of assessment bias within each class of property shall be measured by the price-related differential as established by the State Auditor. It shall be deemed to be in compliance if the resulting price-related differential is in the range of 0.95 to 1.10, inclusive.
(i) Magnitude of Deficiency: If a class of property constitutes ten percent or less of the assessed value of the total digest, and does not meet the uniformity requirements the Commissioner may approve the digest if, in his judgment, the approval will not substantially violate the concept of uniformity and equalization.
(j) Overall Average Assessment: The overall average assessment ratio for the county shall be the weighted mean of the average level of assessment of the classes of property as established by the State Auditor.
(k) Deviation of Overall Average Assessment: If the overall average assessment ratio is less than thirty-six percent, the digest shall be deemed to deviate substantially from the proper assessment ratio. The Commissioner shall assess against the county governing authority additional state tax in an amount equal to the difference between the amount the state's levy of one-quarter mill would have produced if the digest had been at the proper assessment ratio, and the amount the digest actually used for collection purposes would produce.
(3) Digest Review by Department.
(a) County boards of tax assessors are required by the State Constitution and state law to continuously maintain assessments of property that are reasonably uniform and that are based on fair market value. The Department is required by law to periodically review the county digests to determine if the digests are in compliance with such laws.
(b) The Department does not determine when to revalue property. Each county board of tax assessors determines for itself when all classes of property should be valued in accordance with § 48-5-299(a). This regulation imposes no additional requirements on the county boards of tax assessors. The Department's digest review cycle is only established to validate that counties are meeting the 40% of fair market value requirement of § 48-5-7, and no particular period or schedule of revaluations

is required of the counties by the Department for approval of a county digest. Failure to revalue property shall not in and of itself be a basis for assessment of any penalty.
(c) The digest review cycle for each county commencing January 1, 2008, shall be as follows:

1) January 1, 2010 and every third January 1 thereafter for the following counties: Atkinson, Bacon, Baker, Baldwin, Barrow, Bibb, Bulloch, Carroll, Chattahoochee, Cherokee, Clarke, Clinch, Coffee, Dougherty, Emanuel, Fannin, Fayette, Franklin, Fulton, Gilmer, Glascock, Glynn, Gordon, Greene, Hall, Haralson, Irwin, Jasper, Jenkins, Johnson, Lumpkin, McIntosh, Meriwether, Murray, Muscogee, Newton, Oglethorpe, Paulding, Peach, Pickens, Pike, Putnam, Randolph, Screven, Stewart, Sumter, Tattnall, Tift, Toombs, Turner, Twiggs, Union and Wheeler.

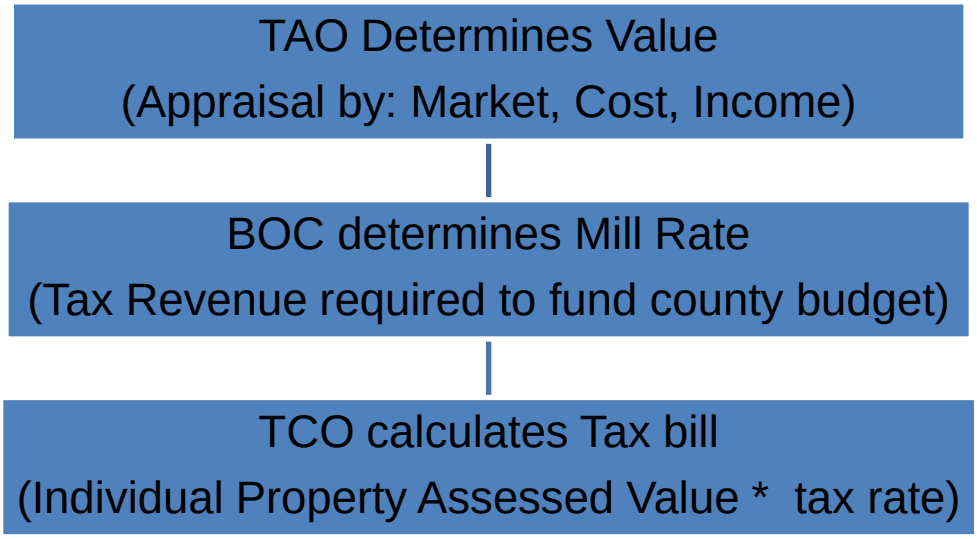
2) January 1, 2008 and every third January 1 thereafter for the following counties: Bartow, Bleckley, Brooks, Calhoun, Candler, Chatham, Chattooga, Cobb, Colquitt, Cook, Crawford, Dawson, Douglas, Early, Echols, Effingham, Forsyth, Grady, Gwinnett, Habersham, Harris, Hart, Henry, Houston, Jones, Lamar, Lanier, Laurens, Lee, Liberty, Lincoln, Long, Lowndes, Macon, Madison, Marion, McDuffie, Monroe, Montgomery, Pierce, Polk, Rockdale, Spalding, Taliaferro, Terrell, Treutlen, Upson, Ware, Warren, Wayne, Wilcox, Wilkes and Worth.

3) January 1, 2009 and every third January 1 thereafter for the following counties: Appling, Banks, Ben Hill, Berrien, Brantley, Bryan, Burke, Butts, Camden, Catoosa, Charlton, Clay, Clayton, Columbia, Coweta, Crisp, Dade, Decatur, DeKalb, Dodge, Dooly, Elbert, Evans, Floyd, Hancock, Heard, Jackson, Jeff Davis, Jefferson, Miller, Mitchell, Morgan, Oconee, Pulaski, Quitman, Rabun, Richmond, Schley, Seminole, Stephens, Talbot, Taylor, Telfair, Thomas, Towns, Troup, Walker, Walton, Washington, Webster, White, Whitfield and Wilkinson.

(4) If all three of the following circumstances exist, the Commissioner may require the county tax receiver or tax commissioner to submit the digest being used for the collection of taxes. That digest may be reviewed by the Commissioner to determine if the valuations are reasonably uniform and equalized between and within counties and to determine if any grants should be withheld or any specific penalty assessed:
(a) The county tax receiver or tax commissioner has failed to submit the digest by the due date and has exhausted any extensions of the due date granted by the Commissioner;
(b) The county governing authority has successfully petitioned the superior court under § 48-5-310 to authorize the temporary collection of taxes on the basis of a temporary digest; and
(c) The property under appeal or subject to appeal is less than the maximum allowable under § 48-5-304(a).

Authority: O.C.G.A. §§ 48-2-1, 48-2-7, 48-2-12, 48-5-1 to 48-5-3, 48-5-7, 48-5-9, 48-5-260, 48-5-263, 48-5-274, 48-5-299, 48-5-340 through 48-5-349.5.

Georgia Property Tax System Overview



In the Georgia property tax code, the property tax appraiser is tasked with making appraisals of all properties located within their jurisdiction. The target value, is a term we refer to as Fair Market Value. The appraiser will make an estimate of value, an appraisal, using one of the three approaches to value. The three approaches to value, market approach, cost approach, and income approach, are discussed later in this course.

The appraisal made by an appraiser is made in 100% terms. When the process moves beyond the tax assessor's office (TAO), the values are expressed in Georgia as an assessed value. The level of assessment in Georgia is 40% of market value. This level of assessment is defined in O.C.G.A. § 48-5-7.

§ 48-5-7. Assessment of tangible property

> (a) Except as otherwise provided in this Code section, taxable tangible property shall be assessed at 40 percent of its fair market value and shall be taxed on a levy made by each respective tax jurisdiction according to 40 percent of the property's fair market value.

The appraisers target of Fair Market Value is also defined in Georgia law for us in O.C.G.A. § 48-5-2 and § 48-5-2.1

What is a short sale? With a short sale, the bank or lender is agreeing to accept an amount to pay off the loan that is usually substantially lower than the actual pay-off amount

Most Recent Arms-length Sale

The statute above defines fair market value (FMV) for the various classifications of property that have evolved over the years of property tax administration and legislative solutions. Notable above is the ***most recent arms-length transaction*** provisions.

The APM further defines the Most Recent Arms-length Sale:

(n) Most Recent Arms-length Sale.

As referenced in OCGA 48-5-2(3), transactions must occur prior to the statutory date of valuation to become eligible for the value limitations imposed in 48-5-2(3). Furthermore, where the exchange of property is defined as an arms-length transaction, the sum of the value of the exchanged real estate property components, land and improvements, in the year following the property exchange shall not exceed the transaction's sale price adjusted for non-real estate values such as but not limited to, timber, personal property, etc. The adjustment to the value of the real estate shall remain in effect for at least the digest year following the transaction. With respect to changes in the exchanged real estate property components since the time of exchange (sale date), the value of new improvements, value of additions to existing improvements (footprint of exchanged structure has been altered), major remodeling or renovations to existing structures (footprint of exchanged structure has not been altered), and adjustments to land due to consolidation of tracts, new surveys, zoning changes, land use changes, etc. shall be added to the sales price adjusted values. In the event an exchanged real estate property structure is renovated or remodeled, the term major shall be construed such that both the property owner and BOA would reasonably conclude a major renovation/remodeling has occurred. If either party, acting reasonably, could debate that the renovation/remodeling effort was not major in nature, the renovation/remodeling effort does not qualify and shall not be added to the sales price adjusted values. Any modifications made to the exchanged real estate property after the sale date that result in a lower value of the exchanged property shall be considered in the final valuation of property for the digest.

In addition to the core target definitions found in O.C.G.A. § 48-5-2 and § 48-5-2.1, the appraiser must also consider other legal provisions that impact the final valuations of specific properties.

First, the statutory language:

Notwithstanding any other provision of this chapter to the contrary, the transaction amount of the most recent arm's length, bona fide sale in any year shall be the maximum allowable fair market value for the next taxable year.

Transactions included in the statutory language above result in a maximum allowable fair market value for the next taxable year. Transaction must occur prior to the statutory date of valuation (January 1st) in order to be considered for this provision. The maximum allowable fair market value applies to the real estate which has been exchanged in the transaction. The portion of the saleprice that is applicable to the real estate exchanged is only that portion of the saleprice that can be determined to be attributable to the real estate being appraised. Non-real estate property components should be extracted from the gross saleprice in order to determine the real-estate adjusted saleprice.

What happens when a property has sold, the sale qualifies for this 'maximum allowable fair market value provision' and the property is improved after the sale but before digest compilation? For example, a property sale occurs February 14th, 2010 for a subdivision lot for the price of $50,000 and the sale is an arms-length sale and therefore qualifies for this valuation cap for the next digest year. The next digest year is the 2011 digest. The property buyer builds a residence on the property in August 2010. Therefore, we have an arms-length saleprice of $50,000. Real estate exchanged was the land only, therefore the $50,000 is the maximum allowable value for the lot for digest year 2011. The full value of the house may be added to the total real estate appraised value estimate for this property appearing on the 2011 digest.

As the various scenarios inevitably bounce around in our minds, we can imagine examples of various types of new additions, new improvements, remodeling and renovations that may cause these types of decisions about that real estate was included in the exchange.

We have attempted to create some clarity with promulgated rules and regulations that include these general guidelines:

With respect to changes in the exchanged real estate components since the time of exchange (sale date), the value of the following are added to the saleprice
New Improvements. Additions to existing improvements included in the exchange (footprint of structure has changed). Adjustments to land due to tract consolidation, new surveys, zoning changes, land use changes, etc. Major remodeling/renovations to existing structures.

Major remodeling and renovations present a gray area which is certain to be an area of debate and opinion. In an attempt to minimize those debates, we've come up with the following statement included in the rules and regulations:

*The term **major** shall be construed such that both the property owner and the board of assessors would reasonably conclude a major remodel or renovation has occurred. If either party, acting reasonably, could debate that the remodel or renovation was not major in nature, the remodel or renovation does not qualify and shall not be added to the sales price.*

Notice of Assessment (NOA)

Upon final determination of the appropriate and legal value estimate after careful consideration and compensation for the statutory definition of fair market value, the most recent arms-length sale, and the moratorium on value increases, the tax assessor's office is required to provide a notice of assessment to the property owner. The method of notifying the property owner of the current year's estimate of value is the Notice of Assessment (NOA) form PT-306. All real property is required to receiving a notice of assessment. Personal property that has been changed from the property owner's return value is also required to receive a notice of assessment. The contents of the notice are defined in OCGA 48-5-306

48-5-306. (For effective date, see note.) Annual notice of current assessment; contents; posting notice; new assessment description

(a) Method of giving annual notice of current assessment to taxpayer.

Each county board of tax assessors may meet at any time to receive and inspect the tax returns to be laid before it by the tax receiver or tax commissioner. The board shall examine all the returns of both real and personal property of each taxpayer, and if in the opinion of the board any taxpayer has omitted from such taxpayer's returns any property that should be returned or has failed to return any of such taxpayer's property at its fair market value, the board shall correct the returns, assess and fix the fair market value to be placed on the property, make a note of such assessment and valuation, and attach the note to the returns. The board shall see that all taxable property within the county is assessed and returned at its fair market value and that fair market values as between the individual taxpayers are fairly and justly equalized so that each taxpayer shall pay as nearly as possible only such taxpayer's proportionate share of taxes. The board shall give annual notice to the taxpayer of the current assessment of taxable real property. When any corrections or changes, including valuation increases or decreases, or equalizations have been made by the board to personal property tax returns, the board shall give written notice to the taxpayer of any such changes made in such taxpayer's returns. The annual notice may be given personally by leaving the notice at the taxpayer's dwelling house, usual place of abode, or place of business with some person of suitable age and discretion residing or employed in the house, abode, or business, or by sending the notice through the United States mail as first-class mail to the taxpayer's last known address. The taxpayer may elect in writing to receive all such notices required under this Code section by electronic transmission if electronic transmission is made available by the county board of tax assessors. When notice is given by mail, the county board of tax assessors' return address shall appear in the upper left corner of the face of the mailing envelope and with the United States Postal Service endorsement 'Return Service Requested' and the words 'Official Tax Matter' clearly printed in boldface type in a location which meets United States Postal Service regulations.

(b) Contents of notice.

(1) The annual notice of current assessment required to be given by the county board of tax assessors under subsection (a) of this Code section shall be dated and shall contain the name and last known address of the taxpayer. The annual notice shall conform with the state-wide uniform assessment notice which shall be established by the commissioner by rule and regulation and shall contain:

(A) The amount of the previous assessment;
(B) The amount of the current assessment;
(C) The year for which the new assessment is applicable;

(D) A brief description of the assessed property broken down into real and personal property classifications;

(E) The fair market value of property of the taxpayer subject to taxation and the assessed value of the taxpayer's property subject to taxation after being reduced;

(F) The name, phone number, and contact information of the person in the assessors' office who is administratively responsible for the handling of the appeal and who the taxpayer may contact if the taxpayer has questions about the reasons for the assessment change or the appeals process;

(G) If available, the website address of the office of the county board of tax assessors; and

(H) A statement that all documents and records used to determine the current value are available upon request.

(2)(A) In addition to the items required under paragraph (1) of this subsection, the notice shall contain a statement of the taxpayer's right to an appeal and an estimate of the current year's taxes for all levying authorities which shall be in substantially the following form:

'The amount of your ad valorem tax bill for this year will be based on the appraised and assessed values specified in this notice. You have the right to appeal these values to the county board of tax assessors. At the time of filing your appeal you must select one of the following options:

(i) An appeal to the county board of equalization with appeal to the superior court; (ii) To arbitration with an appeal to the superior court; or

(iii) For a parcel of nonhomestead property with a fair market value in excess of ~~$750,000.00~~ $500,000.00 as shown on the taxpayer's annual notice of current assessment under this Code section, or for one or more account numbers of wireless property as defined in subparagraph (e.1)(1)(B) of Code Section 48-5-311 with an aggregate fair market value in excess of ~~$750,000.00~~ $500,000.00 as shown on the taxpayer's annual notice of current assessment under this Code section, to a hearing officer with appeal to the superior court.

If you wish to file an appeal, you must do so in writing no later than 45 days after the date of this notice. If you do not file an appeal by this date, your right to file an appeal will be lost. For further information on the proper method for filing an appeal, you may contact the county board of tax assessors which is located at: (insert address) and which may be contacted by telephone at: (insert telephone number).'

(A) The notice shall also contain the following statements in bold print:

'The estimate of your ad valorem tax bill for the current year is based on the previous or most applicable year's millage rate and the fair market value contained in this notice. The actual tax bill you receive may be more or less than this estimate. This estimate may not include all eligible exemptions.'

(3) The annual notice required under this Code section shall be mailed no later than July 1; provided, however, that the annual notice required under this Code section may be sent later than July 1 for the purpose of notifying property owners of corrections and mapping changes.

(c) Posting notice on certain conditions. In all cases where a notice is required to be given to a taxpayer under subsection (a) of this Code section, if the notice is not given to the taxpayer personally or if the notice is mailed but returned undelivered to the county board of tax assessors, then a notice shall be posted in front of the courthouse door or shall be posted on the website of the office of the county board of tax assessors for a period of 30 days. Each posted notice shall contain the name of the owner liable to taxation, if known, or, if the owner is unknown, a brief description of the property together with a statement that the assessment has been made or the return changed or altered, as the case may be, and the notice need not contain any other information. The judge of the probate court of the county shall make a certificate as to the posting of the notice. Each certificate shall be signed by the judge and shall be recorded by the county board of tax assessors in a book kept for that purpose. A certified copy of the certificate of the judge duly authenticated by the secretary of the board shall constitute prima-facie evidence of the posting of the notice as required by law.

(d) Records and information availability. Notwithstanding the provisions of Code Section 50-18-71, in the case of all public records and information of the county board of tax assessors pertaining to the appraisal and assessment of real property:

(1) The taxpayer may request, and the county board of tax assessors shall provide within ten business days, copies of such public records and information, including, but not limited to, a description of the methodology used by the board of tax assessors in setting the property's fair

market value, all documents reviewed in making the assessment, the address and parcel identification number of all real property utilized as qualified comparable properties, and all factors considered in establishing the new assessment, at a uniform copying fee not to exceed 25¢ per page;

(2) No additional charges or fees may be collected from the taxpayer for reasonable search, retrieval, or other administrative costs associated with providing such public records and information; and

(3)(A) The superior courts of this state shall have jurisdiction in law and in equity to entertain actions against the board of tax assessors to enforce compliance with the provisions of this subsection.

(B) In any action brought to enforce the provisions of this subsection in which the court determines that either party acted without substantial justification either in not complying with this subsection or in instituting the litigation, the court shall, unless it finds that special circumstances exist, assess in favor of the complaining party reasonable attorney's fees and other litigation costs reasonably incurred. Whether the position of the complaining party was substantially justified shall be determined on the basis of the record as a whole which is made in the proceeding for which fees and other expenses are sought."

(e) Description of current assessment. The notice required by this Code section shall be accompanied by a simple, nontechnical description of the basis for the current assessment.

(f) The commissioner shall promulgate such rules and regulations as may be necessary for the administration of this Code section."

Major Points of this Section –

Board of Assessors Responsibility

County Commissioners Responsibility

Tax Commissioners Responsibility

How Property Taxes are Calculated

Important Terms in This Section -

Board of Assessors
Board of Commissioners
Tax Commissioners
Millage Rate
County Budget
Fair Market Value
Assessed Value

The ad valorem property tax is probably the most widely discussed and misunderstood part of our local governmental system. The manner in which the tax is initially determined, the administration of the tax and how to register complaints effectively are areas vital to all property owners, but mysteries to many. [1]
This article will attempt to define the ad valorem tax, discuss how the amount of tax is initially determined, how millage rates are determined, how the tax bill is calculated, discuss common areas of discontent and how each of these may be addressed by the taxpayer. The article relates primarily to the arena of the tax assessor but it also touches on other areas of local government that are part of the overall administration of ad valorem property tax.

The term “ad valorem” is defined by Webster as “in proportion to the value; a phrase applied to certain duties levied on imports according to their invoiced value”.

Ad valorem is simply defined in *Real Estate Appraisal Terminology* as “according to value”.

The ad valorem property tax is then, by definition, a tax according to the value of the property owned. It is a local tax levied by local authorities to pay for the operation of

local government. It is, in fact, the largest source of revenue for funding local government and all their citizen services.

An assessor is, simply stated, a "valuator". The assessors' *function is to value property at its fair market value.* If assessors perform this task well, all taxpayers within their jurisdiction will pay their proportionate or fair share of the ad valorem tax burden.

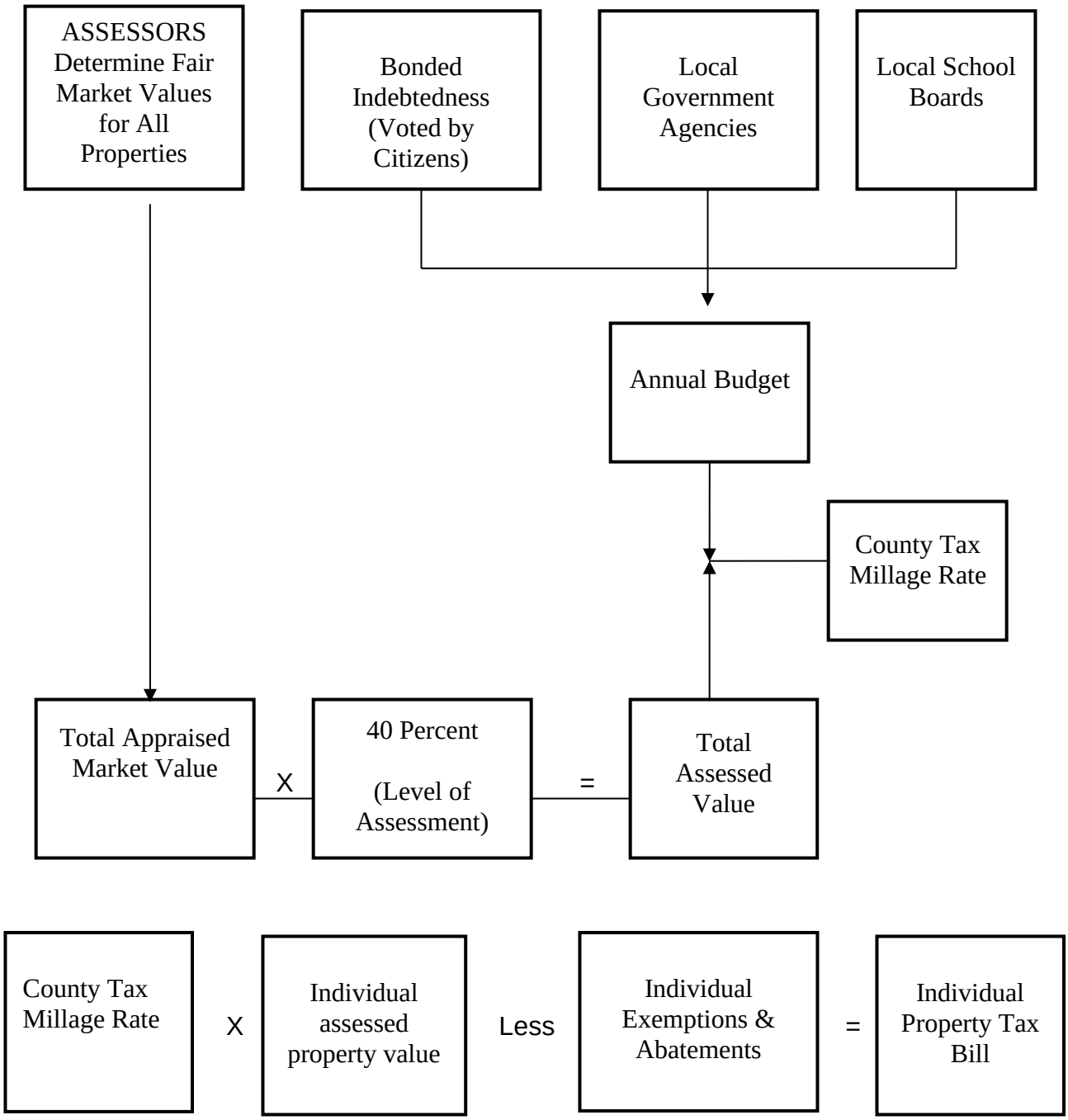
The assessor is one of the four local government officials who are involved in administering property:

***County commissioners* and school board members**:
Determine the amount of taxes to be paid each year. This is the county's budget or the amount of funds necessary to operate the county and school system for a given year. Millage rates are computed by the commissioners after adoption of the county budget and after the school board submits its budget. The net assessment is the tax digest against which a millage rate is levied.

Assessors:
Estimate the value of all property within the county. Their total valuations multiplied by 40% (the amount prescribed uniformly for all Georgia) equals the *assessed valuation.* The net assessed value reflects all taxable property (real, personal, public utility, motor vehicle, etc.) less any applicable exemptions such as homestead or aged exemptions. Thus the net assessed value is the basis against which taxes are levied by application of a millage rate.

Tax commissioner:
Compiles the tax roll or digest for each county based on the valuations derived by the assessors. The tax commissioner then multiplies each parcel of property's assessment by the millage rate to determine the amount of tax. The tax commissioner mails the tax bill to the property owner and collects the tax, assessing additional penalties for late payment.

County Government Expenditures for the Year



The millage rate, simply stated, is the tax dollars generated per thousand dollars of value.

To Calculate Millage Rate:

Annual Budget ***= Millage Rate***
Total Assessed Value

If a county has a Total Market Value of $9.8 Million and a budget of $172,000 – how would the millage rate be calculated?

$9,800,000 (Total Market Value)
x 40%
$3,920,000 (Total Assessed Value)

$172,000 = .04387
$3,920,000

Millage Rate = .04387 or 43.87 (This relates to $43.87 of taxes paid per $1,000 of value)

Three Point Rule: convert a mill rate from spoken or percentage expression to a mathematical decimal expression – move the decimal point three places to the left:

15.2 mills → 0.0152
1.25 mills → 0.00125
0.25 mills → 0.00025

Once the millage rate has been determined, a tax bill can also be calculated.

If a house has a market value of $179,000 – how would the tax bill be calculated?

$179,000 (Market Value)
x 40%
$71,600 (Assessed Value)

$71,600 (Assessed Value)
x .04387 (Millage Rate)
$3,141.09 (Tax Bill)

Calculate tax bills for the following examples:

Market Value	***Assessed 40% Value***	***Tax Bill (Mill rate = 46.59) (do not round mill rates)***
$147,000		
$155,000		
$167,000		
$172,800		
$174,000		
$124,000		
$135,500		
$107,309		

Chapter 2 – Appraisal Process

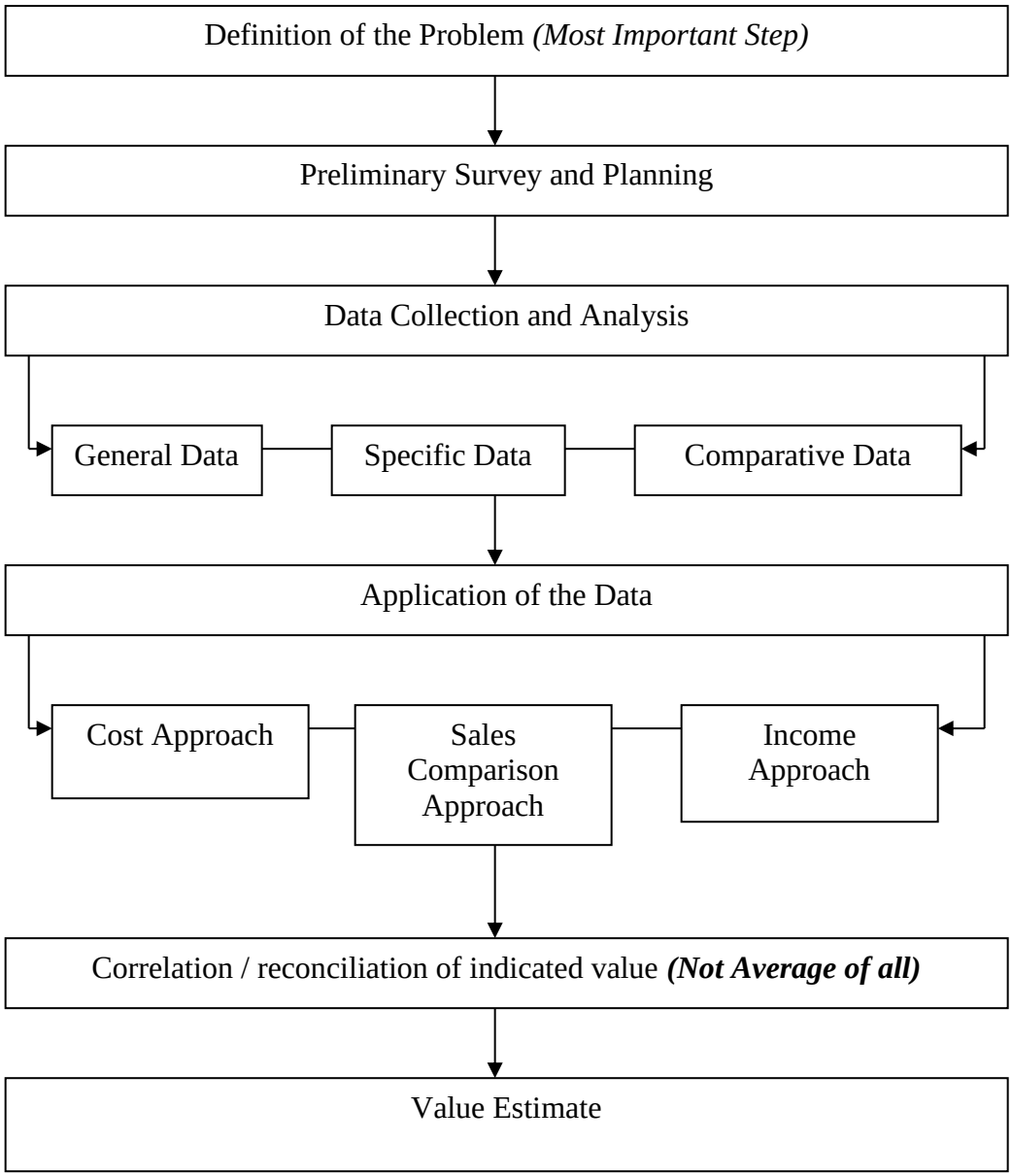


Chart courtesy of
Property Assessment Valuation – 2nd Edition - IAAO

Mass Appraisal

"Mass Appraisal is the systematic appraisal of groups of properties as of a given date using standardized procedures and statistical testing." However, before extensively viewing the processes involved in mass appraising, we should perhaps first establish what an "appraisal" consists of and how this relates to the mass appraiser.

Real Estate Appraisal Terminology by the American Institute of Real Estate Appraisers and The Society of Real Estate Appraisers defines an appraisal as:

"An estimate or opinion of value. The act or process of estimating value. The resulting opinion of value derived from the appraisal may be informal, presented in written form. Usually it is a written statement setting forth an opinion of the value of an adequately described property as of a specified date, supported by the presentation and analysis of relevant data."

This appraisal or estimate of value is, in the property tax world, referred to as "Fair Market Value." There are prescribed procedures to be described in this book for arriving at uniform and equitable assessments. Fair Market Value, as defined by O.C.G.A. § 48-5-2.

The Three Approaches

The courts throughout the United States have consistently upheld three basic approaches to estimating value. There are variations, in terms of application, within each of the three approaches but there are only *three* approaches. These are:

The Market Approach to Value (Direct Sales Comparison):
The value indicated by recent sales of comparable properties. These sales are adjusted for time, location, and physical characteristics

Most Applicable – to all properties where enough data exists

Limitations - can be difficult to find comparable properties; lack of sales of specific types of properties or in the area; Lack of knowledge concerning conditions or motives of sales; can be difficult to verify data.

The Cost Approach to Value:
The value indicated by the current cost of replacing or reproducing a property less any accrued depreciation from physical deterioration, or functional and economic obsolescence. To this depreciated replacement or reproduction cost is added the value of the land, estimated through analysis of comparable sales. The process, then, to arrive at a value via the cost approach would be:

<u>Replacement or Reproduction Cost New</u>
less Accrued Deprecation
plus, Land Value
= "Fair Market Value" (Cost approach)

Most Applicable – new single family homes and special use /purpose properties such as schools, hospitals, churches, clubs, lodges, institutions, government or municipal buildings, oil refineries, bridges, and transportation terminals.

To estimate cost of repairs for modernization, rehabilitation, or insurance purposes. To estimate the highest and best use of the site.

Limitations - Difficult to estimate accrued depreciation in older or obsolete buildings. The cost approach does not necessarily set the upper limit to value. Accrued depreciation can be over or under estimated.

The Income Approach to Value:
The value that can be supported by the net earning power of a property. This is accomplished by capitalization of the net income into a value estimate. The process of analyzing the income flow to a property and building a capitalization rate will be discussed briefly in the following chapters.

Most Applicable – with income producing properties and to estimate obsolescence and accrued depreciation in structures by residual method. Also used with residential, small commercial and small apartment buildings by gross rent multipliers.

Limitations - Requires many assumptions and estimates. Error in capitalization rate makes considerable difference in value. Not applicable to single family residence except by gross rent multipliers.

Which approach to value do I use? The appraiser should use the approach of valuation that provides the best result. The appraiser should ask themselves these questions: which approach is most appropriate for my subject property? Do I have adequate data to perform this approach of valuation? Does this approach best reflect what is actually happening in the market?

Economic Principles: There are twelve economic principles that are basic to an understanding of the appraisal process and they are as follows:

1. **Anticipation** - Value is created by the expectation of future benefits.

2. **Balance** - Balance is a term used by appraisers to indicate there is a proper mix of types and uses of property. When applied to neighborhood the principle states that maximum value is achieved when complementary land uses are in equilibrium.

3. **Change** - Real Estate is constantly being affected by changing physical, economic, governmental, and social forces. These forces therefore affect values and should be considered by the appraiser in estimating value.

4. **Competition** - Profit tends to breed competition and excess profit tends to breed ruinous competition.

5. **Conformity** - Conformity in use, in terms of homogeneity, sociological and economic tends to lead in value. Similar properties, similarly situated, lead to higher values.

6. **Consistent Use** - A property changing from one use to another (in transition) cannot be valued on the basis of one use for the land and another for improvements.

7. **Contribution** - The value of a component part of property depends on what it contributes to the total value as a whole. The sum of the whole (total value) may be more than the sum of its individual parts.

8. **Increasing and Decreasing Returns** - As agents of production are added value will increase up to a certain level after which no further benefits will be derived. If more agents of production are added value will actually decrease in relation to the investments.

9. **Progression and Regression** - Progression states association with better objects increases the value of a lesser object. Regression states that association with objects of lesser value decreases the value of better objects.

10. **Substitution** - A reasonable purchaser will pay no more for a property than the cost of acquiring an equally desirable and valuable alternate property.

11. **Supply and Demand** - Market value is greatly influenced by the existing supply of real estate and the existing demand for that type of real estate in the market place.

12. **Surplus Productivity** - The net income remaining after the cost of the agents of production (i.e. labor, management, capital and land) has been paid. Surplus productivity is income earned by the land.

Given a description of the three approaches to value and some of the concepts that go hand-in-hand in the formation of values, a still brief but more in-depth view of the approaches is appropriate.

The term “appraisal process” entails all of the procedures that are followed from the beginning to the end of an appraisal. In the ad valorem field, we have two “appraisal processes” we need to be familiar with:

(1) The “Fee” Appraisal Process and
(2) The “Mass” Appraisal Process.

“Fee” appraising involves appraising an individual property while “mass” appraising relates to the valuation of many, perhaps thousands, of properties. There are six steps that may be related to both “fee” appraising and “mass” appraising.

Steps	Fee Appraisal	Mass Appraisal
Definition of the Problem	The purpose and function of the appraisal may be for many reasons.	It is always an appraisal for ad valorem tax purposes at “Fair Market Value”
Preliminary Survey and Appraisal Plan	It may be quite extensive as a narrative appraisal or quite simple as with FHA or VA form reports; a common form by lending institutions.	It is most often by either local or state law or through established procedures.
Data Program	Detailed information about general (regional, city, neighborhood, etc.); specific site data.	Concerned with gathering data to eventually establish land and building schedules.
Application of the Three Approaches	Use all three approaches on each property; much research with narrative reports.	Used most often only using one approach with each property dealing with the mass.
Correlation/ Reconciliation	This is a very important part of a fee appraisal where the work is checked.	This probably exists only in the initial setting of land and/or building cost schedules.
The Final Estimate	The point where the appraisers decide which approach or combination of approaches (WITHOUT AVERAGING) they will use to arrive at the final value estimate.	The final “calculated” value or “fair market value” is considered an estimate
Ratio Studies	N/A	Mass appraisers have three statistical tests that must be met: Level of Assessment, Uniformity of Assessment, and Lack of Assessment Bias
Defend Appeals	N/A	Appraisers must attend and defend their appraisals for compliance with the three statistical tests.

The Mass Appraisal / Assessment Flow Charts

Property Identification:
The mass appraisal process begins with the identification of property. The initial step is mapping because properties cannot be properly identified without a mapping system

Data Collection and Analysis:
The next step in the mass appraisal process is data collection and analysis. As seen in the appraisal flow chart, we have collection and analysis for cost information, comparative market sales information, and for possible rental information. The data collection concerning "costs" is to assist in the establishment of cost manuals are ultimately used in estimating the replacement /reproduction cost of the building involved in the appraisal. This data would also be useful in setting up depreciation schedules. "Comparative sales data" is used in almost every aspect of the mass appraisal process. In the context of this section it is used in estimating the value of raw land. It is also used in estimating the value of the real estate through the use of comparable sales. Comparative sales data is the basis for the establishment of sales ratios or trends that we use in ad valorem appraisal as a tool (or criterion) for evaluating our appraisal performance. This information is also useful where computerized assessments are being used. In mass appraisal it is during and within this "collection and analysis" step that the actual land and building schedules are established. It is here that the depreciation schedules are established and checked. An example would be to subtract an estimated land price from the sale price of a recently sold property to determine if the remaining value checks with the depreciated cost arrived at with our cost manual.

Valuation:
The third step of the appraisal process is the actual valuation of property. This involves the valuation on an annual basis, of all property throughout the county. The initial step begins with the use of a "field card," or what may be referred to as a "Property Record Card." The field appraiser takes the property record card to the property and actually measures the property, identifies the various property components on the field card, grades the house based on the quality of construction, and places the house measurements in the appropriate space on the card.

The property record is also used for updating or making additions or deletions to an existing property. There is no need to revisit, re-measure, and recheck every property every year. However, the property should be physically inspected once each three years. Schedules should be updated from year to year; properties should be revisited once every three years. Once the property record card has been properly filled out and the improvements properly graded, with emphasis on the quality of construction, the property record card is brought back to the county assessor's office. Here the actual card, cost manual and land schedules are merged into a final value estimate. In some instances, the same individual who measured the house and listed it in the field is not the individual who actually calculates the value of the property. This is a perfectly legitimate procedure and in some cases the only manner in which "mass appraising" can be accomplished. Mass appraisal, by its very nature dictates some degree of "production-line appraising." The use of

uniform schedules and manuals should provide everyone with the uniformity and equality that are necessary in maintaining an equitable assessment system. The end result, therefore, would be a uniform value estimate, which we in Georgia refer to as "Fair Market Value." This value is the 100% appraisal to which the 40% assessment ratio is applied.

Notification of Assessment:

Notification of assessments is the fourth step in the appraisal process. In Georgia, "notices" are required by law to be sent annually to the taxpayer. As mentioned previously, there are statues that dictate the contents of the notice and the time period from which residents and non-residents may file appeals. As you will recall from the Assessor's Calendar, notices to taxpayers generally are sent out between April and the first of June if the county is following the schedule as shown. These dates may vary if the county has requested extensions of the allowable deadlines.

Appeal Procedures:

If the taxpayer receives his/her notice of change and disagrees with the new valuation, he/she has 45 days in which to file a written appeal. This appeal may specifically state the reasons why the taxpayer disagrees with the assessor's valuation. There is no format or Department of Revenue form for appeals. However, it is recommended that counties adopt some type of appeal form. The entire process is illustrated in the Public Revenue and discussed in detail in Course I. It follows the appeal process form the original notice through a possible appeal to the Board of Equalization (or Arbitration) and ultimately to the Superior Court.

Mass appraising, compared to fee appraisal, is a much more comprehensive process. In viewing the mass appraisal flow chart, the work of a fee appraiser, who values only a single property, begin and ends in the "data collection and analysis" and "valuation" portion of the chart. The assessor, however, must initially value each and every parcel of land within the county; map and identify property splits or transfer; collect information concerning cost, market sales and rental data; physically measure and value each parcel of property; notify the taxpayers of changes in property values; be prepared to support the value estimates from initial hearings through boards of equalization and into the judicial system. Mass appraising is extremely comprehensive. The assessors must value every possible type of property and deal with virtually every type valuation problem that might be encountered in the appraisal of real estate

The Market Approach

The objective of any appraisal is to estimate value as defined. Most commonly, especially in appraising for ad valorem purposes, the value to be estimated is market value. The components of the definition of market value indicate the factors to be sales of competitive properties, what the subject property is most likely to sell for under specified market conditions (i.e., those prevailing for an open market transaction as of the valuation date).

Simply stated, the market approach estimates a value based on recent sales of comparable properties. The comparable sales are adjusted for time, location, and physical characteristic differences to arrive at a value of the subject property.

The economic principal behind this approach is the ***Principle of Substitution***. This is defined as a reasonable purchaser will pay no more for a property than the cost of acquiring an equally desirable and valuable alternate property.

Two other economic principals involved with the Market Approach are:

Principle of Supply and Demand:
The price of a property varies directly with demand and inversely with supply.

Principle of Contribution:
The value of a component of property depends upon its contribution to the whole.

The local market (which is the BEST place) will provide the information basis for the analysis, cost manuals, and land & depreciation schedules. The local market is best because we are attempting to find value and regardless of the type of property we must, at some time or another, go to the market place for information.

The market approach should be used with any property where a bank of sales of comparable properties exists. The market approach, however, will normally be used with residential and some light commercial properties.

The basic steps involved in the Market Approach are:

- *Gathering data concerning recent sales*
- *Checking the comparability of these sales to the subject property*
- *Verifying the sales selected as comparable*
- *Adjusting the comparable properties to "resemble" the subject property*
- *Estimating the value of the subject property* ***WITHOUT AVERAGING***

The elements of market value also establish the standards of information that must be obtained about competitive properties that are used as the basis for estimating market value if the market value of the subject property. Conditions present that indicate a market value transaction are:

- *No undue pressure on either party to the transaction*
- *Informed buyers and sellers*
- *A reasonable time to test the market*
- *Payment and financing consistent with current market terms and conditions*
- *Arm's length transaction (Bona fide sales ONLY)*

The basic valuation principle in the Direct Sales Comparison is the ***Principle of Contribution*.** It is based on the identification and measuring of the effect of a characteristic (where present or absent) has on the comparison properties and on the subject property. It is the basis for adjustments.

Direct Sales Comparison analysis has been referred to historically as The Market Data or Market Comparison Approach. However, since all approaches to value estimation utilize market data and involve market comparisons, especially when Market Value is to be estimated, the term "Direct Sales Comparison" or "Paired-Sales Analysis" is preferred as more descriptive of what is actually done.

*There are four forces that affect value

("PEGS"):

Physical
Economic
Governmental
Social

Physical – *environmental forces that affect value*

- **Location** – the old –time cliché of the real estate industry (location, location, location); essentially duplicate houses can have vastly different prices if located in different neighborhoods
- **Transportation** – interstate highway system (long distances can be traveled in a relatively short period of time), public transportation (rapid rail systems augmented by bus networks); industrial facilities being located along rail lines or interstate highways
- **Topography** – important to desirability and development of land (rolling, wooded – highly desirable for residential usage for aesthetic purposes but maybe not so desirable for commercial or industrial due to the cost to produce a level site; as relates to farmland – gently rolling level maybe suited for cropland, whereas more severely rolling contours may limit the agriculture use to pasture
- **Climate/weather** – due to Florida's tropic like weather, coupled with abundance of coastline, it has become a vacation and retirement center;

central Florida known a major tourist attraction for theme parks due to few days during the year the climate is intolerable

Economic – *Land has value because of its productivity i.e. used to grow crops, support single-family residential subdivisions or support high-rise office buildings and the consumer's ability to purchase and use real estate*

- **Income levels** – adequate purchasing power
- **Employment** – the stability of employment and employment diversity with no major dependence on a single industry (economic base – government, tourism, military)
- **Housing construction costs** – financing costs, land costs, indirect costs (building permit fees, sewer tap fees, rezoning costs) , governmental regulations can restrict growth and development
- **Credit availability** – credit is plentiful, prices often rise; credit is scarce, prices often decline
- **Interest rates** – affect housing affordability; a lack of affordability drastically impacts new housing construction and resale activity

Governmental – *National, state or local changes in policy can have implications on value*

- Taxes – high city and/or state income taxes can mean less disposable income for home purchases (good for apartment owners but not homebuilders)
    - Quality of schools
    - Quality of services

Social – *Trends in society or culture*

- Population trends (supply and demand)
- Family composition
- Aging of the population
- Environmental consciousness
- Security consciousness

Market Behavior

Informed Purchaser:
Market information is analyzed through the eyes of typically informed purchasers who would act in their own self-interest on the basis of the information.

Local Market:
The local market is the most reliable method for establishing cost manuals, land, and depreciation schedules. Once the local market is identified, its characteristics are evaluated through area and neighborhood analysis.

Current Market:
Market value is estimated as of the date of the appraisal. The conditions of the local market influence the value of the subject property. Comparable sales data should be as current as possible.

Highest & Best Use:
*The use that will generate the greatest **net** return to the property over a reasonable amount of time.*

- Fee appraisers always value land as if it will be put to its highest and best use.

- Mass Appraisers may also *consider* highest and best use, but they are required to consider current use.

Georgia statutes require the consideration of existing or current use when estimating "fair market value".

The Process:

The basis of the Market Approach is to discover what competitive properties have sold for recently on the local market, and through an adjustment process, develop indications (or new values) of what they would have sold for if they had all of the basic and significant physical and economic characteristics of the subject property.

For the comparison adjustment to be made correctly, detailed information about each property must be obtained. This requires a systematic data program. The appropriate characteristics are listed from the subject property, and the same characteristics are listed for each comparable. Not every property that has recently sold is a comparable sale. First, it must be a bona fide sale!

Not every property that has recently sold on the local market is a comparable sale. Both physical characteristics and conditions and terms of sale must be investigated. This is where judgment on the part of the appraiser is required. The basic test, in the present market, is whether the property selected as a comparable sale is in fact effectively competitive with the subject property in the mind of the typically informed purchaser.

The subject property is the standard in which all comparisons are made. Adjustments are only made to comparable properties and never to the subject

property. **Finally, application of sound judgment is required to produce reasonable results.**

The following is the basic information that could be gathered for each comparable sales transaction.

Sales Comparison:

Data on sales comparisons must be obtained to indicate the basic characteristics investigated. This is where judgment on the part of the appraiser is required. In the present market the basic test is whether the property selected as a comparable sale is effectively competitive with the subject property in the mind of the typically informed purchaser.

- **Transaction Data** - Information should also be verified with the buyer or seller, or an authorized agent.
- **Date of Sale** - The trends and changes in real estate market activity, mortgage availability, employment and income levels should be accounted for if there is a difference in market conditions. The point is to identify what the comparable sales property would have sold for if it were sold under current market conditions. Time adjustments are completed first.
- **Sales Price**
- **Terms of Financing**
- **Motivating Forces or Conditions of Sale** – *must be a bona fide, arm's length transfer*
- **Volume and Page of Deed** *(in Clerk of Court's Office)*
- **Type of Deed**
- **Legal Description of Property**
- **Names of Grantor (Seller) and Grantee (Buyer)**
- **Amount of Consideration**
- **Items of Personalty Included**
- **Property Data** – *based on appropriate property inspection and analysis*
- **Location** – *The neighborhood environment and the zoning or deed restrictions on the properties are market influences that determine whether properties are competitive and comparable.*
- **Age and condition of the house**
- **Type and size of the house**
- **Price range of the house**
- **Amenities and facilities in the area**
- **Zoning and other use restrictions in the area**
- **Income range of residents**
- **Social and economic compatibility of residents**
- **Taxes and assessments**
- **Type and style of architecture**
- **Size, area, number of rooms**
- **Types of rooms and layout**
- **Age and condition**
- **Number of baths and bedrooms**
- **Special features**: *fireplaces, built-ins, cabinetry, air conditioning, pool, etc.*
- **Accessory building:** *type, size, age, and condition*
- **Site:** *size, topography, soil type*
- **Zoning and deed restrictions**

Verification:

All transaction data (especially sales price, date, terms of sale and financing, and motivating forces) should be verified with the buyer or the seller, or an authorized agent or either, if possible, since recorded data provides indications only. Because heavy reliance is to be placed on the facts of the transaction, the appraiser should try to verify them personally with a participant in the transaction.

If the motivating force underlying the transaction is not verified with at least one of the major participants, distorting or misinterpretations by the appraiser can result.

In addition to being verified, transaction data should be as accurate and complete as possible. The appraiser must be aware of the terms of financing and to the conditions of sale (motivating forces) in selecting and analyzing his comparable sales properties. The physical and locational characteristics should be carefully and accurately identified and analyzed. This is based on appropriate property inspection and analysis

- Sales involving government agencies and public utilities
- Sales involving charitable, religious, or educational institutions
- Sales in which a financial institution is the buyer or seller
- Sales between relatives or corporate affiliates
- Sales between adjacent property owners
- Sales of convenience
- Sales settling an estate
- Sales of doubtful title
- Sales involving trades
- Sales conveying partial interests of land contracts
- Sales conveying additional interests
- Sales involving incomplete or un-built community property
- Sales involving multi-county property
- Sales forced by legal difficulties
- Sales using non-conventional financing
- Sales in which the consideration is not greater than $1,000

Quantity of Data:

Using the Market Approach, there is no set number of comparable sales that must be used by the appraiser. However, it is generally agreed, the more data, better. **Typically three to five comparable properties are considered sufficient to complete an appropriate representation of the market.**

The appraiser can use information that has been complied and verified by others. However, caution must be used – the appraiser must have confidence in the data source and methods used. The appraiser must personally verify the comparable sales data used in the appraisal report.

Data Sources: *There are many sources for comparable sales data. They are as follows:*

Public Records:

- *Deed Recordings* – indicate transfers of properties. Contains information on legal description, date of transfer, grantor, grantee, encumbrances, deed restrictions, and indicated consideration.

- *Mortgage Recordings* – includes information such as age, condition, size, rooms, construction details, site size, and outbuildings.

- *Transfer Tax Records* – In areas where real estate transfer taxes are levied, this can be a good guide to transactions and prices.

- *Zoning Records and Maps* – provides information concerning the use of property for classification. Can help to identify competitive areas from which comparable sales data might be obtained.

Private Sources:

- *Appraiser's Files* – **A good source of information – but only if current and accurate.**

- *FHA & VA Offices* – Local offices may provide data on recent transactions. Usually published by local Appraisal Institute Chapter or local Boards of Realtors.

- *Multiple Listing Services (MLS)* – Listing and transactions are reported in detail. Can be accessed online – use a web search to locate one for your community.

- *Subscription Services* – Information on deed recordings and other transactions are often obtained through local private subscription services.

- *Real Estate Brokers / Other Appraisers*

- *Builders* – information on new construction

- *Banks and Other Lenders* – confirmation of sales prices and loan terms may be available

- *Newspaper Stories and Advertisements*

- *Personal Tours of neighborhoods*

- *Data Banks of regional information*

- *Industry Publications*

Listing prices indicate the upper level of the range of prices or values while offers generally indicate the lower level of the range.

Comparisons:

In comparison analysis, the properties are reduced to a common denominator. The adjustment is completed on the comparison property. The process represents actual market behavior.

Direct Sales Comparison analysis is a *comparison process* in which the comparable sales property is compared with and to the subject property. The subject property is the standard in terms of all comparisons are made. Thus, the identification of elements of comparison focuses on the differences between the comparable sales properties and the subject property with respect to the significant property characteristics to reflect the subject's condition and physical characteristics

The major categories in which elements of comparison fall (and which adjustments for differences are made) are **Time** (Date of Sale), **Location**, **Condition of Sale**, **Terms of Financing**, and **Physical Property Characteristics**.

Conditions of Sales:

- Knowledge of market conditions by buyers and sellers
- Length of time on the market before sale
- Buyer and Seller Motivation – no undue pressure on either
- Bona fide – arm's length transactions. *If the sale is not a bona fide sale, it should be removed from the analysis.*

Terms of Financing:

Financing may account for differences in residential sales prices in local markets. The influence is greater when analyzing commercial and vacant land sales. Terms include:

- Down payment requirements
- Interest Rates
- Loan Maturation
- Amortization requirements

Physical Property Characteristics:

This takes into account both variables and attributes. Elements of physical comparison include:

- <u>Style and Layout</u> – *conformity is important – this determines quality/class*
- <u>Size</u> – *includes area and/or volume*
- <u>Rooms</u> – *includes number of types of rooms*
- <u>Age</u> – *Actual age is used, if remodeled or renovated, effective age is estimated*
- <u>Condition</u> – *indication of effective age, remaining economic life, and any needed repairs or maintenance*
- <u>Functional Adequacy</u> – *related to charges for functional obsolescence and is based on the description of the improvements*
- <u>Site and Site Improvements</u> – *includes site, size, topography, drainage, etc, as well as site improvements*

- Structural Type and Quality – *from field inspection and improvements analysis; also used to determine quality/class*
- Accessory Buildings – *type, condition, function, size, and age*
- Special Features – *includes built-ins, electrical plumbing, heating and cooling systems, fireplaces, pools, and anything else that is not standard in the quality/class of property.*

Total Property Comparison:
A direct comparison can be completed when comparable sales properties are deemed to be competitive with the subject property. As an example, seller may believe that a house "just like his" sold recently for $72,500, except that it did not have central air conditioning. Since central air could cost $4,000, his property "should be worth" $76,500 without taking into consideration other differences.

Let's assume a property contains 6 rooms, 3 bedrooms, 1 ½ baths, a one-car garage, and an 80x120 lot, it is well maintained, and essentially the same as when it was built. It is in a large subdivision with a large number of houses that are similar. The current market is active and several sales have recently occurred. The sales prices are listed below:

$70,300	$71,720	$70,700	$71,500
$72,300	$71,500	$72,000	

By inspection, the range is $70,300 to $72,300. The analysis does not determine why the prices were different, if differences in the transactions caused them, or how much impact on the subject property these differences have.

Each comparable sale must be described in sufficient detail so that the appraiser and the reviewer of the appraisal report understand the major characteristics of the property. The appraiser then adjusts the sales price of each comparable sale property for differences between it and the subject property. The final result is an indication of adjusted sales price for the comparable property. It is the appraiser's estimate of what the comparable sales property would have sold for if it had possessed all of the significant characteristics of the subject property. *This is the objective of the adjustment process.*

The Adjustment Process:

The appraiser should consider the *differences* between the comparable property and the subject property for each significant and pertinent characteristic but for these characteristics *only*. Too detailed a listing of adjustment factors and adjustments can convey an impression of accuracy and precision that is simply not possible in a judgment between the subject property and the comparable property and should be defended and justified from the evidence in the market. It is simply not a matter of the appraiser's opinion

The underlying principle in terms of which adjustments are made or measured is the Principle of Contribution. The appraiser must always answer the question "What *difference* does a varying amount of the factor (if it is variable) make in the probable sales price or value?"

*Subject Property is the standard.

The objective of appraisal analysis is to estimate the value (In Georgia "Fair Market Value") of the subject property. Guides to that value are provided by comparable properties that have recently sold on the local market. The adjustment process is undertaken in order to account for *differences* between properties. The sales prices of the comparable sales property would most probably have sold if it had processed all of the characteristics of the subject property. Therefore, ***all adjustments are made to the comparable properties*** to reflect the characteristics of the subject property. This means that is the subject property has a one-car garage, and the comparable property in the question has a two-car garage, the comparable property is superior to the subject property in this respect. A downward adjustment in the sales price of the comparable property is required (based on market evidence of the *difference* that an extra stall in the garage would make), to reach an indication of what the comparable property would have sold for if it had a one-car garage, rather than a two-car garage.

Similarly, if the subject property has two full baths, while the comparable property has one full bath and one two-fixture bath, the sales price of the comparable property should be adjusted upward by an amount reflecting the difference of this lack on the part of the comparable property and the difference it would make in its sale price. The resulting adjustment provides an indication of what the comparable property would have sold for if it had two full baths instead of one full bath and a two-fixture bath.

In the adjustment process, the subject property is therefore taken as "one hundred percent". The comparable properties are treated as deviations from this norm.

Market Justification Required:

In estimating the amount of adjustment to make for the presence or lack of any characteristic, or of varying quantities of any characteristic, in the comparable sale property as compared with the subject property, the only valid measure is evidence of the market reactions of buyers to such a difference. These are reflected in varying sales prices of otherwise identical properties with and without the factor in question, if evidence is available.

The principle is that of the contribution made by the factor or element being considered.

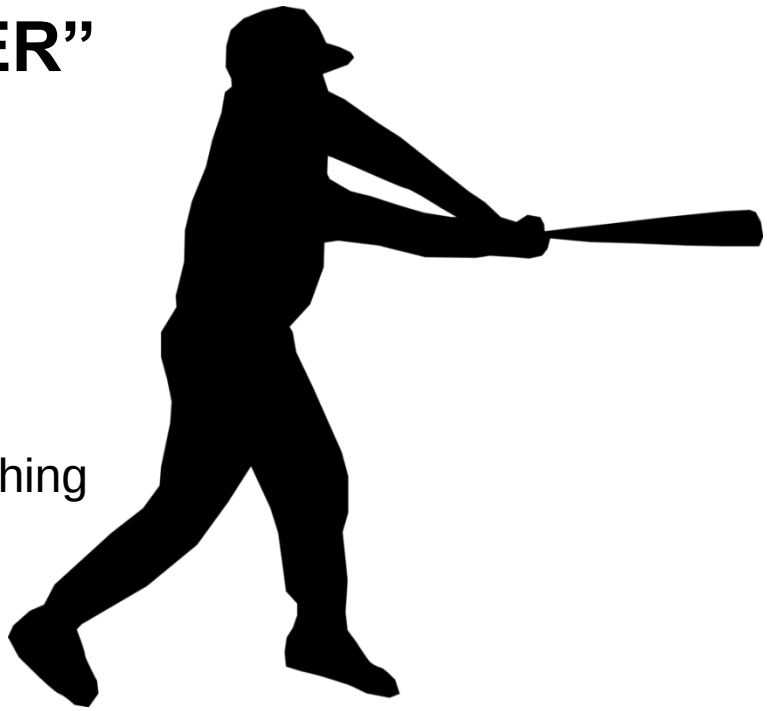
Cost is not the appropriate measure of the difference. Cost to install may or may not equal the sales price differential reflected in market behavior of buyers. Cost is not value in some circumstances when there is an absence of sufficient sales information, for example.

Every adjustment should be justified by market evidence. Examination of market behavior of typical buyers may reveal that a particular deficiency or superiority is not reflected in a sales price differential.

Remember - The Seller has the right to:

Sell, Lease or Rent, Use, Give Away, Enter or Leave, and Refuse to do anything! (Bundle of Rights)

"SLUGER"



Sell
Lease (or Rent)
Use
Giveaway
Enter (or Leave)
Refuse to do anything

Review – Day 1

1. What are the seven criteria, by statute, the appraiser must apply when determining fair market value of real property?

2. What are the three approaches to value?

3. What economic principle is the basis for the adjustment process in the market approach to value?

4. What is the first step in the appraisal process?

5. When is the Market Approach used?

6. Where is the best source of information?

7. What are the four forces that affect value?

8. What is a bona fide sale? Explain.

9. What is the seller's Bundle of Rights?

10. Which approach must be considered when determining value?

Hints for adjustments:

CIA = if **C**omp is **I**nferior, **A**dd

CBS = if **C**omp is **B**etter, **S**ubtract

To Value the subject property

Use the Comp with the Least *Number* of Adjustments!!

Warm Up Exercise:

The subject property has one bath, an attached double garage, and no fireplace. A search reveals four recent sales in the neighborhood that are similar in age, construction, and amenities that can be compared to the subject house.

- Sale #1 Two bath house with an attached double garage. It has a fireplace. It sold two years ago for $200,000.

- Sale #2 One bath house with an attached single car garage, no fireplace. It recently sold for $210,000.

- Sale #3 Two bath house with an attached double garage and fireplace. It sold two years ago for $196,500.

- Sale #4 Two bath house with an attached single car garage and fireplace. It recently sold for $216,000.

For this analysis, assume the following values:

- Fireplace $4,000
- Single Car Garage $2,500
- Double Garage $3,500
- Extra Bath $2,400

Sales indicate that prices have increased four percent per year for the last five years.

Warm Up Exercise:

	Subject	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price					
Time Adjustment					
Garage					
Bath					
Fireplace					
Total Adjustments					
Adjusted Sales Price					

Case Problem #1

Comparative Sales with Lump Sum Adjustments

The subject property has three bedrooms, one bath, an attached double garage, and no fireplace. Heating is Forced Air Heat. A search reveals five recent sales in the neighborhood that are similar in age, construction, and amenities that can be compared to the subject house.

- Sale #1 Four bedrooms, two bath house with an attached double garage. It has a large fireplace and Radiant Heating system. It sold two years ago for $78,250.

- Sale #2 Three bedrooms, one bath house with an attached single car garage, no fireplace. Heating is Forced Air Heat. It recently sold for $75,900.

- Sale #3 Three bedrooms, two bath house with an attached double garage and standard fireplace. It has Radiant Heating system. It sold two years ago for $76,750.

- Sale #4 Three bedrooms, two bath house with an attached single car garage and large fireplace. It has a Radiant Heating system. It recently sold for $80,100.

- Sale #5 Four bedrooms, two bath house with an attached double garage and large fireplace. It has a Radiant Heating system. It sold one year ago for $79,900.

For this analysis, assume the following values:

Standard Fireplace	$1,000	Large Fireplace	$1,400
Single Car Garage	$1,500	Double Garage	$2,600
Forced Air Heat	$1,800	Radiant Heating	$1,250
Fourth Bedroom	$2,000	Extra Bath	$1,400

Sales indicate that prices have increased five percent per year for the last five years.

Case Problem 1

	Subject	Sale #1	Sale #2	Sale #3	Sale #4	Sale #5
Sale Price						
Time Adjustment						
Heating						
Garage						
Bath						
Bedroom						
Fireplace						
Total Adjustments						
Adjusted Sales Price						

Estimated Value _____

Case Problem #2

Comparative Sales with Lump Sum Adjustments

Subject is a one-story brick veneer, single family residence located on a 100'x300' lot. The house consists of six rooms, two baths, and a one car garage. The house has a standard water heater and built-in kitchen (including oven, range top, and exhaust fan). The location is good and the overall property condition is excellent.

- Sale #1 One story wood siding single family residence located on a 75'x300' lot with six rooms, one bath and no garage. Equipped with a standard water heater and exhaust fan. Location is fair with overall property condition good. Property sold one month ago for $71,000.

- Sale #2 One story wood siding single family residence with a two car garage, located on a 125'x300' lot with six rooms, one bath, and a full basement. Equipped with a standard water heater and built-in kitchen (including oven, range top, and exhaust fan). There is a brick fireplace in the den. The location is good with overall property condition excellent. Property sold one month ago for $77,700.

- Sale #3 One story brick veneer single family residence located on 100'x300' lot with seven rooms and two baths. Equipped with a standard water heater and exhaust fan. The location and overall property condition are both excellent. Property sold two months ago for $73,500.

- Sale #4 One story brick veneer single family residence located on a 100'x300' lot with six rooms, two baths, and one car garage. Equipped with a standard water heater, built-in kitchen (including oven, range top, and exhaust fan). The location is good with overall property condition excellent. Property sold three months ago from father to son for $73,500.

For this analysis, assume the following values:

- Time adjustments 5% per year (no adjustments for three months or less)
- Lot Size $250 for each 25-foot increment of frontage.
- Location $800 for each level of classification ***(fair, good, excellent)***
- Wall Type Brick veneer is $1,500 better than wood siding
- Conditions $600 for each level classifications ***(good, excellent)***
- Equipment Heater and fan are standard; Oven and range add $350
- Basement $1,400 for full basement
- Rooms $800 per room
- Bath $1,200 per bath
- Fireplace $1,100 per fireplace
- Garage 1-car garage adds $1,500; 2-car garage adds $2,400

Case Problem 2

	Subject	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price					
Time					
Lot Size					
Location					
Wall Type					
Rooms					
Condition					
Equipment					
Basement					
Bath					
Fireplace					
Garage					
Total Adjustments					
Adjusted Sales Price					

Estimated Value _____

Case Problem #3

Subject is a single family brick residence, 30 years old, located in a neighborhood having favorable amenities. It has four rooms and a bath on the first floor, four rooms and 2 baths on the second, and one room with one bath on the third floor. Condition is typical of its age and has the original piping and kitchen.
You have found five comparable sales of nearby properties and have rated them as the following:

	Sale #1	Sale #2	Sale #3	Sale #4	Sale #5
Construction	Brick	Frame	Frame	Frame	Brick
1st floor room	4	4	3	4	4
1st floor bath	1	1	1	1	0
2nd floor room	4	4	4	4	3
2nd floor bath	1	2	2	1	2
3rd floor room & bath	Yes	Yes	No	Yes	No
Remodeled Kitchen	Yes	No	Yes	No	No
Replacement of Piping	No	No	Yes	Yes	Yes
Date of Sale	Current	1 Year	3 Years	1 Year	1 Year
Condition	Superior	Typical	Typical	Inferior	Typical
Lot	Equal	Equal	Equal	Inferior	Equal

The current market is five percent higher than last year and ten percent higher than three years ago. Brick construction sells for $2,000 more than frame.

- Sale 1 is $1,200 superior in overall condition.
- Sale 4 is $1,200 inferior in overall condition and $1,000 inferior as to the lot.
- The lack of a fourth room on either floor is rates as a $2,000 differential.
- The lack of a third-floor room and bath is rated as a $2,500 differential.
- An extra bath is rated as a $1,500 differential.
- A remodeled kitchen is rated as a $2,500 differential and replacement of the piping is rated as a $1,600 differential.

Case Problem 3
Problem: Prepare an adjustment chart and estimate the value range for the subject property.

	Subject	Sale #1	Sale #2	Sale #3	Sale #4	Sale #5
Sale Price		$80,000	$74,500	$72,000	$72,500	$71,700
Time						
Construction						
Condition						
Lot						
Rooms – 1st floor						
Rooms – 2nd floor						
Room & Bath 3rd floor						
Bath 1st floor						
Bath 2nd floor						
Kitchen						
Piping						
Total Adjustments						
Adjusted Sales Price						

Comparative Value Range is _____

A Range is a listing of the lowest and highest values.

Case Problem #4

You are asked to appraise Lot 40 in the Walnut Ridge Subdivision, a premium subdivision located near the University of Georgia. The lot has good access, a campus view, typical amenities, and is adjacent to a greenbelt. The lot is typical in size.

The analysis of land sales in the area indicate that lots which have a view of the campus command a $10,000 premium. In addition, lots adjacent to the greenbelt are worth $6,000 more than lots which are not. The lots are sold on a per site basis. High demand for lots in this area resulted in a 1% per month increase in value over the last three years.

All sales involved typical market conditions and are listed below.

	Sale #1	**Sale #2**	**Sale #3**	**Sale #4**
Location	Walnut Ridge	Walnut Ridge	Walnut Ridge	Walnut Ridge
Size	Typical	Typical	Typical	Typical
Amenities	Typical	Typical	Typical	Typical
Greenbelt	No	Yes	No	Yes
View	Typical	Campus	Campus	Typical
Sale Date	2 months ago	6 months ago	3 months ago	Current
Sale Price	$77,000	$86,000	$78,000	$80,000

Case Problem 4 Worksheet

	Subject	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price					
Time Adjustment					
Time Adjusted Sale Price					
Size					
Amenities					
Greenbelt					
View					
Net Adjustment					
Adjusted Sale Price					

Value of Lot 40_____

When you have a Time Adjusted Sale Price, the time adjustment is not included in your 'count' of the number of adjustments when selecting the comp with the fewest number of adjustments. Don't count the time adjustment in your final selection of a comp.

For case problem 5 : *Making adjustments by percentages instead of lump sum amounts.*

Steps are very similar

Remember, less math = smaller chance for calculation errors

CIA / CBS still apply

- **First Rule** – make ***time*** adjustment first to create new base (time adjusted sale)
- If comp has 3 total adjustments
  - + 10%
  - + 20 %
  - - 10%
- Total net adjustment = **+ 20%** (+10+20-10)

Case Problem #5

Land Valuation / Percentage Based Adjustments

You are appraising a residential lot in an average neighborhood. The lot is level and has sewer lines, a water hookup, and on a paved street. The lot is rectangular but is narrower and shallower than typical lots in the neighborhood. You have found four comparable sales of vacant lots in the subject neighborhood and have set the adjustments as follows:

	Sale #1	**Sale #2**	**Sale #3**	**Sale #4**
Sales Price	$6,400	$7,645	$7,365	$9,600
Date of Sale	28months ago	27months ago	11months ago	24months ago
Location	Equal	Equal	Equal	Superior (20%)
Frontage	Superior (5%)	Superior (10%)	Superior (5%)	Superior (5%)
Depth	Superior (15%)	Superior (20%)	Superior (15%)	Superior (5%)
Shape	Inferior (15%)	Inferior (5%)	Inferior (5%)	Equal
Topography	Inferior (10%)	Inferior (5%)	Inferior (10%)	Equal
Sewer, Water, Street	Equal	Equal	Equal	Equal

In this market, the value of land has increased one percent for every month in the past four years. ***Round values to the nearest dollar.***

Estimate the value for the subject site.

Remember – Less Math equals a smaller chance for error!

Case Problem 5

Round to Nearest Dollar

	Subject	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price					
Time Adjustment %					
Time Adjustment $					
Time Adjusted Sales Price					
	Other Adjustments (Percentages) (applied to time adjusted sale price)				
Location					
Frontage					
Depth					
Shape					
Topography					
Sewer, Water, Street					
Net Adjustment Percentage					
Net Adjustment Dollar Amount					
Adjusted Value					

Estimated Value _____

Homework Problem #1

You are appraising a single-family residence. It is of brick construction with a single car garage and fireplace. You have found four comparable properties in the same subdivision built at the same time and noted differences listed below:

- **Comparable #1** – sold 1 year ago for $68,750. It is of frame construction, has a double garage and a fireplace.

- **Comparable #2** – sold 6 months ago for $68,000. It is of brick construction, has a double garage and a fireplace.

- **Comparable #3** – sold 18 months ago for $59,000. It is of brick construction, has no garage, and no fireplace.

- **Comparable #4** – sold recently to an insurance agency in which the seller is part owner for $65,000. It is of frame construction, has a single car garage and a fireplace.

Notes:

1. Brick construction is $2,000 better than frame.
2. A fireplace is worth $800.
3. A single car garage is worth $1,000, and a double car garage is worth $1,600.
4. Values in the area have increased 10% per year over the past two years.

What is your estimate of the value of the subject property?

A. $69,650
B. $67,000
C. $70,800
D. $70,150

Homework Problem #1

	Subject	Sale 1	Sale 2	Sale 3	Sale 4
Sale Price					
Time					
Construction					
Garage					
Fireplace					
Final Adj Sale Price					

Homework Problem #2

You must appraise the land value of ninety acres of grazing land, located north of Macon. The land is flat, making it easy to maintain. The following market information pertains to the area:

Land west of the city is 10% less valuable than land north of the city. Land south of the city is 5% less valuable than land north because of the roadways. Flat land sells for 5% more than hilly land. Demand for land has increased at a rate of 8% per year over the past three years.

Location	South	North	West	South
Topography	Hilly	Flat	Hilly	Flat
Sale Date	3 years	1 year	6 months	1 year
Sale Price	$150,000	$165,000	$160,000	$155,000

Sale Price				
Time %				
Time $$				
Adj Sale price				
Location				
Topography				
Net Adj %				
Net Adj $$				
Final Adj Sale Price				

What is the value of the ninety acres?

A. $174,330
B. $178,200
C. $181,260
D. $184,140

Valuation of Land

The valuation of land is most applicably handled with the market approach to value. The scope of land valuation in this course is very basic. Detailed and extensive analysis and methodologies are covered in Couse IVA (Urban Land) and Course IVB (Rural Land).

Types of Land

This course will discuss land in terms of rural land and urban land. Rural land is defined by the APM as “any land that normally lies outside corporate limits, planned subdivisions, commercial sites, and industrial sites”. So from a practical standpoint, urban land would might be defined as any land the normally lies inside corporate limits, planned subdivisions, commercials and industrial sites.

Rural land is further defined in the APM as ‘Large acreage tract’ and ‘Small acreage tract’. Small acreage tracts are more influence by market factors of accessibility and desirability. Large acreage tracts are more influenced by the productivity of the soil and suitability for timber growth.

Rural Land – Small acreage tracts

Rural land small acre tracts, as stated above are typically valued using accessibility and desirability market factors. Typically these factors are represented by a numeric character to indicate a tract’s *accessibility* and by an alpha character to indicate a tract’s *desirability*. A sample table follows:

	1					2				
Acres	**A**	**B**	**C**	**D**	**E**	**A**	**B**	**C**	**D**	**E**
1	3375	3150	2925	2700	2475	2625	2438	2250	2100	1988
2	3292	3073	2853	2633	2414	2564	2379	2195	2049	1938
3	2996	2796	2596	2395	2195	2335	2166	1998	1865	1762
4	2919	2724	2528	2333	2138	2278	2111	1947	1817	1716
5	2842	2652	2461	2271	2080	2220	2088	1896	1770	1670
6	2765	2579	2394	2209	2023	2163	2002	1845	1722	1624
7	2688	2507	2327	2146	1966	2105	1947	1793	1674	1578
8	2611	2436	2260	2084	1908	2048	1896	1742	1627	1532
9	2534	2363	2192	2022	1850	1990	1838	1691	1579	1485
10	2457	2291	2125	1959	1793	1933	1784	1640	1532	1439

In reality, a complete accessibility-desirability table might contain up to 9 separate categories of accessibility. Likewise the acreage increments will far exceed 10 acres, this table is only a sample for example purposes.

To value a small parcel using this table, multiply the price per acre listed in this table for the tract's accessibility-desirability indicators times the number of acres

For example: 5 acre tract, Acc/Des = 1D
1D price per acre at the 5 acre increment = 2,271
Tract Value = 5 acres * 2,271 $/ac = 11,355

Value the following tracts based on the information given:

Acreage	Acc/Des	Price Per acre	Value
1	1A		
3	2E		
7	1C		
9	2A		
10	1D		
2	2B		

Equally valid are acc/des schedules that work from a base value and a factorial adjustment from the base for each acc/des combination. For example, take the following table:

	1				
Acres	**A**	**B**	**C**	**D**	**E**
1	3.3750	3.1500	2.9250	2.7000	2.4750
2	3.2920	3.0730	2.8530	2.6330	2.4140
3	2.9960	2.7960	2.5960	2.3950	2.1950
4	2.9190	2.7240	2.5280	2.3330	2.1380
5	2.8420	2.6520	2.4610	2.2710	2.0800
6	2.7650	2.5790	2.3940	2.2090	2.0230
7	2.6880	2.5070	2.3270	2.1460	1.9660
8	2.6110	2.4360	2.2600	2.0840	1.9080
9	2.5340	2.3630	2.1920	2.0220	1.8500
10	2.4570	2.2910	2.1250	1.9590	1.7930

Given a base value of $1,000, a 4 acre tract with an acc/des assignment of 1C would have a value calculation of:

4 * $1,000 (base value) * 2.5280 (acc/des multiplier) = 10,112

Using the information given below, calculate the value of these small parcels

Acres	Base Value	Acc/Des	Multiplier	Value
2	1000	1C		
5	1500	1E		
8	2200	1B		
10	1200	1A		
4	1150	1D		

Rural Land – Large acreage tracts

Rural land large acre tracts are typically valued based on the soils productivity. Additionally, size, location, and absorption adjustments are often applicable to this type tract.

A sample large acre tract schedule follows:

OPEN LAND (Cultivated and Pasture)

Code	Value/Acre	Definition	
I	1700	Best	Normally used for cultivations, well drained, level to gently sloping.
II	1575	Good	Used for cultivation or pasture, gently sloping, well drained productive soils. May include area such as hedgerow or wet areas, such areas shall not exceed 15% of total area.
III	1450	Fair to Poor	Cultivated land, best suited for pasture, shallow topsoil or very sandy soil, or steep.
IV	1350	Very Poor	Rough land heavily interspersed with wet drains, extremely deep sand, stumps, mostly unsuitable for tending with mechanized equipment.

WOODLAND

Code	Value/Acre	Definition
W1	1400	Excellent, level to very gently sloping topography, suitable for clearing and cultivation as Class I or II. 95% of area suitable for site preparation or tree planting.
W2	1300	Average woodland with 80% of area suitable for site preparation and tree planting, or possibly yielding 50-70% of area suitable for clearing as cultivated land.
W3	1175	Small hardwood branches, extremely sandy soils, generally unsuitable for farming activity, limited to possibly 25-35% of area suitable for site preparation and tree planting.
W4	500	Large creek swamps, bottomland hardwood areas, suitable for hardwood timber production only.
W5	150	Unproductive – land recognized locally as extremely low value, including tupelo ponds, thick black gum ponds in swamp land, etc.

If we have a sample tract that contains 15 acres of class 3 open land (III) and 50 acres of class 4 woodland, the tract value calculations might look like the following:

- 15 acres * $1,450 (class 3 open land (III)) = $21,750
- 50 acres * $500 (class woodland 4 (W4)) = $25,000

Total Tract Value = $21,750 + $25,000 = $46,750

Given the following, value these rural large tracts:

	Class	Acres	Value / Acre	Value
	I	14		
Tract 1	III	45		
	W1	18		
	W2	120		
			Total Value =	
Tract 2	II	155		
	W4	190		
			Total Value =	
Tract 3	I	19.4		
	W1	155.6		
	W5	250.3		
			Total Value =	

To complete the rural land picture, we should incorporate some examples where large tract adjustments are necessary to reflect absorption as discussed in the APM.

In our sample county, we have determined through market analysis that tracts exceed 1000 acres must be reduced by 3% for absorption; tracts over 5000 acres must be reduced 5%; and tracts over 10,000 acres must be reduced 9%.

Value the following tracts of land:

Tract 1:

- 123 acres of II land
- 1200 acres W1 land

Total Value =

Fair Market Value =

Tract 2:

- 450 acres of W1 land
- 480 acres of W3 land.

Total Value =

Fair Market Value =

Tract 3:

- 1300 acres of open land class I
- 3800 acres of W1 land
- 150 acres of W5 land

Total Value =

Fair Market Value =

Tract 4:

- 15,550 acres of W2 land
- 4,500 acres of W3 land

Total Value =

Fair Market Value =

Urban Land

In the valuation of urban land, we will discuss valuation by front foot, square foot, lot, and acre methods.

Front foot valuation basically consists of applying a front foot rate to the distance of frontage for a given lot times a depth factor. The depth factor will be given to you in this class, but the calculation of the depth factor is based on the 4-3-2-1 rule. The 4-3-2-1 rule operates under the premise that the land closer to the street is more valuable. As such, we can understand that 4-3-2-1 principle. If a standard lot is 100 feet deep in our development; breaking that lot into four equal parts would result in four sections 25 feet deep each. The first 25 foot section would represent 40% of the total lot's value. The second 25 foot section would represent 30% of the total lot's value and so forth. Using interpolation, an appraiser can learn to calculate their own depth factors for any standard depth lot. Those techniques will be taught in Course IVA.

The sample "Depth Table" below is for a 100' (foot) standard depth:

Depth = 1' - 40'	
Depth	Percentage
1	1.6
2	3.20
3	4.8
4	6.4
5	8
6	9.6
7	11.2
8	12.8
9	14.4
10	16
11	17.6
12	19.2
13	20.8
14	22.4
15	24
16	25.6
17	27.2
18	28.8
19	30.4
20	32
21	33.6
22	35.2
23	36.8
24	38.4
25	***40***
26	41.2
27	42.4
28	43.6
29	44.80
30	46
31	47.2
32	48.4
33	49.6
34	50.8
35	52
36	53.2
37	54.4
38	55.6
39	56.8
40	58

Depth = 41' - 80'	
Depth	Percentage
41	59.2
42	60.4
43	61.6
44	62.8
45	64
46	65.2
47	66.4
48	67.6
49	68.8
50	***70***
51	70.8
52	71.6
53	72.4
54	73.2
55	74
56	74.8
57	75.6
58	76.4
59	77.2
60	78
61	78.8
62	79.6
63	80.4
64	81.2
65	82
66	82.8
67	83.6
68	84.4
69	85.2
70	86
71	86.8
72	87.6
73	88.4
74	89.2
75	***90***
76	90.4
77	90.8
78	91.2
79	91.6
80	92

Depth = 81' - 120'	
Depth	Percentage
81	92.4
82	92.8
83	93.2
84	93.6
85	94
86	94.4
87	94.8
88	95.2
89	95.6
90	96
91	96.4
92	96.8
93	97.2
94	97.6
95	98
96	98.4
97	98.8
98	99.2
99	99.6
100	***100***
101	100.36
102	100.72
103	101.08
104	101.44
105	101.8
106	102.16
107	102.52
108	102.88
109	103.24
110	103.6
111	103.96
112	104.32
113	104.68
114	105.04
115	105.4
116	105.76
117	106.12
118	106.48
119	106.84
120	107.2

Valuation of lots using the front foot (FF) method is demonstrated below assuming a value per FF. If a **standard lot** (100' depth) sold $7,800 then it would stand to reason the FF would = $78.00

Formula: Front Foot (FF) * $/FF * Depth Factor (DF) = Value

- Lot dimensions: 50' x 100'
- Calculations: 50' * $78 * 1.00 (DF) = $3,900

- Lot dimensions: 75 x 110
- Calculations: 75 * 78 * 1.036 (DF) = $6,061

Calculate the value of the following lots using a $/FF of $235:

Front Feet (FF)	Depth	Depth Factor (DF)	Dollars per Front Foot ($/FF)	Value
100	100			
98	120			
120	95			
100	90			
100	104			
85	100			
85	95			

Square foot valuation is also very simple, the appraiser must calculate the number of square feet in the lot and then multiply the base rate times the number of square feet.

For example:
A lot measures 200 x 250, the square foot rate is $0.75 per square foot ($/sqft), the resulting value calculation is:

200 x 250 = 50,000 sqft.
50,000 sqft * 0.75 $/sf = $37,500

Value the following lots:

Lot Size	Sqft	$/Sqft	Fair Market Value
100 x 200		0.33	
200 x 200		0.25	
125 x 150		0.80	
100 x 135		0.45	

Lot and acre methods of valuation are also very simple. Simply multiply the base rate times the number of units to estimate a value.

Units	Base $ / Unit	Fair Market Value
2.5 acres	$4000 / acre	
2 lots	10,000 / lot	
2 acres	15,000 / acre	
.98 acres	15,000 / acre	

The Cost Approach

A value based on the current cost of replacing or reproducing a property with the same utility. The value of the subject property is the cost to the purchaser (and not to the contractor).

Cost of production includes all direct and indirect construction costs plus the builder's overhead and profit. Land does not have a cost of production since it is already in existence. Site, on the other hand, can have a cost of production in preparation for suitable use.

Reproduction Cost New vs. Replacement Cost New

Reproduction Cost New – the cost of construction at current prices of an **exact** duplicate or replica using the same materials, construction standards, design, layout and quality of workmanship. This includes all of the deficiencies, super adequacies and obsolescence.

Replacement Cost New – the estimated cost to construct at current prices, a building with utility equivalent to the one being appraised using modern materials, current standards, design, and layout.

Grade / Class – (*also known as Quality Class*) Grade/class is an indication of the relative quality of materials, workmanship, and design used in the construction of a building. Condition reflects the physical state of the building.

Economic Principles Involved:

- Substitution: an informed purchaser will pay no more for a property than the cost of producing a substitute property with the same utility.

- Contribution: The measure of present worth of the improvements in the amount that they add or contribute to the site value.

- Balance: Improvements on and to the site can be improper – through over or under improvement. They can detract from the total value since they are not the best and highest use.

- Highest and best use – site is valued as if vacant and available to be put to its highest and best use. It is the use which will generate the greatest **net** return. **Not to be considered is what would be the most profitable to the seller.**

- Eminent Domain (Condemnation) – The governmental power to appropriate private property, usually with compensation paid to the owner. An estimate is made of both site and building.

Steps to the Cost Approach

Estimate reproduction or "replacement cost new" of improvements. There are four methods:

- **Quantity Survey** – Used by contractors, it is a detailed inventory of all materials and equipment – included is labor, indirect costs, & profit.

- **Unit in Place** – Used by contractors, it involves "breaking" the building into units for work to be completed by subcontractors.

- **Square Foot / Cubic Foot** – Most Popular, uses square foot to determine cost per square foot.

- **Factored Historical Cost** (or trend) – Applies a trend factor to determine cost.

    - An example of factored historical cost is detailed below:

    - 100 bed Hospital, built nine years ago for $7,853,000.
    - Cost Index shows hospital construction costs have increased by 68.3%.
    - $7,853,000 x 1.683 = $13,216,599.

Estimate all elements of accrued depreciation (physical deterioration, functional obsolescence, and economic obsolescence) and subtract total accrued depreciation from reproduction or replacement cost new of the improvements.

Add land value (estimate value of the site as if vacant and available for highest and best use)

The formula to arrive at a value using the cost approach is:

RCN – D + L = Value

Replacement/Reproduction Cost New
minus
Accrued Depreciation
plus
Land Value
equals
Cost Approach to Value

This approach is based on the assumption of the replacement cost new setting the <u>upper limit of value</u>. The appraiser must evaluate any disadvantages or deficiencies of existing buildings as compared to new buildings. Measuring this disadvantage or deficiency is call depreciation.

Depreciation is a loss from the upper limits of value from any cause and decreases the value of property. **Depreciation only applies to improvements (buildings)**. Land cannot be replaced or reproduced so it does not depreciate but it may deplete (taking a resource from the land).

There are three possible types of depreciation:

- **Physical Deterioration** – due to wear and tear or inadequate repair or maintenance, or by decay, rot, or weather. Most common type – estimate the cost to repair the property to the original condition or utility.
    - Examples: Needs paint, new floors, roof repairs, etc.
- **Functional Obsolescence** – due to design deficiency or not enough or too many features (such as bathrooms, bedrooms, garage, etc). Created from within but usually curable.
    - Examples: Small rooms, inadequate storage, needs an extra bath, kitchen needs modernizing, insufficient electrical outlets, small closets, etc.
- **Economic Obsolescence** – due to forces outside the actual structure (commercial properties in a residential, environmental pollution, change in zoning, etc). Almost always incurable.
    - Examples: Homes near industrial sites, narrow streets, unpleasant odors, proximity to airport, military base closes, etc.

Definitions to Know:

Curable – Cost of repair is offset by the added value.
Incurable – Not economically prudent to cure the condition.
Super-adequacy - defined as excess

Remember:

- **Physical Deterioration** – due to wear and tear or inadequate repair or maintenance, or by decay, rot, or weather
- **Functional Obsolescence** – due to design deficiency or not enough or too many features (such as bathrooms, bedrooms, garage, etc).
- **Economic Obsolescence** – due to forces outside the actual structure (commercial properties in a residential, environmental pollution, change in zoning, etc).

Units of Measure

Basic Units of Length

12 inches = 1 foot
3 feet = 1 yard
1,760 yards = 1 statute mile
***5,280 feet = 1 statute mile**
1 chain = 66 feet
1 rod = 16.5 feet
1 furlong = 660 feet

Basic Units of Area

144 square inches = 1 square foot
1,296 square inches = 1 square yard
9 square feet = 1 square yard
***43,560 square feet = 1 acre**
4,840 square yards = 1 acre
640 acres = 1 square mile

Area: Acres to Square Feet

Acre Fraction	Acre Decimal	Square Feet
1/100	.01	435
1/10	.1	4,356
1/4	.25	10,890
1/2	.50	21,780
3/4	.75	32,670
1	1.0	43,560

Basic Units of Cubic Measure

1,728 Cubic inches = 1 Cubic Foot
27 Cubic Feet = 1 Cubic Yard

Review – Day 2

1. Name all types of depreciation?

2. How many square feet in an acre?

3. Name the four methodologies used to calculate the improvements in the Cost Approach?

4. What is the calculation to arrive at a value using the Cost Approach?

5. Adjustments are always made to the _____ property never the_____ property.

6. In the reconciliation process of the appraisal, the appraiser never_____the value indications of the comparable properties into a single estimate of value.

7. What is the difference between curable and incurable?

8. What is depreciation?

9. What is the definition of Reproduction Cost New?

10. What is the definition of Replacement Cost New?

11. Define highest and best use?

12. What is not considered when using “highest and best use”?

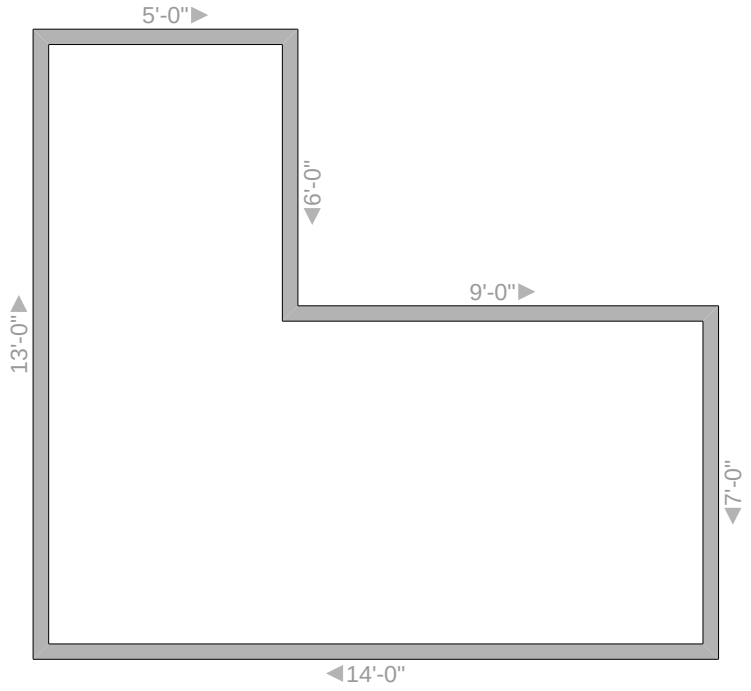
Calculating Square Footage.

The formula for calculating square footage of a rectangle or square is Length x Width.
The formula for calculating square footage of a right-triangle is ½ Base x Height

Square footage can easily be calculated on squares and rectangles – so when calculating, make sure that the drawing is in squares or rectangles (not “L” shapes).

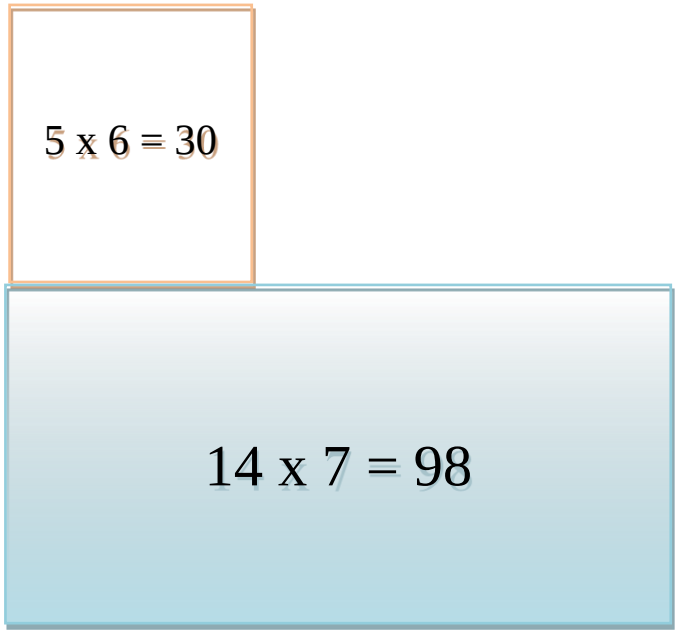
First: square off drawing.

Second: determine the footage for each section

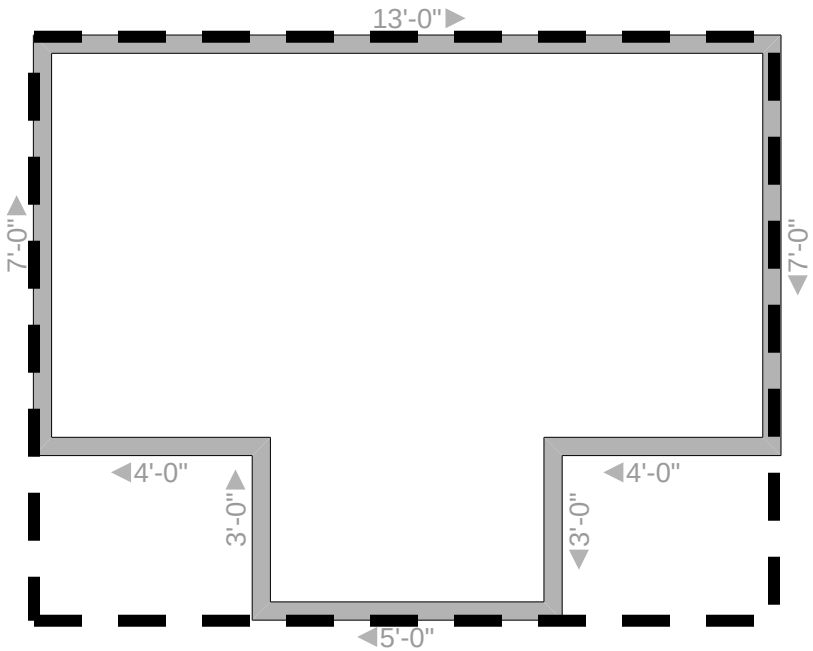


Square Footage Exercises

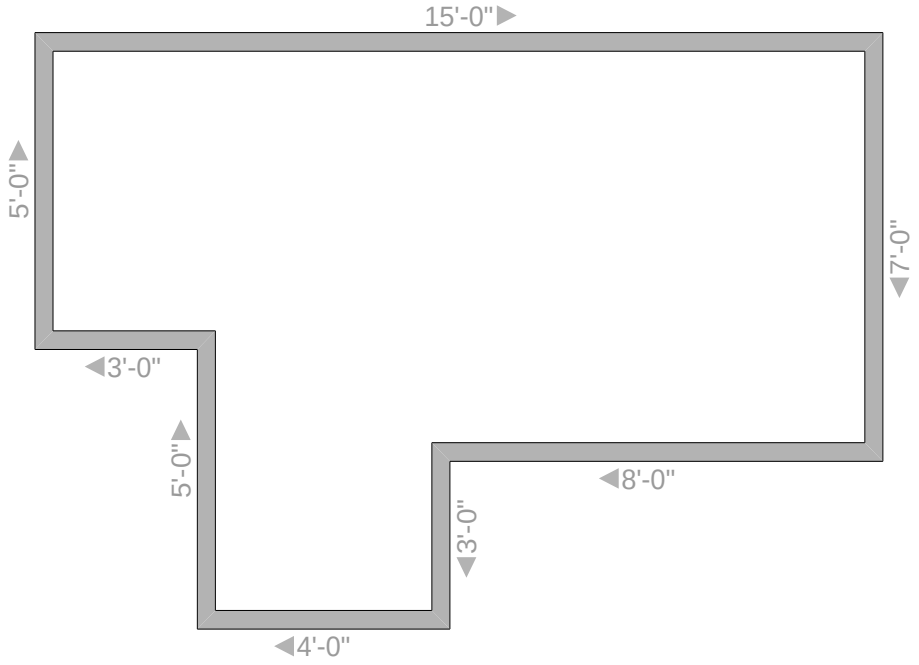
Total Square Footage = 128
30 + 98 = 128

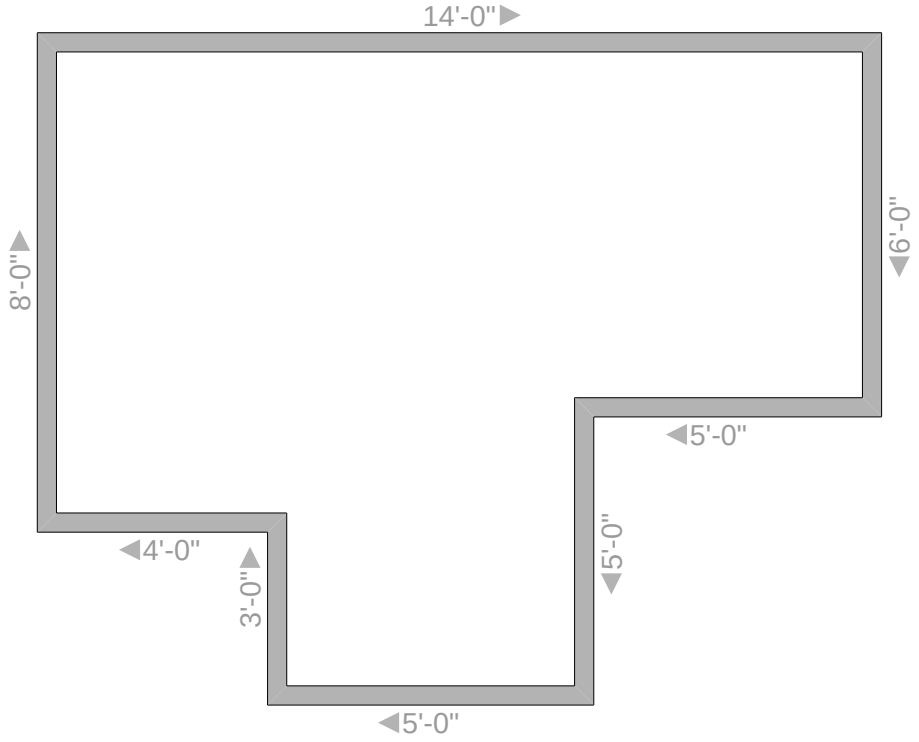


Sometimes it is easier to square the object and subtract the missing parts

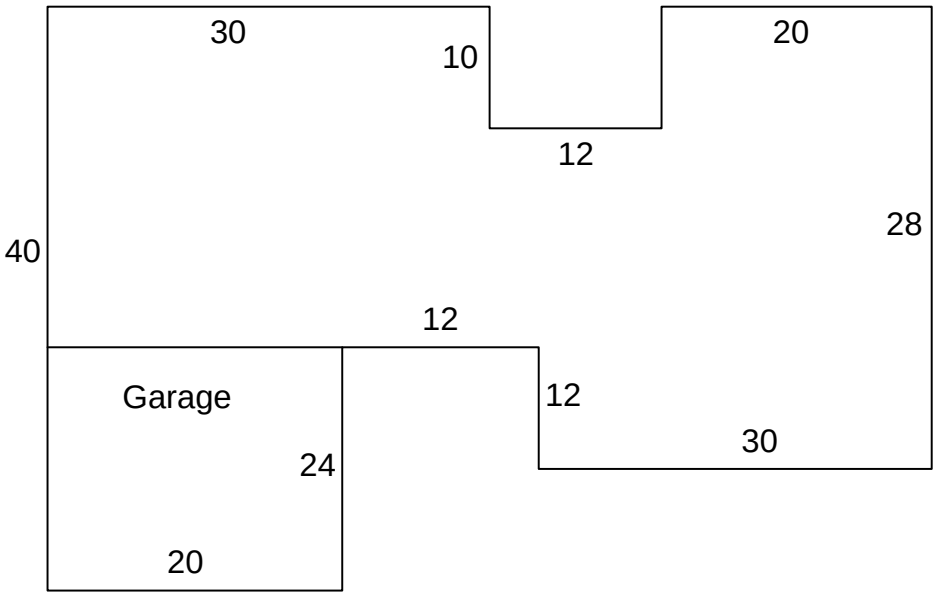


Square Object = 13 x 10
Subtract missing squares: 4x3 & 4x3
Total Square Footage = 106
(13x10 = 130) – (4x3=12) – (4x3=12) = 106

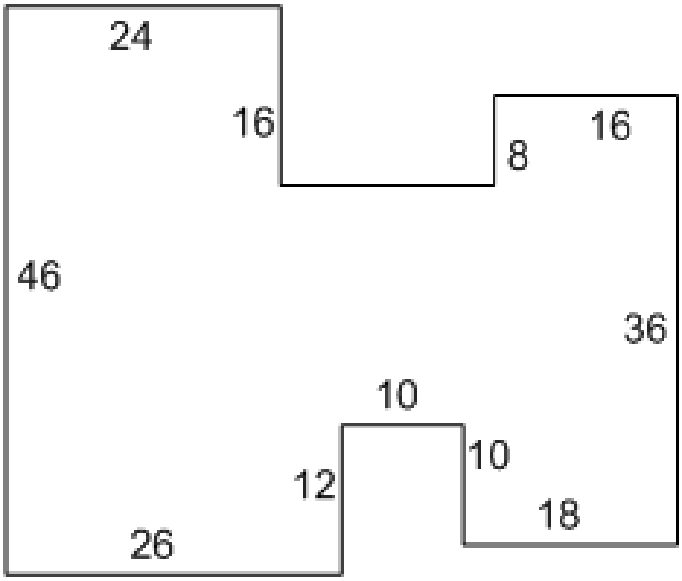

15'-0"
5'-0"
7'-0"
3'-0"
5'-0"
8'-0"
3'-0"
4'-0"


14'-0"
8'-0"
6'-0"
5'-0"
4'-0"
3'-0"
5'-0"
5'-0"

Determine the livable square footage of the structures below.

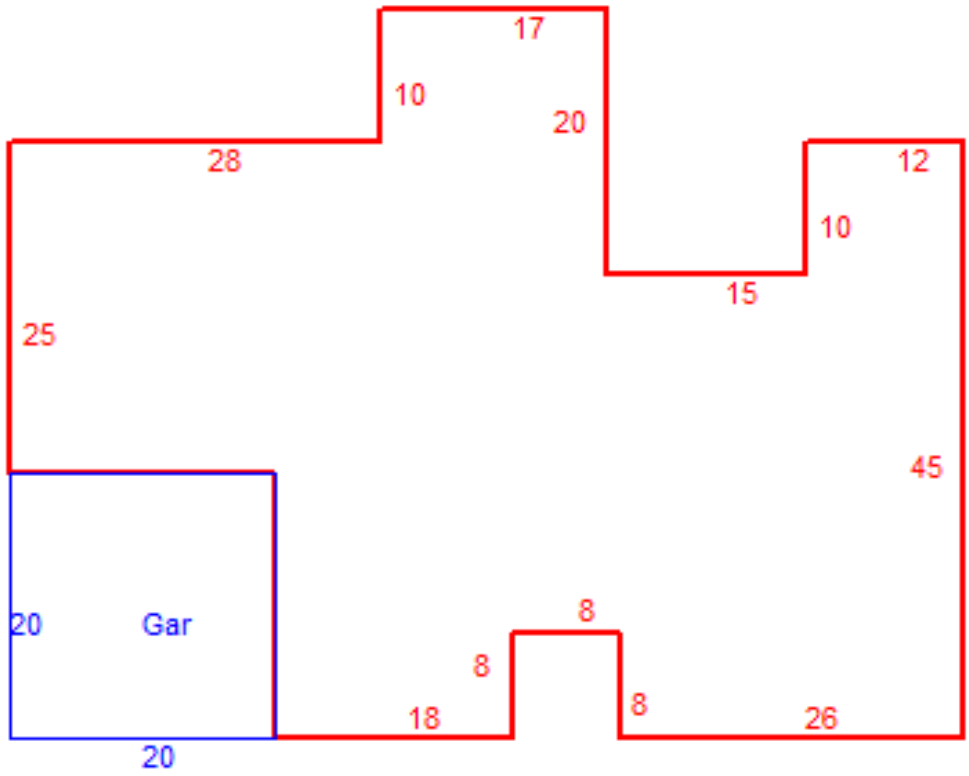


SQFT _____

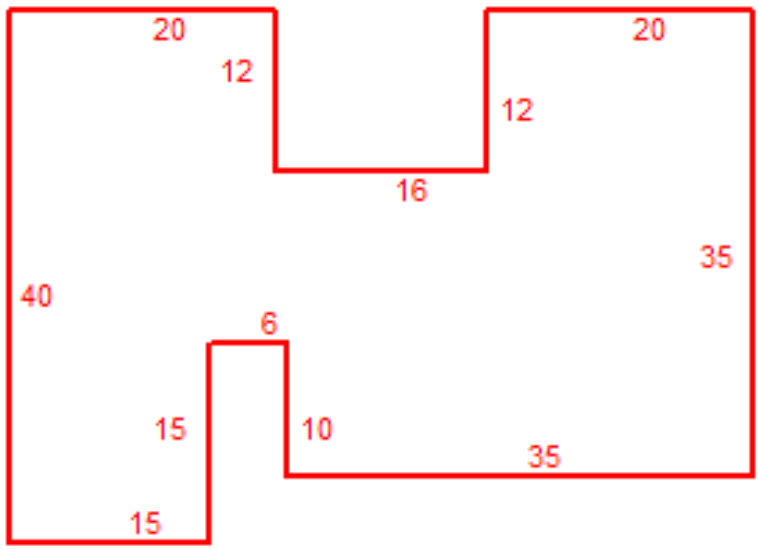


SQFT _____

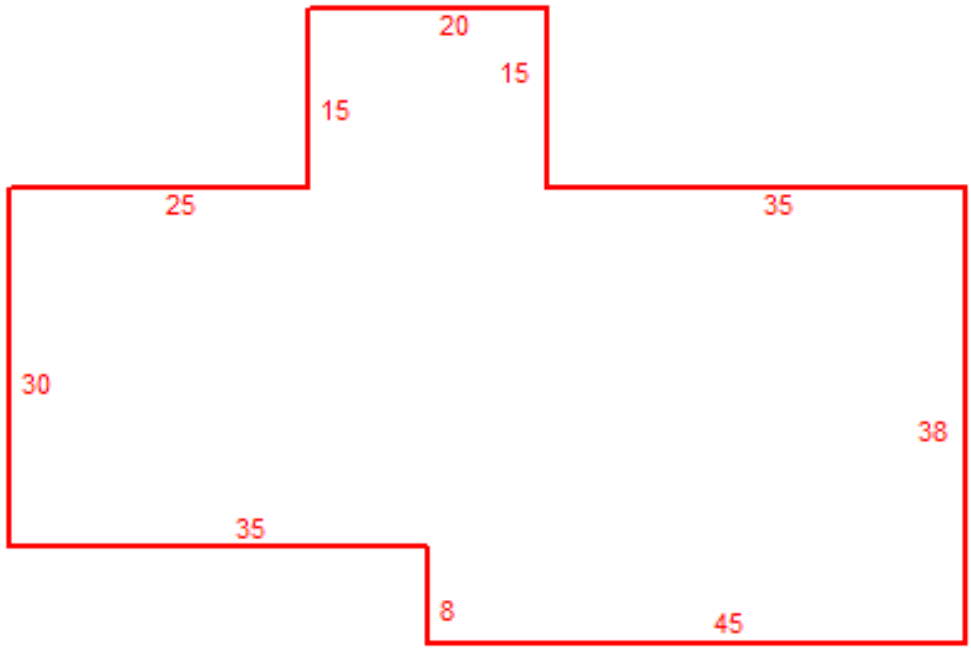
Determine the livable square footage of the structure below.



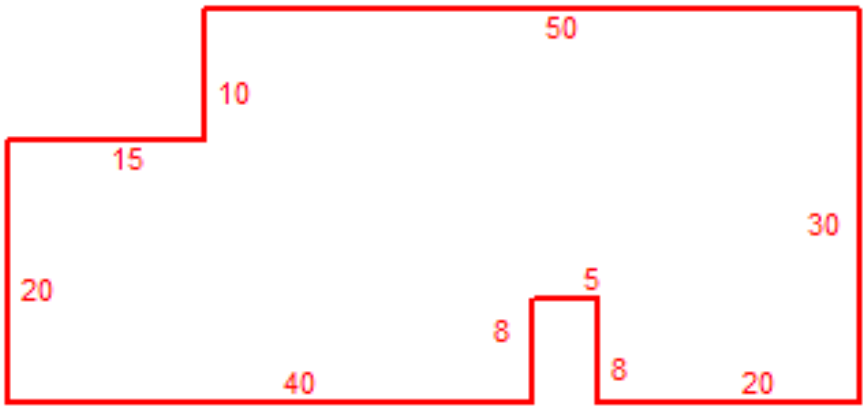
A. What is the square footage of the structure below?



B. First figure the square footage. The cost per square foot is $32.98. What is the value? ***Round answer to nearest dollar.***

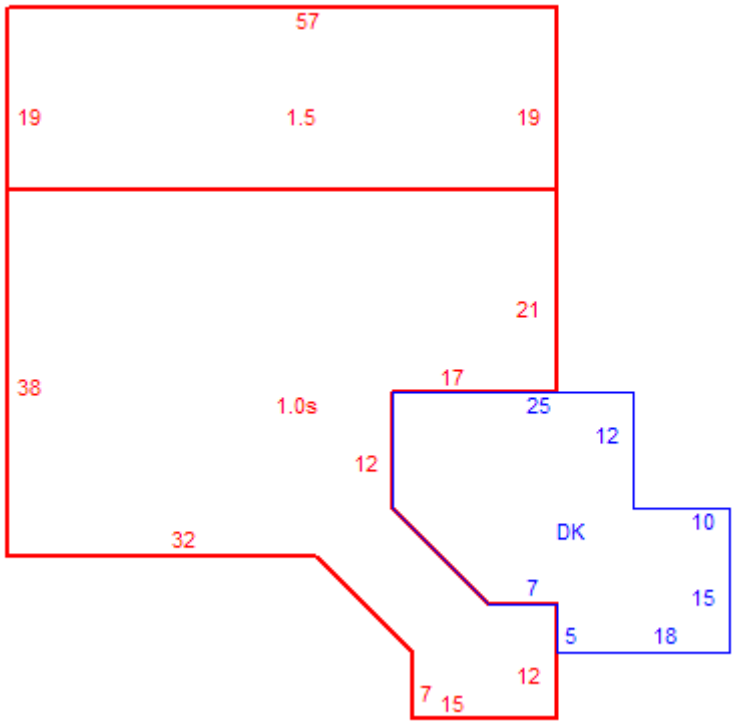


C. First figure the square footage of the structure below. Next, Replacement Cost New is $48 per square foot – calculate the value. There has since been a 4% cost increase. Figure the value with the cost increase.



Challenge yourself (not required)

Calculate the area of each segment of the structure below. Next, calculate the value of the property using a heated area base rate of $125 per square foot of heated area. The deck is priced at $25 per square foot.



HINT: 1.5 Story

(19 * 57) = 1083 * 1.5 = 1625

Case Problem #6

Depreciation - Market Comparison (Paired Sales)

You are appraising a single-family residence that suffers from several forms of depreciation including the diminished utility resulting from having the stairway to the basement located in the center of the residence.

In analyzing sales of comparable properties, you find the following:

A residence that suffers from the same defect as the subject sold recently for $83,000.

Approximately six months prior to this sale, a property similar in size, shape, physical condition and location, but without the defect, sold for $80,750.

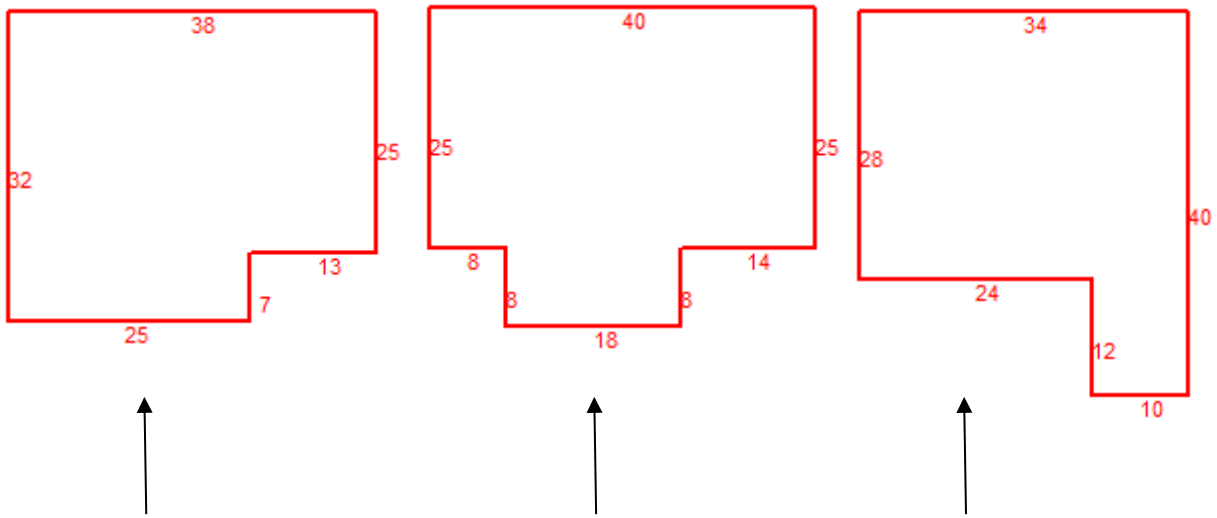
A study of the market indicates that prices of properties are increasing at a rate of 12 percent per year.

Problem: What is the indicated loss of value due to the defect suffered by the subject property?

Case Problem #7

Estimating Replacement Cost By Comparison

You are estimating by comparison the replacement cost of a recently completed one-story family dwelling. Your subject contains 1,142 square feet. All homes in the subdivision are identical as far as quality of construction and equipment is concerned. The three comparable properties below have experienced no depreciation and have recently sold.



Sale A $74,350 Sale B $75,400 Sale C $71,900

Land Value $8,000 Land Value $9,500 Land Value $7,000

Problem: From the above, estimate the "replacement cost new" of the subject improvement rounded to the nearest $100.

Hint: Cost Approach valuation of improvements requires a cost per square foot. Find the value per square foot of each ***improvement*** *sold above. Select the most appropriate comparable to select your cost per square foot to appraise your subject property. Square foot rates are typically rounded to two (2) decimals.*

Case Problem #8

Cost Estimation by Comparison

You are estimating the reproduction cost of a small neighborhood retail center that consists of six stores. The building frontage measures 120' by 80' depth with an "L", 30'x 40'. The lot contains 18,000 square feet and the entire area not covered by the building is a parking space surfaced with asphalt.

You have obtained the building costs of three new properties quite similar to the subject.

Sale 1: A group of six stores containing 11,000 square feet of area on a 20,000 square foot lot.

The cost was:
Building = $242,000
Surfacing = $6,750

Sale 2: Seven stores containing 14,000 square feet of building area on a 30,000 square foot lot.

The cost was:
Building = $297,500
Surfacing = $11,700

Sale 3: Five stores containing 9,000 square feet of building area on 16,000 square foot lot.

The cost was:
Building = $202,500
Surfacing = $5,400

Problem:

Estimate the Reproduction Cost New of the subject property, including the lot surfacing by comparison with the above known costs.

Notes: 1 square yard = 9 square feet
Buildings in this area are typically priced on a square foot basis
Surfacing in this area is typically priced on a square yard basis

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The Income Approach

Using the income approach, a value is determined by the net earning power of a property. This is derived by the capitalization of **net** income into a value estimate.

The Income Approach is used with properties that produce an income such as apartment buildings, shopping centers, and office buildings. The appraiser is concerned with the worth of future value of the property. This is measured by the net income that a fully informed buyer may assume the property will produce during its remaining useful life. All property can be rented and has the ability of producing income.

Economic Principles

Substitution: The informed purchaser will pay no more for a property than the cost of acquiring a rental income stream of the same size and with the same risks as with the subject property can produce.

Contribution: The value of a property may be the rental income it is capable of producing.

Anticipation: The expected rental income that the subject property is capable of producing is projected for the future. Value becomes the amount the informed purchaser is justified in paying now for the right to the future rental income.

***Gross Rent Multiplier*: (or Gross Income Multiplier)**

The GRM (or GIM) is a unit of comparison in the Direct Sales Comparison analysis although it is also the "Income Approach" for properties. It compares total properties directly through the ratio of the sales price or value of each property to its gross valuation. The monthly multiplier is commonly used for residential properties, while the annual multiplier is used for commercial properties.

The multiplier is a ratio of the sales price or value to the gross income.

The formula for GRM (or GIM) is as follows:

Sales price / Income (monthly or annually) = Multiplier

When using a gross income multiplier, the sales information must be on similar properties.

Gross Sales Price		Annual Income		Gross Income Multiplier
$75,100	÷	$12,000	=	6.25
$83,125	÷	$13,300	=	6.25
$71,650	÷	$11,500	=	6.23
$87,650	÷	$14,000	=	6.26

Estimated Gross Rent Multiplier is 6.25

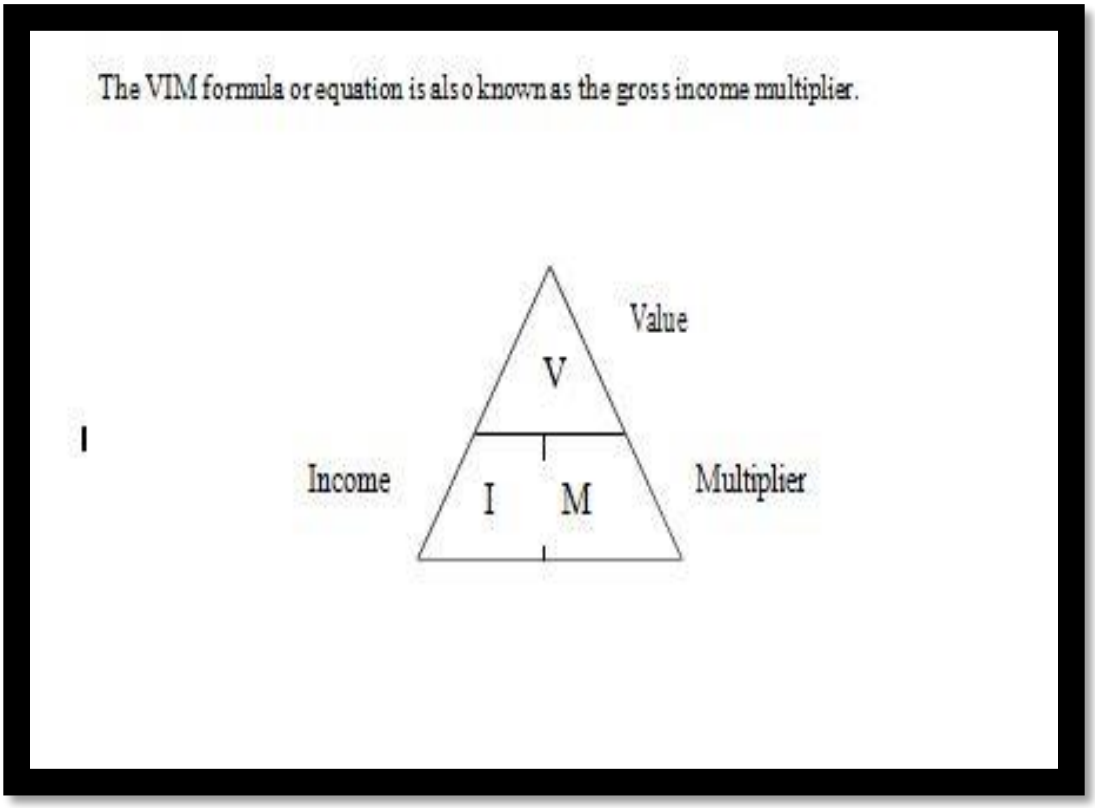
Rules to select multipliers:

First – the one that occurs the most often.

Second – the one that most identifies with the subject.

If the subject annual income was $12,900, then the subject value would be estimated at $80,625. (Annual income x GRM)

If the subject value is $85,475, then the potential annual income would be estimated at $13,676. (Value ÷ GRM)



Gross Income Multipliers Examples

First, calculate the GIM, round to one decimal.

Income	**Sale**	**Gross Income Multiplier**
$95,000	$798,000	
$104,000	$875,500	
$86,000	$731,000	
$91,500	$796,000	
$106,300	$905,250	
Sale	**Income**	**Gross Income Multiplier**
$112,000	$10,950	
$123,000	$12,450	
$98,000	$9,800	
$115,000	$11,700	
$130,000	$13,000	
Sale	**Income**	**Gross Income Multiplier**
$212,800	$22,400	
$234,400	$24,000	
$190,950	$20,100	
$178,600	$19,000	
$242,900	$26,000	

Gross Rent Multipliers Examples

First, calculate the GRM. Round to zero decimals.

Income	**Sale**	**Gross Rent Multiplier**
$725	$85,000	
$785	$92,500	
$815	$96,300	
$745	$88,000	
$810	$95,700	
Sale	**Income**	**Gross Rent Multiplier**
$55,200	$480	
$57,750	$500	
$60,900	$525	
$62,910	$540	
$59,160	$510	
Sale	**Income**	**Gross Rent Multiplier**
$64,800	$540	
$67,900	$565	
$68,900	$575	
$62,900	$525	
$64,250	$535	

Remember!

Once you have the Gross Rent/Income multiplier, you can determine the value or the income.

To determine value, multiply the GRM by the income. **Value = Multiplier X Income**

To determine income, divide the Value by the GRM. **Income = Value / Multiplier**

Case Problem #9

Gross Income Multiplier

Sale	Income	GIM
$212,800	$22,400	
$234,400	$24,000	
$190,950	$20,100	
$178,600	$19,000	
$248,900	$26,200	

Subject Income $26,300

Problem: Estimate the value of the Subject Property using the Gross Income Multiplier developed from the data above. **Round to one decimal**

Case Problem #10

Gross Rent Multiplier

Sale	Income	GRM
$112,000	$910	
$123,000	$1,035	
$98,000	$815	
$115,000	$975	
$130,000	$1,085	

Subject Income $765

Problem: Estimate the value of the Subject Property using the Gross Rent Multiplier developed from the data above. **Round to nearest GRM to a whole number.**

Case Problem #11

Gross Income Multiplier

In assessing a commercial building, you note the following data:

Comparative Sale	Gross Annual Income	Sale Price
1	$12,000	$100,000
2	$17,000	$141,000
3	$13,000	$107,250
Subject $15,500		

The buildings have approximately the same operating pattern and expense ratios, and are similar in condition and location.

Problem: What is the indicated value of the subject property using the gross income multiplier (round GIM to one decimal)?

Case Problem #12

Incurable Functional Obsolescence - GRM

In appraising a single-family residence, you note that the stairway leading to the basement is in poor location. Moving items to the basement involves going through the kitchen or the living room plus a central hallway before reaching the stairway. You determine that this is functional defect.

Upon analysis of the rentals of comparable properties in the subject area, you find that a residence of this style and size, but without the defect, rents for $545 per month. The subject rents for $530 per month. The gross rent multiplier for single-family properties in the subject area is 115.

Problem: Estimate the value loss accruing to the **residence** resulting from this defect.

Land to Building Ratios

560-11-10-.09(3)(a)

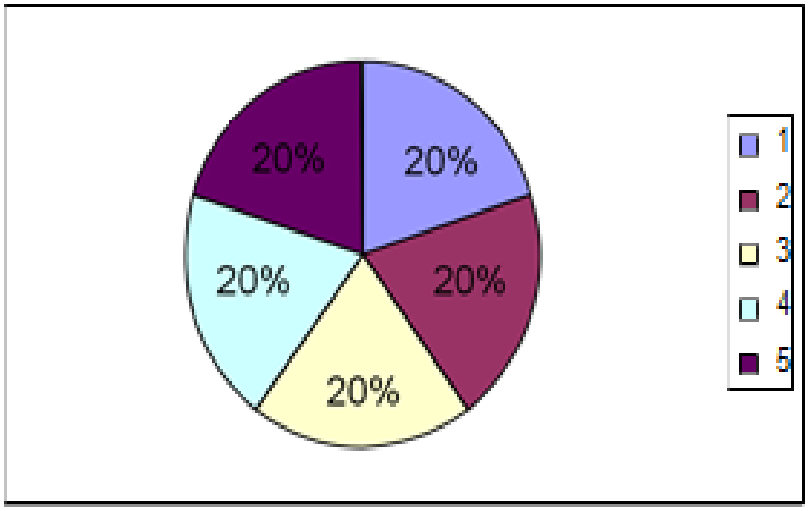
(a) Land analysis and stratification. The appraisal staff shall appraise land separately from the improvements both to consider the trends and factors affecting each and to arrive at a separate assessment for the digest. In no event, however, may the separate appraisals of the land and improvements exceed the fair market value of the land and improvements when considered as a whole. For appraisal purposes, land shall be separated into different categories based on its use and sales within the market.

Major Points

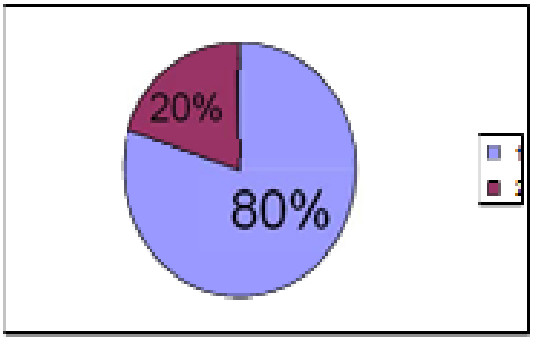
Land should be appraised separately from the improvements:

1) To consider trends and factors affecting each
2) To arrive at a separate assessment for the digest
3) In no event, may the separate appraisals of the land and improvements exceed the fair market value of the land and improvements when considered as a whole.

1:4 – 1 part land; 4 parts building



Better Represented: 1:4



Case Problem #13

Economic Obsolescence - GRM

The subject residence you are appraising is located adjacent to a service station and rents for $165 per month. Comparable residences in the area not next to service stations rent for $180 per month.

You have found the following sales of comparable residences:

Sale	Monthly Rent	Sale Price
1	$185	$21,300
2	$170	$19,500
3	$175	$20,175
4	$170	$19,550

The land to building ratio in the area for this type of property is 1:4.

Problem: Estimate the economic (locational) obsolescence suffered by the subject **improvement**. Round multiplier to nearest integer.

Case Problem #14

Comparable has a monthly income of $545 (and doesn't have a defect)
Subject has a monthly income of $510 (and has a defect). What is the value loss of the **improvements**? The Land to Building Ratio is 1:4. Round multiplier to nearest integer.

The following sales are comparable.

Sale	**Income**	**Gross Rent Multiplier**
$52,500	$490	
$53,400	$500	
$56,000	$525	
$50,400	$470	
$57,200	$535	

IRV

Net Income

Income capitalization is always based on *net income*. The most frequently used measure is Net Operating Income. This is the "before-tax" annual net income produced from operating a property as an investment.

Potential Gross Rental Income (100% Occupancy) (PGI)
- Allowance for vacancy and collection loss (Based on Market)
= Rent Collections

Rent Collections
+ Miscellaneous Income (not primary income)
= Effective Gross Income

Effective Gross Income
- Operating Expenses / Reserves for replacement
= Net Operating Income (NOI)

Potential Gross Income: Expected future gross income of a property. Determined on an annual basis with the understanding that the property is rented every day.

Vacancy and Collection Losses: The deduction from *Potential Gross Income* for vacancy and collection losses and is expressed as a percentage of gross income.

Effective Gross Income: The expected actual income. *Potential Gross Income* with the *vacancy and collection losses* subtracted.

Potential Gross Income
- Vacancy and Collection Losses
= Effective Gross Income

Expenses: An estimate of expenses that can reasonably be expected to occur. These would be subtracted from the *Effective Gross Income* to arrive at Net Income. Items not to be considered are interest and principal payments, depreciation charge, property taxes (anything that assumes the value), and income taxes.

Example:

Gross Income	$10,000
Less Vacancy (5%)	-$500
Effective Gross Income	$9,500
Less Expenses	
Maintenance	$800
Insurance	$400
	$1,200
Net Income	$8,300

Capitalization of Income: Defined as "Conversion of the future benefits of ownerships into present worth or market value". There are three items that define capitalization; they are Income (I), Capitalization Rate (R), and Value (V). The formula is as follows:

$$\frac{I}{R \times V}$$

Net Income: I = R x V
Value: V = I ÷ R
Capitalization Rate: R = I ÷ V

Net Income: derived by gross income minus expenses (see above)

Capitalization Rate: is the sum of three rates:

- **Effective Tax Rate**: percentage of total value represented by the tax bill.
  - Millage Rate x .40 = *Effective Tax Rate*
  - Tax rate on 30 mills = .030 x .40 = .012

- **Recapture Rate**: rate which allows for recapture of investment over its estimated life.
  - Example: Estimated Life is 25 years
  - Recapture Rate = 1 ÷ 25 years = .04

- **Interest Rate**: rate which reflects cost of capital plus allowance for risk. This rate may be developed through summation, band-of-investments or other appropriate methods.

Value: Given these numbers, calculate the value

Net Income:	$11,097
Millage Rate	25 Mills
Economic Life	30 Years
Interest Rate	8%

Use Capitalization Rate:

Effective Tax Rate = .025 x .40 = .01
Interest Rate = .08
Recapture Rate = 1 ÷ 30 = .03333

Total Rate = .01 + .08 + .03333 = .1233

$$\text{Value} = \frac{\text{Income}}{\text{Rate}}$$

$$V = \frac{\$11,097}{.1233}$$

V = $90,000

IRV Examples

Using the IRV Formula, calculate the missing information.

Income	Rate	Value	
_____	8%	$165,000	I = R x V
$18,000	____	$150,000	R = I ÷ V
$35,000	14%	_____	V = I ÷ R

Using the IRV formula, what is the net income?

Property *Value* = $300,000
Overall *Rate* = .115
Net Income should be _____ to justify value.

Using the IRV formula, calculate the rate.

Annual *Income* = $34,500
Market *Value* = $275,000
Rate = _____

Using the IRV formula, what should you pay for the property?

$15,000 of *Income* to invest.
Risk involved requires a *rate* of yield of 12%.
Value = _____

Using the IRV formula, what is the Rate?

Property has a net income of $20,625 per year and sold for $125,000. What is the rate of return?
-
-

Review – Day 3

1. Define the income approach.

2. What is our favorite formula?

3. What is the formula for determining the Gross Rent Multiplier?

4. Which principle is the basis for adjustments?

5. What is the most important step in the appraisal process?

6. When do we adjust the subject property?

7. What is the level of assessment for tangible property in Georgia?

8. What is eminent domain?

9. What is an informed opinion of value and who gives it?

10. Define the Cost Approach.

Chapter 3 – Sales Ratio Studies

Fair Market Value is defined as what a property would bring at cash sale when sold in a typical manner.

Georgia law states "…the value of tangible property as referred to in the tax laws of this state shall be forty percent (40%) of the fair market value of such property"

The fair market value is the basis for taxation and depends to a large extent on sales. To find the FMV – a study of sales is completed.

Studies of sales reveal the relative desirability of an area (are the values increasing or decreasing?)

Recurring sales on the same property over a period of time can be studied to demonstrate the percentage increase in value as an indication of the required degree of adjustment to maintain the property assessment level.

Sales and assessment sales ratio studies reflect economic conditions both as to neighborhood and type of improvement.

Sales Data

Sales data refers to the actual sales of property throughout the year, not all sales may be used – only *bona fide sales*.

What is a Ratio?

A ratio is defined as one number divided by another number. It signifies a relationship between the two numbers.

A sales assessment ratio is the assessed value (which should be 40% of the appraised value) divided by the sales price. As an example, if a property sold for $27,500 and the assessed value was $11,000, the sales assessment ratio for that property would be:

$$\frac{\text{Assessed Value}}{\text{Sales Price}} \quad \frac{\$11{,}000}{\$27{,}500} \quad = \quad 40.00\% \text{ (Sales Assessment Ratio)}$$

Using the same sales price of $27,500, and the assessed value on the property was $9,075, what would the ratio be?

$$\frac{\text{Assessed Value}}{\text{Sales Price}} \quad \frac{\$_____}{\$} \quad = \quad _____ \quad \text{(Sales Assessment Ratio)}$$

ASSESSED VALUE	SALE PRICE	RATIO
15,000	35,000	
4,500	10,000	
100,000	350,000	
115,500	400,000	
2,000	5,000	
3,500	7,800	
450,000	1,000,000	
225,000	487,000	
105,000	400,000	
56,000	85,000	

What is the ratio telling us? First, the assessment is low. A low assessment (less than 40%) ***could*** point to one of two problems. They are:

There were unusual conditions in the sale, or
The property needs to be reappraised.

Having determined that the sales price of $27,500 was the result of a bona fide sale, the reason for the low ratio then rests on the appraisal. Low ratios are often the result of old appraisals. The appraisal was likely done correctly, just not often enough. Studying sales as they occur is the best way to maintain assessments that will reflect current market values.

Using Sales Ratios to Measure Equity

The use of ratios to do more than calculate the "level" of assessment can be very beneficial to the mass appraiser. Ratio studies may also be used to measure equity. Measuring equity is a means to determine if the valuations are "fair and equal" among the property owners and types within the taxing jurisdiction.

These ratios, on an individual basis, provide an indication for specific properties that sold during some given period of time. Viewing a large number of ratios (for instance, all within a county in one year) one may calculate the average or "mean" ratio.

This number (the mean ratio) identifies the average ratio for all sales that occurred. It does not in any way tell us anything about the range (high to low) or how much variation there was within that range.

For example, an average ("mean") ratio is calculated to be 36% for a county. On the surface, it would seem that the valuations in the county are fairly close to the required 40% level. However, closer examination might reveal that the range of ratios was from 5% to 75% and that in actuality very few individual ratios fell around the 36% mean ratio.

In other words, without some indication of the "spread" in the individual ratios, a ratio study is somewhat useless if it is to be used to judge assessment performance. We may use several statistics to describe or measure uniformity and equity in the valuation system.

Range: measures the lowest and the highest values.

- For example, the ratios may range from 10% to 50%, meaning that all other ratios within the ratio study fall within those percentages (10-50%).

Median Ratio: the physical mid-point of all the ratios in a sample.

- It's preferable to use this ratio since it eliminates the outliers in the selection. The median ratio is the *measure of central tendency* that *shall* be used by the Revenue Commissioner to measure assessment ratios.

Mean Ratio: the arithmetic average of all the ratios.

- It considers all the ratios within a sample whether they are within the typical range or not.

Aggregate Ratio: is the weighted average of all the ratios.

- It considers all the ratios within a sample whether they are within the typical range or not and gives weight to each sample based on its contribution to the whole sample.

Deviation: measures the difference between the sales ratio and the median ratio.

Mean Deviation: the arithmetic average of the *deviations*.

Coefficient of Dispersion (COD)

The Georgia Department of Revenue regulations currently allow a C.O.D. of up to .20 for non-residential properties and .15 for residential properties.

Coefficients of dispersion higher than .2000 indicates a lack of uniformity and significant inequities among the properties being analyzed and further indicate a reappraisal should be considered.

Uniformity Within Classes

The uniformity within classification of property shall be measured by the "coefficient of dispersion". The standard for uniformity will have been met, if given an adequate sample size, the resulting coefficient shall be less than or equal to 15 percent for residential property and 20 percent for non-residential property.

The COD measures "fairness" or uniformity.

Price Related Differential (PRD)

The price related differential (PRD) measures **assessment bias** in terms of progressivity and regressivity.

A PRD below 1.00 indicates assessment progressivity. Progressivity is defined as lower valued properties are assessed at a lower rate than higher valued properties. As an example, smaller valued properties are assessed at 28% of market value while larger valued properties are assessed at 38%. The smaller/lower valued properties are assessed at a lower rate than the larger/higher valued properties.

A PRD above 1.00 indicates assessment regressivity. Regressivity is defined as higher valued properties are assessed at a lower rate than lower valued properties. As an example, smaller valued properties are assessed at 35% of market value while larger valued properties are assessed at 25%. The smaller/lower valued properties are assessed at a higher rate than the larger/higher valued properties.

Acceptable standards according to IAAO are .98 - 1.03.

The Georgia Department of Revenue allows a PRD to be between .95 - 1.10.

Information is contained with Rules and Regulations Chapter 560-11-2.

Measure of Central Tendency

The Commissioner shall use the median ratio to measure the average assessment ratios of each of the homogeneous groups of property when there is not significant assessment bias. When significant assessment bias exists, the aggregate ratio will be the measure of central tendency used by the Commissioner.

The median is determined by arranging the individual ratios from the lowest to the highest and selecting the ratio in the middle (in case of an odd numbered of samples.)

If there is an even number of samples, add the two middle ratios, then divide by two, and this will result in the median.

The standard for assessment level of a class of homogeneous properties will be presumed to have been met the measure of central tendency is between 36 and 44 percent.

As the appraisers learn to use sales information to their own advantage, each will continue to discover new ways to use the data. The important thing to remember is that when you have bona fide sales, you have evidence of market value. Therefore, every bona fide sale should be examined so that each sale provides a maximum of usable information to the assessor's office.

Steps to completing a Sales Ratio Analysis

Ratio (Measures the level of assessment)

$$\frac{\text{Assessed Value}}{\text{Sales Price}} = \text{Ratio}$$

Complete a Ratio for all samples in the study

Median Ratio – physical middle of the sample

- Arrange all ratios in order from smallest to largest. The Median is the number right in the middle (for an odd set of numbers). For an even set of numbers take the two ratios in the middle, add together, and divide by two for the Median.

1.2
3.4
5.6
7.8
9.0

In this example the median ratio is 5.6

1.2
3.4
5.6
7.8

In this example the median ratio is 4.5 (3.4+5.6) / 2 = Median

Mean Ratio – "average"

- To arrive at the mean ratio, sum all of the ratios and divide by the number of samples.

1.2 + 3.4 + 5.6 + 7.8 + 9.0 = 27.00

$$\frac{27.00}{5} = 5.40 = \text{Mean Ratio}$$

Aggregate Ratio – "weighted average"

- To arrive at the weighted or aggregate ratio, sum the sale prices and divide into the total of the assessments.

$$\frac{\text{Total of the Assessments}}{\text{Total of the Sale Prices}} = \text{Aggregate Ratio}$$

Absolute Deviation from the Median Ratio

- Defined as how far the median is from each of the individual ratios in the study.

- Take the Median Ratio and subtract the average ratio from step one. Do this for each subject. There are no negatives.

Mean Deviation

- Total absolute deviation divided by the number of samples.

Coefficient of Dispersion (COD) "***Uniformity Test".***

$$\frac{\text{Mean Deviation}}{\text{Median Ratio}} = \text{Coefficient of Dispersion}$$

The COD is used to measure uniformity within a classification or type of property.

Residential Properties COD = Less than or equal to .1500
All Other Properties COD = Less than or equal to .2000
Combination of Residential with any other class = Less than or equal to .2000

Price Related Differential (PRD) "Bias Test"

Defined as the Mean Ratio divided by the Aggregate Ratio. It measures bias.

$$\frac{\text{Mean Ratio}}{\text{Aggregate Ratio}} = \text{Price Related Differential}$$

Acceptable range is .95 to 1.10

***** - This calculation is the only time the Mean Ratio is used in our ratio analysis***

Steps in the Sales Ratio Process:

1. Determine the **Sales Ratio** for each sale. Sales Ratio = $\frac{\text{Assessment}}{\text{Sales Price}}$

2. Place all ratios in a range from lowest to highest. Find the **Median Ratio**.

3. Find the **Deviation from the Average Ratio**.

   - Deviation = Median Ratio – Sales Ratio ("absolute" or no negatives)

4. **Sum** the Sales Price, the Assessment Amounts, the Sales Ratios, and the Deviations.

5. List the **Median Ratio**.

6. Find the **Mean Ratio**. Mean Ratio = Average of the Sales Ratio.

   - (The sum of the ratios divided by the number of ratios.)

7. Find the **Aggregate Ratio**. Aggregate Ratio = $\frac{\text{Total Assessment}}{\text{Total Sales Price}}$

8. Find the **Mean Deviation**. Mean Deviation = Average of the Deviation from Average Ratio. (The sum of the deviation ratios divided by the number of ratios.)

9. Find the **Coefficient of Dispersion (COD)**. COD= $\frac{\text{Mean Dev}}{\text{Median}}$

10. Find the **Price Related Differential (PRD)**. PRD = $\frac{\text{Mean}}{\text{Aggregate Ratio}}$
    (Progressivity or Regressivity)

Example Sales Ratio Study

	Sale Price	Assessment	Sales Ratio	Median Ratio	Absolute Deviation from Median Ratio
1	$400,000	$60,560	0.1514	.2864	0.1350
2	$85,000	$15,300	0.1800	.2864	0.1064
3	$125,000	$25,125	0.2010	.2864	0.0854
4	$110,000	$24,440	0.2222	.2864	0.0642
5	$33,000	$7,660	0.2321	.2864	0.0543
6	$68,000	$16,320	0.2400	.2864	0.0464
7	$50,000	$13,200	0.2640	.2864	0.0224
8	$207,000	$59,280	0.2864	.2864	0.0000
9	$200,000	$62,240	0.3112	.2864	0.0248
10	$65,000	$22,880	0.3520	.2864	0.0656
11	$70,000	$25,370	0.3624	.2864	0.0760
12	$50,000	$18,400	0.3680	.2864	0.0816
13	$68,000	$27,275	0.4011	.2864	0.1147
14	$75,000	$30,800	0.4107	.2864	0.1243
15	$63,000	$30,870	0.4900	.2864	0.2036
	$1,669,000	$439,720	4.4725		1.2047

Type	Answer	How
Median Ratio	0.2864	(number in the middle, once placed in a range)
Mean Ratio	0.2982	(4.4725 / 15)
Aggregate Ratio	0.2635	(439,720 / 1,669,000)

Type	Answer	How	Standard
Mean Deviation	0.0803	(1.2047 / 15) Mathematical Average	
Coefficient of Dispersion (COD)	0.2804	(.0803 / .2864) Mean Dev. / Median	.2000 or .1500
Price Related Differential (PRD)	1.13	(.2982 / .2635) Mean / Aggregate Ratio	.95 – 1.10

Calculation of Statistics

Median Calculation

The median ratio is very simply the “middle” ratio. In addition to simplicity and ease of calculation of the median, perhaps its strong attribute is its statistical properties. These properties allow a measure of central tendency that is not influenced by extreme ratios, or outliers.

In order to find the median, follow these steps:

1. 1.Calculate the assessment-sales ratio for each sample. Divide the assessment by the sales price.
2. Build an “array” of the ratios. An array is a listing of ratios from smallest to largest.
3. If the total number of samples is an even number, the median ratio is the average of the two middle ratios. For example: if a sample size is 10, the two middle ratios will be ratio #5 and #6 in the array. Add ratio #5 and #6 together and divide by 2 to get the median.
    a. If the total number of samples is an odd number, the median ratio is the middle ratio. For example: If a sample size is 11, the median will be ratio #6 in the array.

#	Assessment	Sale Price	Ratio	Array
1	3,500,000	12,500,000		
2	12,000	35,000		
3	100,000	300,000		
4	400,000	1,000,000		
5	40,500	60,000		
6	3,000	15,000		
7	32,000	125,000		
8	77,000	100,000		
9	60,000	550,000		
10	1,200	5,000		
11	1,200	11,000		
12	1,400	2,000		

Median

#	Assessment	Sale Price	Ratio	Array
1	35,000	55,000		
2	124,000	250,000		
3	11,000	25,000		
4	3,000	6,000		
5	20,000	43,000		
6	5,000	15,000		
7	44,000	100,000		
8	1,300	2,400		
9	300,000	700,000		
10	1,200	3,600		
11	1,200	3,000		
12	65,000	150,000		

Median

Mean Calculation

The mean ratio is also known as the “average”. The mean is probably the most commonly used measure of central tendency. The Department of Revenue does not use the mean, because the mean is heavily influenced by the extreme ratios found in a sample.

To calculate the mean, follow these steps:

1. Calculate the assessment-sales ratio for each sample. Dividing the assessment by the sales price.
2. Divide the total of all ratios by the number of ratios

#	Assessment	Sale Price	Ratio
1	3,500,000	12,500,000	
2	12,000	35,000	
3	100,000	300,000	
4	400,000	1,500,000	
5	40,500	80,000	
6	3,000	25,000	
7	32,000	145,000	
8	77,000	200,000	
9	60,000	590,000	
10	1,600	6,000	
11	2,200	18,000	
12	4,400	9,000	

Mean	

#	Assessment	Sale Price	Ratio
1	35,000	75,000	0.4667
2	124,000	200,000	0.6200
3	24,000	65,000	0.3692
4	3,000	9,000	0.3333
5	20,000	49,000	0.4082
6	5,000	25,000	0.2000
7	54,000	170,000	0.3176
8	1,300	4,400	0.2955
9	300,000	788,000	0.3807
10	2,200	7,600	0.2895
11	1,200	6,000	0.2000
12	65,000	250,000	0.2600

Mean	

Aggregate Calculation

The aggregate is also known as the ***weighted mean***. The aggregate ratio may be your least desirable ratio because each sample is weighted according to its sale price, therefore, a sale with a large sale price will carry more 'weight' than a sale with a small price, thus the commonly known name ... "weighted average."

To calculate the aggregate, follow these steps.

1. Add up all the assessments in the study.
2. Add up all the sales prices in the study.
3. Divide the total assessments by the total sales prices.

#	Assessment	Sale Price
1	3,500,000	9,500,000
2	12,000	35,000
3	100,000	270,000
4	409,000	1,400,000
5	35,000	60,000
6	2,500	15,000
7	39,000	125,000
8	66,000	100,000
9	60,000	330,000
10	1,900	8,000
11	2,770	11,000
12	1,400	7,000
		Total

Aggregate

#	Assessment	Sale Price
1	35,000	55,000
2	124,000	250,000
3	11,000	25,000
4	3,000	6,000
5	20,000	43,000
6	5,000	15,000
7	44,000	100,000
8	1,300	2,400
9	300,000	700,000
10	1,200	3,600
11	1,200	3,000
12	65,000	150,000

Aggregate

610,700	**1,353,000**	Total

Coefficient of Dispersion (COD) Calculation

The Department of Revenue uses the coefficient of dispersion (COD) to measure uniformity. The COD measures the average amount of dispersion of the ratios from the measure of central tendency. Since the COD measures 'dispersion', it is to say that a low COD shows less dispersion or better uniformity.

To calculate a COD, follow these steps:

1. Find the median ratio.
2. Calculate the deviation (difference) of each sample ratio from the median ratio.
3. Take the absolute value of each deviation. Absolute value means disregarding any signs, negative or positive. If a deviation is -.0230 then the absolute value of that deviation is .0230.
4. Add up all the deviations.
5. Divide the total deviation by the number of samples, this is the "mean deviation".
6. Divide the mean deviation by the median.

#	Assessment	Sale Price	Ratio	Array	Deviation
1	3,500,000	12,500,000	0.2800		
2	12,000	35,000	0.3429		
3	100,000	300,000	0.3333		
4	400,000	1,000,000	0.4000		
5	40,500	60,000	0.6750		
6	3,000	15,000	0.2000		
7	32,000	125,000	0.2560		
8	77,000	100,000	0.7700		
9	60,000	550,000	0.1091		
10	1,200	5,000	0.2400		
11	1,200	11,000	0.1091		
12	1,400	2,000	0.7000		

Median	
Mean Dev	
COD	

#	Assessment	Sale Price	Ratio	Array	Deviation
1	35,000	55,000	0.6364	0.3333	
2	124,000	250,000	0.4960	0.3333	
3	11,000	25,000	0.4400	0.4000	
4	3,000	6,000	0.5000	0.4286	
5	20,000	43,000	0.4651	0.4333	
6	5,000	15,000	0.3333	0.4400	
7	44,000	100,000	0.4400	0.4400	
8	1,300	2,400	0.5417	0.4651	
9	300,000	700,000	0.4286	0.4960	
10	1,200	3,600	0.3333	0.5000	
11	1,200	3,000	0.4000	0.5417	
12	65,000	150,000	0.4333	0.6364	

Median	
Mean Dev	
COD	

#	Assessment	Sale Price	Ratio	Array	Deviation
1	800	2,200	0.3636	0.0588	
2	13,000	24,000	0.5417	0.3000	
3	600,000	2,000,000	0.3000	0.3409	
4	10,000	23,000	0.4348	0.3636	
5	1,200	2,300	0.5217	0.4348	
6	3,200	7,000	0.4571	0.4571	
7	44,000	95,000	0.4632	0.4583	
8	55,000	120,000	0.4583	0.4632	
9	5,000	85,000	0.0588	0.5217	
10	4,000	6,000	0.6667	0.5417	
11	7,500	22,000	0.3409	0.6667	

Median	
Mean Dev	
COD	

Price Related Differential (PRD) Calculation

The Price Related Differential (PRD) is the statistic which measures assessment bias. When the PRD exceeds 1.00, this indicates that the higher valued properties are receiving a break because they are being under assessed relative to the lower valued properties.

For example: The PRD is 1.13, the higher valued properties may be assessed at 23% while the lower valued properties are assessed at 35%.

To calculate the PRD, follow these steps:

1. Calculate the mean ratio.
Calculate the aggregate ratio.
Divide the mean ratio by the aggregate ratio.

#	Assessment	Sale Price	Ratio		
1	3,500,000	12,500,000	0.2800		
2	12,000	35,000	0.3429		
3	100,000	300,000	0.3333	Mean	
4	400,000	1,000,000	0.4000		
5	40,500	60,000	0.6750	Aggregate	
6	3,000	15,000	0.2000		
7	32,000	125,000	0.2560	PRD	
8	77,000	100,000	0.7700		
9	60,000	550,000	0.1091		
10	1,200	5,000	0.2400		
11	1,200	11,000	0.1091		
12	1,400	2,000	0.7000		
			4.4154		
	4,228,300	14,703,000			

#	Assessment	Sale Price	Ratio		
1	35,000	55,000	0.6364		
2	124,000	250,000	0.4960		
3	11,000	25,000	0.4400	Mean	
4	3,000	6,000	0.5000		
5	20,000	43,000	0.4651	Aggregate	
6	5,000	15,000	0.3333		
7	44,000	100,000	0.4400	PRD	
8	1,300	2,400	0.5417		
9	300,000	700,000	0.4286		
10	1,200	3,600	0.3333		
11	1,200	3,000	0.4000		
12	65,000	150,000	0.4333		
			5.4477		
	610,700	1,353,000			

Review – Day 4

1. Georgia laws states that the assessed value of tangible property shall be _____of the fair market value.

2. What is the formula to determine the Sales Ratio?

3. What are the Georgia Department of Revenue standards for the coefficient of dispersion?

4. What does the COD measure?

5. What are the Georgia Department of Revenue standards for the price related differential?

6. Define assessment progressivity.

7. Define assessment regressivity.

8. What is the formula to determine the coefficient of dispersion?

9. What is the formula to determine the price related differential?

10. What does the PRD measure?

11. The standard for assessment level of a class of homogeneous properties will be presumed to have met the measure of central tendency if it is between _____and___percent.

Case Study #16

Sales Ratio Study

Sale	Assessed Value	Sales Ratio	Array	Median Ratio	Deviation from Median Ratio
$147,000	$47,040				
$155,000	$46,500				
$167,000	$21,710				
$172,800	$86,400				
$174,000	$24,360				
$167,000	$23,330				
$174,800	$96,900				
$194,000	$34,660				

Round Numbers to four decimal places.

Median Ratio =
Mean Ratio =
Sum of Assessments=
Sum of Saleprices =
Aggregate Ratio =
Sum of Deviations=
Mean Dev. =
COD =
PRD =

What do the numbers tell you?

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Case Study #17

Sales Ratio Study

Sale	Assessed Value	Sales Ratio	Array	Median Ratio	Deviation from Median Ratio
$170,000	$71,400				
$142,300	$31,306				
$212,000	$74,200				
$225,200	$90,800				
$165,000	$112,200				
$190,000	$81,000				
$242,300	$91,306				
$282,000	$99,200				
$125,200	$40,800				
$365,000	$99,200				

Round Numbers to four decimal places.

Median Ratio =
Mean Ratio =
Sum of Assessments=
Sum of Saleprices =
Aggregate Ratio =
Sum of Deviations=
Mean Dev. =
COD =
PRD =

<u>What do the numbers tell you?</u>

Case Study #18

Sales Ratio Study

Sale	Assessed Value	Sales Ratio	Array	Median Ratio	Deviation from Median Ratio
$13,500	$5,200				
$16,000	$6,325				
$14,400	$5,940				
$20,000	$8,125				
$18,000	$6,780				
$22,000	$7,820				
$15,570	$6,655				
$26,000	$9,415				
19,000	$7,375				
$22,500	$9,200				
$66,000	$36,300				
$19,900	$7,900				
$59,000	$28,125				
$44,000	$16,990				
$42,000	$17,820				
$35,570	$12,600				
$66,000	$29,415				
$99,000	$37,400				

Round Numbers to four decimal places.

Median Ratio =
Mean Ratio =
Aggregate Ratio =
Mean Dev. =
COD =
PRD =

<u>What do the numbers tell you?</u>

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Case Study #19

Sales Ratio Worksheet for Combined Study

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

Case Study #19 – Sales Ratio Study

Round to Four Decimal Places:

Your supervisor has requested that you review the residential assessments currently on the digest for a small district in your community. From this review you are to ascertain whether or not a revaluation is required.

The community is bordered on the north and south by two large cities, on the west by the ocean, and on the east by a mountain range. It is a relatively new community developed in the 2002. Most residents of this community (and the district) commute to jobs in the two bordering cities. The statutory assessment level in this community is 40 percent. Through your research, you have found and verified the following 9 recent sales, along with their assessed values**:**

Sale	Sale Price	Assessed Value
1	15,800	2,060
2	19,750	1,800
3	23,000	3,630
4	26,000	3,835
5	37,300	4,200
6	43,200	10,000
7	47,000	10,000
8	51,000	12,500
9	25,800	4,060
10	29,750	7,800
11	43,000	20,630
12	46,000	13,835
13	57,300	24,200
14	73,200	30,000
15	85,000	30,000
16	81,000	32,500
17	93,000	15,900

Based on your completed information, do you think a revaluation is necessary? Explain your conclusion based upon the statistical measures used by the Department of Revenue.

Sales Ratio Worksheet

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

Prepare for your appraiser exams! - Sales Ratio Analysis

The following sales prices and corresponding assessed values will be used in answering the following three questions. "Quality Class" refers to the quality of construction as used in mass appraising. **(Round all decimals to four (4) places).** Calculate the coefficient of dispersion about the median.

	Quality Class	Sales Price	Assessed Value
1	C	$35,000	$15,750
2	D	$35,000	$11,750
3	D	$20,000	$ 6,750
4	B	$70,000	$30,000
5	B	$73,400	$22,020
6	C	$46,000	$ 6,900
7	C	$40,000	$12,000
8	B	$68,000	$25,300
9	D	$18,000	$ 7,920
10	C	$50,000	$15,000
11	B	$75,000	$37,500
12	D	$32,000	$12,480
13	C	$45,000	$15,750
14	B	$65,000	$26,000
15	D	$25,000	$ 9,200

The coefficient of dispersion for the total ratio study is:

A. .0605
B. .1659
C. .1644
D. .1674

The lowest coefficient of dispersion level is found in:

A. Quality class "B"
B. Quality class "C"
C. Quality class "D"
D. The overall ratio study
E. None of the above

The coefficient of dispersion for quality class "C" is:

A. .3000
B. .3100
C. .2333
D. .0700
E. .3027

ALL PROPERTIES – CLASS B, C, AND D

Sales Ratio Worksheet

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

CLASS B PROPERTIES

Sales Ratio Worksheet

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

CLASS C PROPERTIES

Sales Ratio Worksheet

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

CLASS D PROPERTIES

Sales Ratio Worksheet

	Sale Price	Assessment	Ratio	Median Ratio	Deviation from Median Ratio
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
Sum					

Type	Answer	Type	Answer
Median Ratio		Mean Deviation	
Mean Ratio		Coefficient of Dispersion	
Aggregate Ratio		Price Related Differential	

Chapter 4 – Reference

Basic Principles of Value

Principle of Anticipation – Value is the present worth of all the anticipated future benefits to be derived from a property.

Principle of Balance –
Individual Property: maximum market value is reached when the four agents of production attain a state of balance. The four agents are land, labor, capital and management.

Neighborhood: maximum market value is reached when the uses of land are perfectly complementary.

Principle of Change – Market value is never constant because environmental (physical), economic, social, and governmental forces are at work to change the property and its environment.

Principle of Competition – When applied to property, competition means that an excess of one type of facility will decrease the value of all facilities.

Principle of Consistent Use – The property must be valued with a single use for the entire property.

Principle of Contribution – The value of a component of property depends upon its contribution to the whole.

Principle of Increasing and Decreasing Returns – When successive increments of one agent of production are added to fixed amounts of the other agents, future net benefits (income or amenities) will increase up to a certain point (the point of decreasing returns) after which successive increments will decrease future benefits.

Principle of Progression and Regression –
Progression: the value of lower quality property is increased by association with better properties of the same type. As an example, a $90,000 house among $120,000 houses could probably bring a price higher than $90,000 in the market.

Regression: The value of a better quality property is decreased by association with lower quality properties in the same area. As an example, a $120,000 house among $90,000 houses will tend to reduce the value of the $120,000. This is an example of an over improvement for the neighborhood.

Principle of Substitution – A property's market value tends to be set by the cost of acquiring an equally desirable and valuable substitute property. This principle underlies each of the three approaches to value.

Principle of Supply and Demand – The price of a property varies directly with demand and inversely with supply.

Principle of Surplus Productivity – The net income remaining after the costs of labor, management, and capital (in that order) have been satisfied.

Definitions courtesy of IAAO – Property Assessment Valuation, Second Edition.

Elements of a House

1. Footing
2. Reinforcing rod
3. Key way
4. Drain tile
5. Foundation wall
6. Waterproofing
7. Gravel fill
8. Grade line
9. Metal column
10. Areaway wall
11. Basement window
12. Splash block
13. Stoop
14. Sill plate
15. Corner brace
16. Knee brace
17. Bridging
18. Floor joist
19. Beam; girder
20. Sheathing
21. Building paper
22. Trim pilaster
23. Double-hung window
24. Window sill
25. Downspout; leader
26. Bevel siding
27. Fiberboard sheathing
28. Window trim
29. Mullion
30. Rake mold
31. Dormer
32. Valley
33. Gutter
34. Pediment door trim
35. Shutter
36. Finish flooring
37. Stud
38. Roof decking
39. Double top plate
40. Flooring paper
41. Corner post
42. Subfloor
43. Lintel; header
44. Brick sill
45. Porch post
46. Porch frieze board
47. Return cornice
48. Louver
49. Brick veneer; gable
50. End rafter
51. Insulation
52. Ceiling joist
53. Collar beam
54. Common rafter
55. Ridge board
56. Flashing
57. Shingles
58. Chimney
59. Cement wash; cap
60. Chimney flues; pots

General Building Specifications
(What to Look For)

Foundations
Adequate Footings and Pilasters
Pier Versus Continuous Foundation on all Interior Load Bearing Walls
Foundation Wall Width (6”, 8”, 12”)
Waterproofing under Floor and around Walls

Basement
Height (Wall)
Floor Drainage
Finished Area
Storage / Laundry Facilities

Exterior
Sheathing Size and Type of Material Used
Type of siding:
Clap Board
Drop Siding
Bevel Siding
Shiplap Siding
Board and Batten Siding
Tongued and Grooved Siding
Brick Veneer
Stone
Concrete Block
Other
Windows - Quality and Type of Glass
Doors - Quality
Trim
Paint
Gutters – Copper, Aluminum, Galvanized
Overall Materials and Workmanship

Roof
Substructure (See “Frame” Below)
Sheathing – How dressed, Matched, Ply Paper
Cover: Asphalt Shingle (Different Weights)
Wood Shingle
Wood Shake
Tile
Slate
Build-up Composition Rock and Tar

Cornices and Overhangs: Width of Eaves
Boxed Eaves
Amount of Trim
Flashing: Aluminum
Copper
Rust Proof

Frame
Studs: 2” x 4” 12”, 16”, 20”, 24” on center
Type of Reinforcing at Corners and Openings
Wind Braces
Joists: 2” x 4”, 2: x 6”, 2” x 8”, 2” x 10”
Type of Reinforcing under Partitions and Floor Openings
Type of Bridging
Rafters: 2” x 4”, 2” x 6”, 2” x 8”; 16” – 24” on center
Reinforcing at Openings
Collar Beams
Beams: Wood , 2” x 10”, 2” x 8”, 2” x 6”; single, double or triple
Steel girders
Flitch Beams (Sandwiched Steel Plate)
Type of Column, Pipe, Steel, Wood, Masonry

Floor
Substructure: See “Frame”
Sub floor : Wood, Tongue Groove Wood, Plywood, Composition / Pressboard
Finish: Hardwood (Oak, Pine, Parquet)
Carpet
Tile
Slab
Basement – See Types Above

Interior
Walls: Plaster on Wood or Metal Lathe
Drywall (Sheetrock)
Wallpaper
The way walls are reinforced
Trim: Quality of materials and Workmanship
Stairways: Width and Clearance
Balusters and Stair Rail
Built-in Features (i.e., Kitchen Materials, Cabinets, Counters, Closets, etc.)

Heating
Steam
Forced Hot Air

Forced Hot air with Connected Air Conditioning
Heat Pump
Gravity Heat
Floor Furnace
Unit Wall Heater
Other

Plumbing
Number of Fixtures per Bath
Number of Baths
Number of Fixtures in Kitchen
Number of Fixtures in Laundry Room
Adequacy of Water Heater
Quality of Fixtures Mentioned Above

Electrical and Lighting
Romex Wiring or Other
Metal Conduits
Quality of Lighting and Electrical Fixtures
Number of Outlets per Room
Adequacy of Circuits

Construction Glossary

A

- Abut: Joining the ends of construction members.
- A-Frame: Structural system utilizing members that when fastened together resemble the letter A.
- Aggregate: Gravel (coarse) or sand (fine) used in concrete mixes.
- Apron: Inside window trim placed under the stool and against the wall.
- Arch: A curved structure that supports itself and spans an opening.
- Areaway: Recessed area below grade around the foundation to allow light and ventilation into a basement window.
- Asphalt: Dark, thick by-product of petro-carbon that is used for roof shingles and road surfaces when mixed with mineral particles.
- Astragal: T-profiled molding usually used between meeting doors or casement windows
- Atrium: An open court within a building.
- Attic: Interior part of gable house that is directly under the roof.
- Awning: Roof-like shelter extending from above windows or doors usually made of canvas or other materials.
- Axis: Line around which something rotates or is symmetrically arranged.

B

- Backfill: Earth used to fill in areas around foundation walls.
- Base Cabinets: The lower cabinets in kitchens that support the countertops.
- Bargeboard: Finish board covering the projecting and sloping portion of a gable roof.
- Baseboard: Finish board covering the interior wall where the wall and floor meet.
- Basement Window: Any window in the basement.
- Batt: A type of fiberglass insulation designed to be installed between framing members.
- Batten: Narrow strip of wood nailed over the vertical joint of boards to form board and batten siding.
- Batter Boards: Horizontal boards at exact elevations nailed to posts just outside the corners of a proposed building. Strings are stretched across the boards to locate the outline of the foundation for workers.
- Bay Window: A group of windows extending from an outside wall to form an alcove within.
- Beam: Horizontal structural member, usually heavier than a joist.
- Bearing Plate: Metal plate that provides support for a structural member.
- Bearing Wall: A wall that supports structural weight, such as the roof above.
- Bench Mark: Mark on some permanent object fixed to the ground from which land measurements and elevations are taken.
- Bevel Siding: Type of exterior siding made by sawing boards diagonally to produce two wedge shaped pieces of siding.
- Blind Nailing: Method of nailing that will conceal nails, usually used on strip flooring and wood paneling.
- Blocking: Small wood pieces in wood framing to anchor or support other major members.
- Board Measure: System of lumber measurement. The unit is 1 bd ft, which is 1 ft square by approximately 1 in. thick.
- Bond: arrangement of masonry units in a wall.

- Bond Beam: Continuous, reinforced concrete block course around the top of masonry walls.
- Bracing: Support members in framing that are used to make the major structural members more rigid.
- Brick: Small masonry units made from clay and baked in a kiln.
- Brick Sill: First row of horizontal brick under a window.
- Brick Veneer - Exterior or face of the brick.
- Bridging: Cross bracing or solid blocking between joists to stiffen floor framing.
- Building Line: Setback restrictions on property, established by zoning ordinances, beyond which a building must be placed.
- Building Paper: Moisture barrier under siding, prevents water from entering home.
- Built-up Roof: Roofing for low-slope roofs composed of several layers of felt and hot asphalt or coal tar, usually covered with small aggregate.
- Butt: Type of hinge allowing edge of door to butt into the jam; a joint that fastens members end to end.
- Buttress: Vertical masonry or concrete support, usually larger at the base, which projects from a wall.

C

- Callout: Note on a drawing with a leader to the relating feature.
- Cantilever: A projecting beam or structural member anchored at only one end.
- Casing: trim around window and door openings
- Caulking: Soft, elastic material used to seal small openings around doors, windows, etc.
- Cement Wash; Cap: Overlay of Portland cement applied to cover unsightly concrete.
- Chamfer: beveled edge formed by removing the sharp corner of a material.
- Chase: Vertical space within a building for ducts, pipes, or wires.
- Chimney: The exterior structure surrounding a flue.
- Chimney Flues; Pots: Terra cotta or metal pipe that is connected to the top of the fire box to discharge smoke.
- Chord: Top or bottom member of a truss.
- Circuit: Closed wiring or conductor through which an electric current can pass.
- Collar Beam: Horizontal member tying opposing rafters below the roof ridge.
- Column: Vertical supporting member.
- Concrete: Hardened mixture of cement, sand, gravel, and water; one of our major building materials.
- Conduit: Round cross section electrical raceway of metal or plastic.
- Control Joint: Continuous, vertical joint in masonry walls to control cracking.
- Coping: Metal cap or masonry top course of a wall.
- Corbel: Projection of masonry from the face of a wall; a stepped coursing bracket to support weight above.
- Corner Brace: Brace used to prevent walls from moving horizontally.
- Cornice: Molded projection of the roof overhand at the top of a wall.
- Cove: Concave molding usually used on horizontal inside corners.
- Crawlspace: Shallow space below the floor of a building built above ground, generally surrounded with a foundation wall.

- Cricket: Small gable like roof structure used to divert water and debris from intersection of sloping roof and chimney; also called a saddle.
- Cripple: Structural member that is cut less than full length, such as a studding piece above a window or door.
- Crown Molding; Molding used above eye level; usually the upper trim on interior walls.
- Cut Stone: Stone cut to given sizes and shapes.

D

- Dado Joint: Recessed joint on the face of a board to receive the end of a perpendicular board.
- Damp-proofing: Material used to prevent passage of moisture.
- Deck: Exterior floor, usually extended from the outside wall.
- Dimension Lumber: Framing lumber that is 2 in. nominal thickness.
- Distribution Panel: Electrical unit that distributes the incoming current into smaller circuits.
- Domestic Hot Water: Potable (drinkable) hot water that is used for personal needs.
- Door Stop: Projecting strip around the inside of door frame against which the door closes.
- Dormer: Top-floor projection of a room built out from a sloping roof to allow light and ventilation.
- Double Glazing: Two panes of glass with air sealed between.
- Double Hung Window: A window having two sashes that slide up and down.
- Double Top Plate: In a stud wall, the top two horizontal members.
- Downspout: Pipe for carrying rainwater from the roof to the ground or storm drainage system; also called a leader.
- Drain Tile: Clay or plastic pipe installed in a firewall to allow ground water to drain from underneath the slabs or from around foundations, also used in waterproofing firewalls or basements.
- Dressed Size: Dimensions of lumber after planing; also known as finished or actual size.
- Drip: Projecting construction or groove below an exterior member to throw off rainwater.
- Dry-Wall Construction: Interior wall covering other that plaster, usually referred to as "gypsum board" or "wallboard."
- Duplex Outlet: Electrical wall outlet having two plug receptacles.

E

- Eave: Lower portion of the roof that overhangs the walls.
- Efflorescence: Undesirable white stains on masonry walls created by moisture from within.
- Ell: Extension or wing of a building at right angles to the main section.
- Encroach: Use when you have moved over a designated boundary i.e. easements line.
- End Rafter: The projecting and sloping portion of a gable roof.
- Excavation: Cavity or pit produced by digging the earth in preparation for construction.
- Expansion Joint: Flexible joint used to prevent cracking or breaking due to thermal expansion and contraction.

F

- Facade: Face or front elevation of a building.
- Face Brick: Brick of better quality used on the face of a wall.
- Fascia: Outside horizontal face or member on the edge of a roof or cornice.

- Fasteners: General term for metal devices, such as nails, bolts, screws, etc., used to secure structural members within a building.
- Fiberboard: Fabricated structural sheets made from wood fiber and adhesive under pressure.
- Finish Flooring: Any type of floor covering that is installed over the slab or crawl space (i.e. carpet, vinyl, tile, etc...).
- Fire Cut: Angular cut at the ends of joists framing into a masonry wall.
- Fire-Stop: Tight closure material or blocking to prevent the spread of flame or hot gases within framing.
- Flagstone: Flat stone used for floors, terraces, steps, and walks.
- Flashing: Sheet-metal work used in roof or wall construction to prevent water from seeping into the building.
- Flitch Beam: Built-up beam formed by a steel plate sandwiched between two wood members and bolted together for additional strength.
- Float material: Material used to form a brick ledge for a slab.
- Floor Joist: Horizontal member used to support flooring system.
- Flooring Paper: Felt paper that is installed under hardwood to prevent moisture damage.
- Footing: Poured concrete base upon which foundation walls, columns, or chimneys rest; usually has steel reinforcing bars.
- Foundation Wall: Supporting portion of a structure below the first floor construction or below grade.
- Frieze: trim member below the cornice that is fastened against the wall.
- Frost Line: Depth of frost penetration in the ground; bottom of footings should always be below this line.
- Furring Strips: Thin strips fastened to walls or ceilings for leveling and for attaching finish surface material.

G

- Gable: Triangular-shaped end wall of a gable-roof building.
- Glazing: Installation of glass in windows and doors.
- Grade: (1) Finished surface of ground around a building. (2) Refers to classification of the quality of lumber or plywood.
- Gradient: Inclination of a road, piping, or the ground, expressed in percent.
- Gravel Fill: 4" of stone or crush installed prior to level the grade, insuring a consistent 4" concrete pour.
- Gravel Stop: Strip of metal with a vertical lip used to retain the gravel around a built-up roof.
- Grounds: Wood strips fastened to walls before plastering that serve as edges for the plaster and nailing base for wood trim.
- Grout: Thin cement mortar used for leveling and filling masonry cavities.
- Gusset: Plywood or metal plate used to strengthen joints of a truss.
- Gutter: Metal or wood trough for carrying rainwater to downspouts.
- Gypboard: Gypsum sheet covered with paper that is fastened to walls and ceilings with nails or screws.

H

- Half-Timber: Exterior wall construction having wood frame members exposed and the spaces between filled with stucco or masonry.
- Hanger: Metal strap used to support the ends of joists or piping.
- Hardware: General term used for the metal parts that are used with conventional components of a wood structure, such as hinges and knobs on wood doors.
- Header: In framing, the continuous joist placed across the ends of floor joists, the double joists at each end of floor or ceiling openings attached to the trimmers, and the structural member above window or door openings. In masonry, exposed ends of masonry units laid horizontally.
- Headroom: Vertical clearance in a passageway or above a stairway, measured from the edge of the nosing.
- Heartwood: Central portion of a tree, which is stronger and more decay-resistant than the surrounding sapwood.
- Heat-pump: All-electric heating and cooling device that takes heat from outside air or ground water for heating and reverses for cooling.
- Hip Rafter: Diagonal rafter that extends from the plate to the ridge to form the hip.
- Hose Bibb: Water faucet made for the threaded attachment of a hose.
- House Sewer: Watertight soil pipe extending from the exterior of the foundation wall to the sewer main.

I

- Incandescent Lamp: Lamp in which a filament gives off light.
- Insulation - A material that slows the movement of heat, saving energy and making a home more comfortable.
- Interior Trim: General term for all the finish molding, casing, baseboard, etc., applied within the building by finish carpenters.

J

- Jack Rafter: Rafter shorter than a common rafter; especially used in hip-roof framing.
- Jamb: Vertical members of a finished door or window opening.
- Jointery: General woodworking term used for better quality wood-joint construction.
- Joist: Structural member that directly supports floors or ceilings and is supported by bearing by bearing walls, beams or girders.

K

- Key Way: Usually metal, acts as expansion joint in slabs or flatwork after pour, cut in and installed.
- Kicker: A 45 degree stake to support concrete form boards.
- Kiln-Dried Lumber: Lumber that has been properly dried and cured (to 15 percent moisture content) resulting in a higher-grade lumber that air dried.
- Knee Brace: Similar to Corner Brace, used when there is not enough room for a corner brace.

- Knee Wall: Low wall in upper story resulting from 1 1/2- story construction.
- Knocked Down: Unassembled; refers to construction units requiring assembly after being delivered to the job.

L

- Lambs leg: (Texas) Triangular termination of the soffit on a gable.
- Laminated Beam: Beam made of superimposed layers of similar material (usually wood) by uniting them with glue under pressure.
- Lap Joint: Joint produced by lapping and joining two similar members.
- Lath: Metal or gypsum sheeting used under plaster, stucco, and ceramic tile.
- Lattice: Grillwork made by crossing small wooden strips.
- Leader: Vertical pipe or downspout that carries rainwater to the ground or storm sewer.
- Ledger: Strip of lumber fastened to the lower part of a beam or girder on which notched joists are attached.
- Lineal Foot: One-foot measurement along a straight line.
- Lintel: Horizontal support over a window or door opening.
- Load-Bearing Wall: Wall designed to support the weight imposed upon it from above.
- Lookout: Short, wooden framing member used to support an overhanging portion of a roof. It extends from the wall to support the soffit.
- Lot Line: Line forming the legal boundary of a piece of property; also called property line.
- Louver: Opening or slatted grillwork that allows ventilation while providing protection from rain, sight, or light.

M

- Masonry: General term for brickwork, stonework, concrete blockwork, or similar materials.
- Mastic: Flexible adhesive for adhering building materials.
- Matte Finish: Finish free of gloss or highlights.
- Metal Column: Column used for support.
- Millwork: Finish carpentry work or the woodwork done in a mill and delivered to the site; relates to interior trim.
- Miter Joint: Joint made with ends or edges of two pieces cut at 45-degree angles and fastened together.
- Module: Standardized unit of measure (e.g., 4", 12", or 4'0", etc.) to unify construction.
- Monolithic: Term used for concrete work poured and cast in one piece without joints.
- Mosaic: Small colored tile, glass, stone, or similar material arranged to produce a decorative surface.
- Mullion: Structural support member between a series of windows.
- Muntin: Small bar separating the glass lights in a window sash.

N

- Nominal Size: Size of lumber before dressing, rather than its actual or finished size.
- Nonferrous Metal: Metal containing no iron, such as copper, brass, or aluminum.

O

- On Center: Method of indicating spacing of framing members by stating the distance from center of one to center of the next.
- Outlet: Any type of electrical box allowing current to be drawn from the electrical system for lighting or appliances.

- Overhang: Projecting area of a roof or upper story beyond the wall of the lower part.

P

- Parge Coat: Thin coat of cement mortar applied to a masonry wall for refinement or damp proofing.
- Parquet Flooring: Flooring, usually wood, laid in an alternating or inlaid pattern to form various designs.
- Particleboard: sheets made from compressed wood fiber.
- Party Wall: Wall common to adjoining buildings which both owners share, such as a wall between row houses or condominiums.
- Pediment Door Trim: Decorative piece over front door.
- Penny: Term used to identify nail size.
- Periphery: Entire outside edge of an object or surface.
- Pier: Masonry support, usually in the crawl space, to support the floor framing.
- Pitch: Slope of a roof usually expressed as a ratio.
- Plank: Lumber 2" thick or over, nominal.
- Plate: Top or bottom horizontal members of a row of studs in a frame wall; also, the sill member over a foundation wall.
- Plumb: Said of a member when it is in true vertical position as determined by a plumb bob or vertical level.
- Porch Post: Post used to support porch roof.
- Prime-coat: First coat of paint applied to wood or metal to prime the surface for succeeding coats.
- Purlin: Horizontal roof members laid over trusses to support roof decking.

Q

- Quarry Tile: Unglazed, machine-made tile used for floors.
- Quarter Round: Small molding with a quarter-circle profile.
- Quarter Sawed: Lumber, usually flooring, that has been sawed so that the medullary rays showing on end grain are nearly perpendicular to the face of the lumber.
- Quoins: Large squared stones or brick masonry set in the corners of masonry buildings for architectural style.

R

- Rabbet: Groove cut along the edge or end of a board to receive another board.
- Rafter: Inclined structural roof member.
- Rake: Inclined edge of a roof that overhangs the gable.
- Random Rubble: stone work having irregular-shaped units and no indication of systematic course work.
- Rebar: Steel reinforcing bar.
- Reinforcing Rod: Provides lateral stability of basement walls to resist uplifting & cracking.
- Reveal: Side of an opening of a window or door.
- Ribbon: Wood striplet into the studs to provide a bearing for joists
- Ridge-board: Horizontal wood framing member to which the top of rafters are attached.
- Riprap: Stone placed on an incline to prevent erosion.
- Rise: Vertical height of a roof or stairs.

- Roof Decking: Plywood or OSB nailed on top of rafters for base of roof, also referred to as roof sheeting.
- Rough Hardware: All the concealed fasteners in a building, such as nails, bolts, and hangers.
- Rough Opening: Any unfinished opening in the framing of a building.
- Rowlock: Brickwork with exposed ends set vertically.
- Run: Horizontal distance of a flight of stairs, or the horizontal distance from the outside wall to the ridge of a roof.

S

- Saddle: Small gable roof placed in back of a chimney on a sloping roof to shed water and debris; also called a cricket.
- Sash: Individual frame into which glass is set; the movable part of a double-hung window.
- Schedule: Listing of finishers, doors, windows, etc., on working drawings.
- Scuttle: Small opening in a ceiling to provide access to an attic or roof.
- Setback: Distance from the property lines, front, side, and rear, to the face of a building; established by zoning ordinances.
- Shake: Hand-split wood shingle.
- Sheathing: rough covering over the framing of a building, either roof or wall, which is not exposed when finish material is applied.
- Shingles: Placed over roof deck to prevent water from entering roof, made of asphalt, fiberglass, tile or slate.
- Shoe Mold: Small rounded molding covering the joint between the flooring and the baseboard.
- Shutter: Flush board, louvered or paneled frames in the form of small doors mounted alongside a window.
- Sill: Horizontal exterior member below a window or door opening. In frame construction, the lowest structural member that rests on the foundation.
- Sleepers: wood strips placed over or in a concrete slab to receive a finished wood floor.
- Soffit: Underside of an overhang such as the eave, a second floor, or stairs.
- Soil Stack: Vertical plumbing pipe that carries sewage.
- Soleplate: Horizontal member of a frame wall that is directly under the studs.
- Span: Horizontal distance between supports for joists, beams, or trusses.
- Splash Block: Concrete block used to divert or soften water flow coming out of gutters.
- Square: In roofing, 100 sq. ft of roofing.
- Stile: vertical framing member of a panel door.
- Stool: Horizontal interior member of the frame below a window.
- Stoop: First step on outside from door.
- Story: Space between two floors of a building.
- Stucco: Exterior finish for masonry or wood; made from cement, sand, and hydrated lime mixed with water and applied wet.
- Studs: Vertical framing members in a wall spaced 16" or 24" o.c.
- Subfloor: Material fastened directly to floor joists below the finish floor.
- Suspended Ceiling: Finish ceiling hung below the underside of the building structure, either floor or roof.

T

- Tail Joists: Relatively shorter joists that join against a header or trimmer in floor framing.
- Tensile Strength: The greatest longitudinal stress a structural member can resist without adverse effects (breaking or cracking).
- Thermal Conductor: Material capable of transmitting heat.
- Threshold: wood, metal, or stone member placed directly below a door.
- Toenail: Nailing diagonally through a member.
- Top-out: Running plumbing through the roof at the plumbing rough stage.
- T-Post: Post built up of studs and blocking to form the intersection framing for perpendicular walls.
- Trap: U-shaped pipe below plumbing fixtures that provides a water seal to prevent sewer odors and gases from entering habitable areas.
- Trim Pilaster: Decorative column attached to a wall.
- Trimmer: The longer floor or ceiling-framing members around the rectangular opening into which headers are joined; both headers and trimmers and doubled.
- Truss: Structural unit of members fastened in triangular arrangements to form a rigid framework for support over long spans.
- Trussed Rafter: Truss spaced close enough (usually 24" o.c.) to eliminate the need for purlins.

V

- Valley: Two diagonal rafters intersecting on two downward sloping roofs forming a valley.
- Valley Rafter: Diagonal rafter at the intersection of two intersecting sloping roofs.
- Vapor Barrier: Watertight material used to prevent the passage of moisture or water vapor into and through walls and under concrete slabs.
- Veneer Construction: Type of wall construction in which frame or masonry walls are faced with other exterior surfacing materials.
- Vent Stack: Vertical soil pipe connected to the drainage system to allow ventilation and pressure equalization

W

- Wainscot: Surfacing on the lower part of an interior wall when finished differently from the remainder of the wall.
- Wall Tie: Small metal strips or steel wire used to bind coursed of masonry in cavity-wall construction or to bind masonry to wood frame in veneer construction.
- Water Table: Horizontal member extending from the surface of an exterior wall to throw rainwater away from the wall; also, the level of subsurface water.
- Waterproofing: A procedure using an overlay on the basement walls that channels water into drain tile buried into gravel to maintain a dry basement.
- Weather Stripping: Strips of fabric or metal fastened around the edges of windows and doors to prevent air infiltration.
- Weep Hole: Small holes in masonry cavity walls to release moisture accumulation to the exterior.
- Welded Wire Fabric (WWF): Metal fabric made from wire welding together at right angles and used for concrete reinforcement.

- Winder: Stair tread that is wider at one end than the other, allowing the stairs to change direction.
- Window Sill: Horizontal member directly below a window.
- Window Trim: Decorative molding around window.
- Wythe: Pertaining to a single-width masonry wall.

Solutions

Solution – Case Problem 1

	Subject	Sale #1 2 yrs ago	Sale #2 Current	Sale #3 2 yrs ago	Sale #4 Current	Sale #5 1 yr ago
Sale Price		78,250	75,900	76,750	80,100	79,900
Time Adjustment 5% per year		+7,825	0	+7,675	0	+3,995
Heating	Forced Hot Air	+550	0	+550	+550	+550
Garage	Attached Double Garage	0	+1,100	0	+1,100	0
Bath	One Bath	-1,400	0	-1,400	-1,400	-1,400
Bedroom	Three Bedrooms	-2,000	0	0	0	-2,000
Fireplace	None	-1,400	0	-1,000	-1,400	-1,400
Total Adjustments		+3,575	+1,100	+5,825	-1150	-255
Adjusted Sales Price		$81,825	$77,000	$82,575	$78,950	$79,645

Estimated Value ___$77,000_____

Solution – Case Problem 2

	Subject	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price		71,000	77,700	73,500	73,500
Time		0	0	0	0
Lot Size	100'x300'	+250	-250	0	0
Location	Good	+800	0	-800	0
Wall Type	Brick	+1,500	+1,500	0	0
Rooms	6	0	0	-800	0
Condition	Excellent	+600	0	0	0
Equipment	Heater & built-ins	+350	0	+350	0
Basement	No	0	-1,400	0	0
Bath	2	+1,200	+1,200	0	0
Fireplace	No	0	-1,100	0	0
Garage	1 Car	+1,500	-900	+1,500	0
Total Adjustments		+6,200	-950	+250	Family Transaction
Adjusted Sales Price		$77,200	$76,750	$73,750	N/A

Estimated Value ___$73,750_____

Solution – Case Problem 3

	Sale #1	Sale #2	Sale #3	Sale #4	Sale #5
Sale Price	80,000	74,500	72,000	72,500	71,700
Time	0	+3,725	+7,200	+3,625	+3,585
Construction	0	+2,000	+2,000	+2,000	0
Condition	-1,200	0	0	+1,200	0
Lot	0	0	0	+1,000	0
Rooms – 1st floor	0	0	+2,000	0	0
Rooms – 2nd floor	0	0	0	0	+2,000
Room & Bath 3rd floor	0	0	+2,500	0	+2,500
Bath 1st floor	0	0	0	0	+1,500
Bath 2nd floor	+1,500	0	0	+1,500	0
Kitchen	-2,500	0	-2,500	0	0
Piping	0	0	-1,600	-1,600	-1,600
Total Adjustments	-2,200	+5,725	+9,600	+7,725	+7,985
Adjusted Sales Price	$77,800	$80,225	$81,600	$80,225	$79,685

Comparative Value Range is $77,800 - $81,600

Solution - Case Study 4 Worksheet

	Sale #1	**Sale #2**	**Sale #3**	**Sale #4**
Sale Price	$77,000	$86,000	$78,000	$80,000
Time Adjustment	(2%) +$1,540	(6%) +$5,160	(3%) +$2,340	0
Time Adjusted Sale Price	$78,540	$91,160	$80,340	$80,000
Size	0	0	0	0
Amenities	0	0	0	0
Greenbelt	+$6,000	0	+$6,000	0
View	+$10,000	0	0	+$10,000
Net Adjustment	+$16,000	0	+$6,000	+$10,000
Adjusted Sale Price	$94,540	$91,160	$86,340	$90,000

Value of Lot 40____$91,160_____

Solution - Case Problem 5
Land Valuation

	Sale #1	Sale #2	Sale #3	Sale #4
Sale Price	$6,400	$7,645	$7,365	$9,600
Time Adjustment %	28%	27%	11%	24%
Time Adjustment $	$1,792	$2,064	$810	$2,304
Time Adjusted Sales Price	$8,192	$9,709	$8,175	$11,904
Other Adjustments (Percentages)				
Location	0	0	0	-20%
Frontage	-5%	-10%	-5%	-5%
Depth	-15%	-20%	-15%	-5%
Shape	15%	5%	5%	0
Topography	10%	5%	10%	0
Sewer, Water, Street	0	0	0	0
Net Adjustment Percentage	5%	-20%	-5%	-30%
Net Adjustment Dollar Amount	$410	-$1,942	-$409	-$3,571
Adjusted Value	$8,602	$7,767	$7,766	$8,333

Estimated Value = $8,333

Solution – Case Problem #6

Depreciation - Market Comparison (Paired Sales)

You are appraising a single-family residence that suffers from several forms of depreciation including the diminished utility resulting from having the stairway to the basement located in the center of the residence.

In analyzing sales of comparable properties, you find the following:

A residence that suffers from the same defect as the subject sold recently for $83,000.

Approximately six months prior to this sale, a property similar in size, shape, physical condition and location, but without the defect, sold for $80,750.

A study of the market indicates that prices of properties are increasing at a rate of 12 percent per year.

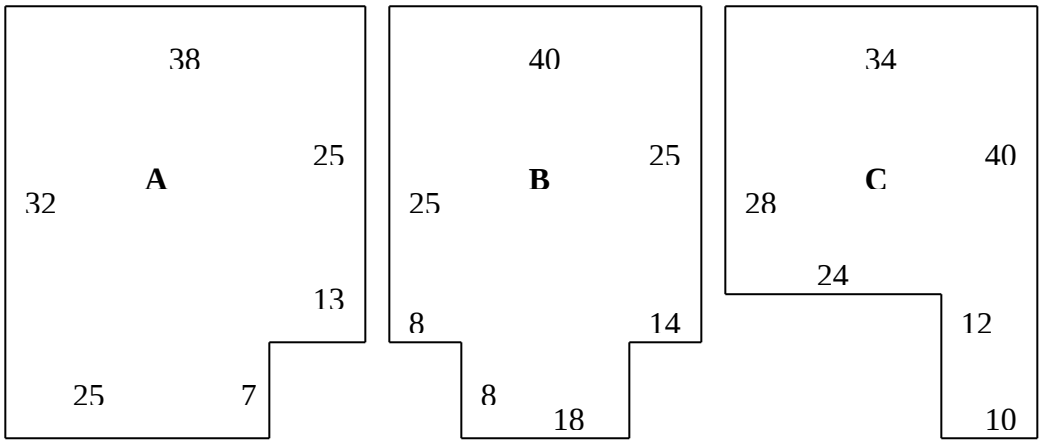
Problem: What is the indicated loss of value due to the defect suffered by the subject property?

$80,750 (Six Month Prior Sale)
$ 4,845 (Property price increase for 6 months)
$85,595
-83,000 (Recent Sale)
$ 2,595 (Loss of Value)

Solution – Case Problem #7

Estimating Replacement Cost by Comparison

You are estimating by comparison the replacement cost of a recently completed one-story family dwelling. Your subject contains 1,142 square feet. All homes in the subdivision are identical as far as quality of construction and equipment is concerned. The three comparable properties below have experienced no depreciation and have recently sold.



Sale A $74,350 Sale B $75,400 Sale C $71,900
Land Value $8,000 Land Value $9,500 Land Value $7,000

Problem: From the above, estimate the "replacement cost new" of the subject improvement rounded to the nearest $100.

Item A: (38 x 25) + (25 x 7) = 1,125 Sq Ft
$74,350 - $8,000 = $66,350 Building Cost
$66,350 / 1,125 = $58.98 Sq Ft Unit Cost

Item B: (40 x 25) + (18 x 8) = 1,144 St Ft
$75,400 - $9,500 = $65,900
$65,900 / 1,144 = $57.60 Sq Ft Unit Cost

Item C: (34 x 28) + (12 x 10) = 1,072 Sq Ft
$71,900 - $7,000 = $64,900
$64,900 / 1,072 = $60.54 Sq Ft Unit Cost

Subject: 1,142 x $57.60 = $65,779 (Rounded to $65,800)

Solution – Case Problem #8

Cost Estimation by Comparison

You are estimating the reproduction cost of a small neighborhood retail center that consists of six stores. The building frontage measures 120' by 80' depth with an "L", 30'x 40'. The lot contains 18,000 square feet and the entire area not covered by the building is a parking space surfaced with asphalt.

You have obtained the building costs of three new properties quite similar to the subject.

Sale 1: A group of six stores containing 11,000 square feet of area on a 20,000 square foot lot.

The cost was:
Building $242,000
Surfacing $6,750

Building Cost: $242,000 / 11,000 sq ft = $22.00 per sq foot
Surfacing: 9,000 sq feet / 9 = 1,000 sq yards
$6,750 / 1,000 sq yd = $6.75 per sq yard

Sale 2: Seven stores containing 14,000 square feet of building area on a 30,000 square foot lot.

The cost was:
Building $297,500 Surfacing $ 11,700

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Building Cost: $297,500 / 14,000 sq ft = $21.25 per sq foot
Surfacing: 16,000 sq feet / 9 = 1,778 sq yards
$11,700 / 1,778 sq yd = $6.58 per sq yard

Sale 3: Five stores containing 9,000 square feet of building area on 16,000 square foot lot.

The cost was:
Building $202,500 Surfacing $5,400

Building Cost: $202,500 / 9,000 sq ft = $22.50 per sq foot
Surfacing: 7,000 sq feet / 9 = 778 sq yards
$5,400 / 778 sq yd = $6.94 per sq yard

Solution – Case Problem #8 Cont.

Estimate the Reproduction Cost New of the subject property, including the lot surfacing by comparison with the above known costs.

Notes: 1 square yard = 9 square feet
Buildings in this area are typically priced on a square foot basis
Surfacing in this area is typically priced on a square yard basis

Subject Property:

Building: (120' x 80') + (30' x 40') = 10,800 square feet
Surfacing: 18,000 square feet – 10,800 square feet = 7,200 sq ft
7,200 sq ft / 9 square feet per square yard = 800 square yards

Summary:

Building #1, at a reproduction cost of $22.00 per square foot, is most comparable to the subject property because of the size.

Surfacing of lot #3, at a cost of $6.94 per square yard, is closest in size to the subject property.

Subject Building: 10,800 sq feet x $22.00 per sq ft = $237,600
Subject Surfacing: 800 sq yards x $6.94 per sq yard = $5,552

$237,600
$ 5,552
$243,152 Total Cost by comparison

Solution - Case Problem #9

Gross Income Multiplier

Sale	Income	GIM
$ 212,800	$ 22,400	9.50
$ 234,400	$ 24,000	9.76
$190,950	$ 20,100	9.50
$ 178,600	$ 19,000	9.40
$ 248,900	$ 26,200	9.50

Subject Income $26,300 ($26,300 x 9.5 = $249,850)

Problem: Estimate the value of the Subject Property using the Gross Income Multiplier developed from the data above.

Solution - Case Problem #10

Gross Rent Multiplier

Sale	Income	GRM
$112,000	$910	123.07 = 123
$123,000	$1,035	118.84 = 119
$98,000	$815	120.25 = 120
$115,000	$975	117.94 = 118
$130,000	$1,085	119.81 = 120

Subject Income $765

Problem: Estimate the value of the Subject Property using the Gross Rent Multiplier developed from the data above.

$765 x 120 = $91,800
The reason the multiplier of 120 is chosen is because the monthly rent is closest to the subject.

Solution - Case Problem #11
Gross Income Multiplier

In assessing a commercial building, you note the following data:

Comparative Sale	Gross Annual Income	Sale Price
1	$12,000	$100,000
2	$17,000	$141,000
3	$13,000	$107,250

Subject = $15,500

The buildings have approximately the same operating pattern and expense ratios, and are similar in condition and location.

Problem: What is the indicated value of the subject property using the gross income multiplier?

Sale 1 GIM = 8.33
Sale 2 GIM = 8.29
Sale 3 GIM = 8.25
Round to 8.3.
The subject is valued at $128,650 ($15,500 x 8.3)

Solution - Case Problem #12
Incurable Functional Obsolescence - GRM

In appraising a single-family residence, you note that the stairway leading to the basement is in poor location. Moving items to the basement involves going through the kitchen or the living room plus a central hallway before reaching the stairway. You determine that this is functional defect.

Upon analysis of the rentals of comparable properties in the subject area, you find that a residence of this style and size, but without the defect, rents for $545 per month. The subject rents for $530 per month. The gross rent multiplier for single-family properties in the subject area is 115.

Problem: Estimate the value loss accruing to the residence resulting from this defect.

	Subject
Property #1 (No defect)	Property #2 (Defect)
Rent $545	Rent $530
$545 x 115 = $62,675	$530 x 115 = $60,950

Difference = $62,675 - $60,950 = $1,725

Solution - Case Problem #13
Economic Obsolescence - GRM

The subject residence you are appraising is located adjacent to a service station and rents for $165 per month. Comparable residences in the area not next to service stations rent for $180 per month.

You have found the following sales of comparable residences:

Sale	Monthly Rent	Sale Price
1	$185	$21,300
2	$170	$19,500
3	$175	$20,175
4	$170	$19,550

The land to building ratio in the area for this type of property is 1:4.

Problem: Estimate the economic (locational) obsolescence suffered by the subject residence.

Sale 1 GRM = 115.13
Sale 2 GRM = 114.70
Sale 3 GRM = 115.28
Sale 4 GRM = 115.00

Subject Rent $165
Subject Value $18,975 ($165 x 115)
Subject Land = $3,795
Subject Adjusted Value = $15,180

Other Rent $180
Other Value $$20,700 ($180 x 115)
Other land = $4,140
Other Adjusted Value = $16,560

Difference due to Economic Obsolescence = $1,380

Case Problem #14

Comparable has a monthly income of $545 (and doesn't have the defect)
Subject has a monthly income of $510. What is the value loss?

The following sales are comparable.

Sale	Income	Gross Rent Multiplier
$52,500	$490	107.14 = 107
$53,400	$500	106.80 = 107
$56,000	$525	106.70 = 107
$50,400	$470	107.23 = 107
$57,200	$535	106.91 = 107

Land to Building Ratio is 1:4.

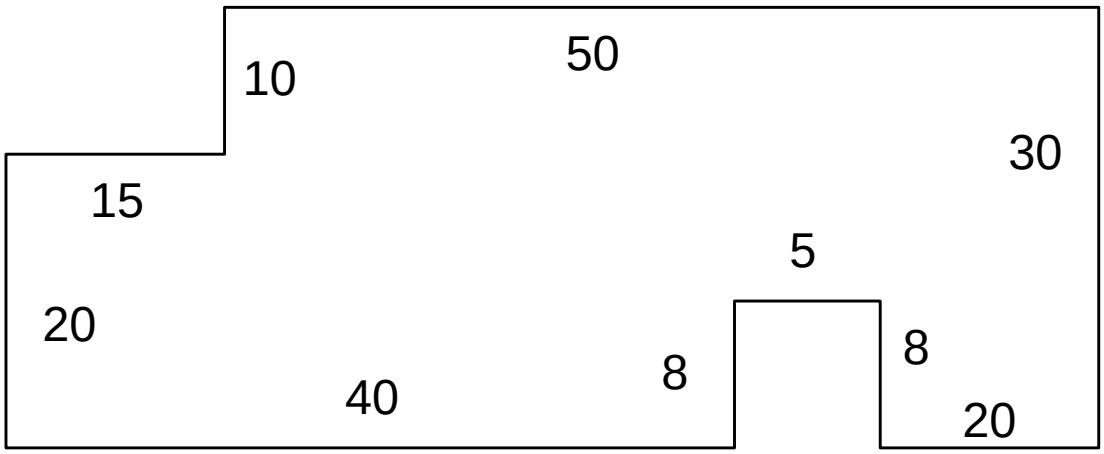
Comparable	Subject
545	510
x 107	x 107
58,315	54,570
58,315	54,570
x 20%	x 20%
11,663	10,914
58,315	54,570
-11663	-10914
46,652	43,656

46,652
-43,656
2,996 Value Loss

Other ways to solve:
Comparable 545 x 107 = 58,315 3,745 x 80% (Bldg.) = 2,996
Subject 510 x 107 = 54,570
3,745
OR
545 – 510 = 35 35 x 107 = 3745 3,745 x .80 = 2,996

Solution - Case Problem #15

Replacement Cost New is $48 per square foot six months ago. There has since been a 4% cost increase. What is the Replacement Cost New today?



8x20 = 160
22x25 = 550
30x25 = 750
20x15 = 300
1,760 sqft

1,760 x $48 = $84,480

$84,480 x 4% (or 1.04) = $87,859

Formula Sheet

CIA
CBS
RCN – D + L = V

Mill Rate Three Point Rule – millage rates are numbers expressed as a percentage of 1000

Steps in the Sales Ratio Process:

1. Determine the **Sales Ratio** for each sale. Sales Ratio = $\frac{\text{Assessment}}{\text{Sales Price}}$

2. Place all ratios in a range from lowest to highest. Find the **Median Ratio**.

3. Find the **Deviation from the Median Ratio**. Deviation = Median Ratio – Sales Ratio *(No negatives)*

4. **Sum** the Sales Price, the Assessment Amounts, the Sales Ratios, and the Deviations.

5. List the **Median Ratio**.

6. Find the **Mean Ratio**. Mean Ratio = Average of the Sales Ratio. (The sum of the ratios divided by the number of ratios.)

7. Find the **Aggregate Ratio**. Aggregate Ratio = $\frac{\text{Total Assessment}}{\text{Total Sales Price}}$

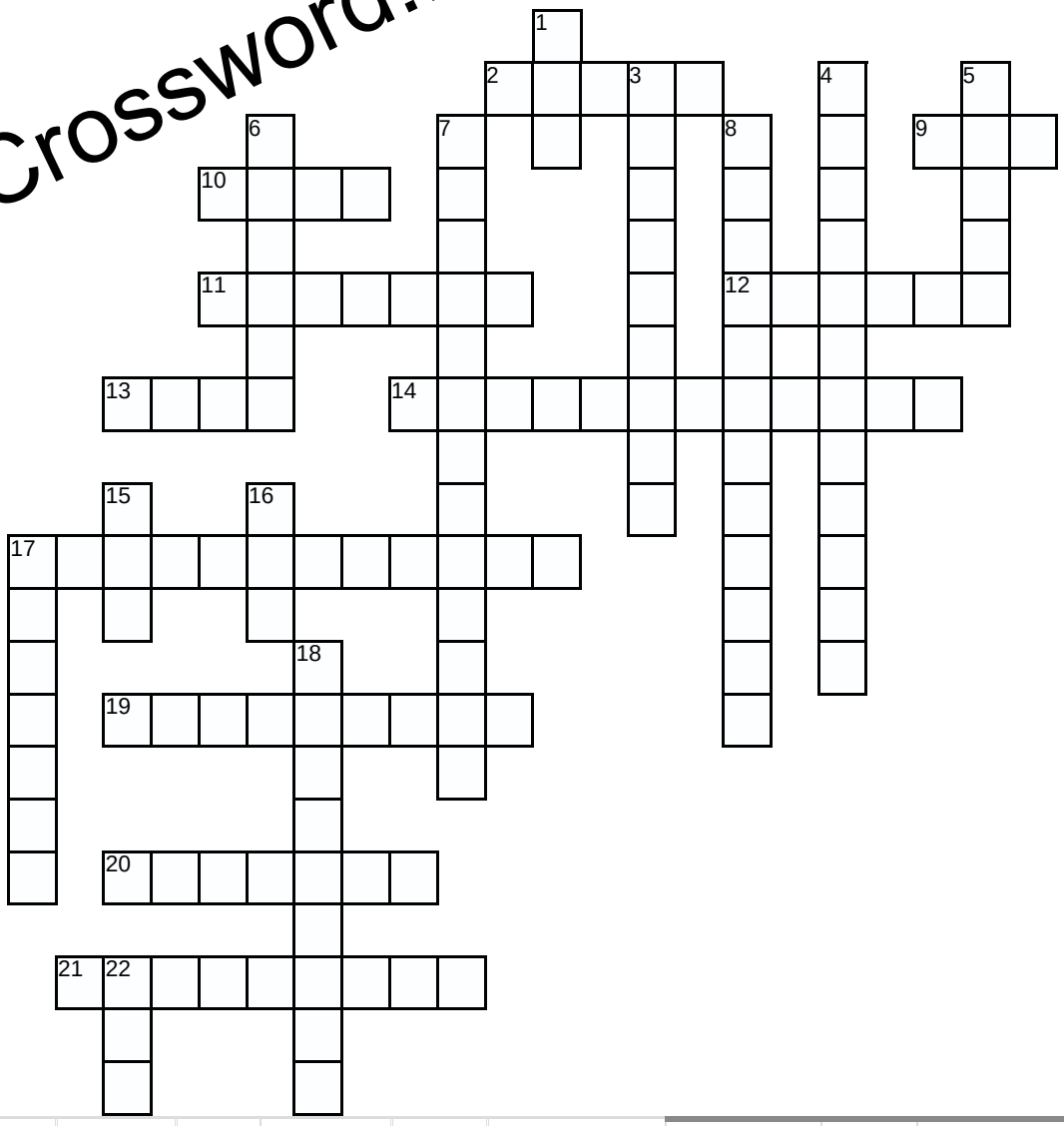
8. Find the **Mean Deviation**. Mean Deviation = Average of the Absolute Deviation from Median Ratio. (The sum of the deviation ratios divided by the number of ratios.)

9. Find the **Coefficient of Dispersion (COD)**. COD= $\frac{\text{Mean Dev}}{\text{Median}}$

10. Find the **Price Related Differential (PRD)**. PRD = $\frac{\text{Mean}}{\text{Aggregate Ratio}}$
(Progressivity or Regressivity)

Crossword!!

Created on TheTeachersCorner.net
Crossword Maker



Median	Millage	PRD	deviation	COD	Substitution	Appraiser	COD	Depreciation
PRD	Subject	CIA	Local	Regressivity	Twenty	Mean	CBS	Forty
Contribution								

PEGS	Progressivity	Appraisal	Average	Aggregate

Across

2. The_____Market is the best place to obtain data.
9. measures uniformity
10. Acronym for the four forces that effect value.
11. Annual budget divided by the Total Assessed Value =_____Rate
12. 1:4 land to building ratio. what percentage would 1 part be?
13. Total of all ratios divided by the number of ratios
14. PRD > 1.00
17. Buyer will pay no more than the cost of an equally desirable property
19. Total of assessments divided by the total of the sales price
20. A Mass appraiser should never_____values.
21. Person who prepares an estimate of value

Down

1. Mean Deviation divided by the Median
3. estimate of value
4. A loss in value
5. % of FMV that tangible property is assessed in Georgia
6. Physical middle of a set of ratios
7. PRD < 1.00
8. The value of a component part of a property. Basis for all adjustments
15. Acronym for 'Comp Better Subtract
16. Acronym for 'Comp Inferior Add'
17. Market Approach- We never adjust the_____?
18. sales ratio minus median
22. measures assessment bias

Practice Test

1. Name the Seller's Bill of Rights.

2. Using the Income Approach, calculate the value of a property that has an income of $52,000 and a rate of 12%.

3. How many square feet in an acre?

4. How many acres are in a tract of land 200 feet wide and 4000 feet deep?

5. What type of depreciation is due to wear and tear?

6. Given the following information, a property sold for $172,000. From an updated cost manual you have calculated the replacement cost new to be $136,000 and depreciation at $12,000. What is the value of the land?

7. Which appraisal method should an appraiser **use** when appraising real and personal property?

8. Given the following information, what is the value of a property that rents for $740?

Rent	Sale
$ 650	$ 75,000
$ 660	$ 75,900
$ 645	$ 74,175
$ 710	$ 81,650
$ 700	$ 79,100

9. A house has suffered depreciation due to poor maintenance. The windows are in need of repair, the kitchen floor is worn, and the front steps need painting. What type of depreciation is shown here?

10. A property is valued at $150,000. The land to building ratio si 1:4. What is the value of the land?

11. What is the economic principle that is the basis for adjustments in the Market or Direct Sales Approach?

12. What is the definition of depreciation?

13. Estimate the value of a property having an income of $18,500. Round decimals to one (1) place.

Annual Income	Sale
$ 15,200	$ 175,000
$ 12,700	$ 146,000
$ 13,950	$ 160,000
$ 19,600	$ 225,400
$ 18,250	$ 210,000

14. By Georgia Department of Revenue standards, a satisfactory coefficient of dispersion for residential property must not exceed what percentage?

15. That a property's market value tends to be set by the cost of acquiring an equally desirable and valuable property defines what principle?

16. What is the first step in the appraisal process?

17. What criteria, according to law, must be considered when determining fair market value?

18. The most reliable source for analysis and establishing cost manuals and land and depreciation schedules is …?

19. What is the formula for calculating the income multiplier for commercial property?

20. Name the four methods of estimating improvement values in the cost approach.

21. When completing an analysis using the market approach, the adjustments are always made to the_____property.

22. What is a bona fide sale?

23. What is quality class based upon?

24. What is the definition of reproduction cost new?

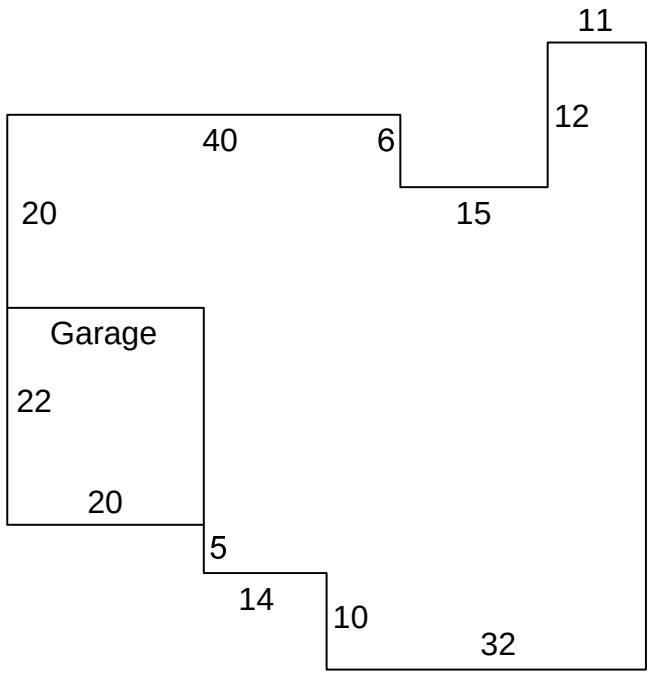
25. What is the definition of replacement cost new?

26. What is not considered when determining highest and best use?

27. According to the Georgia Department of Revenue, the level of assessment in a sales ratio analysis should be between what numbers in order to be deemed at compliant.

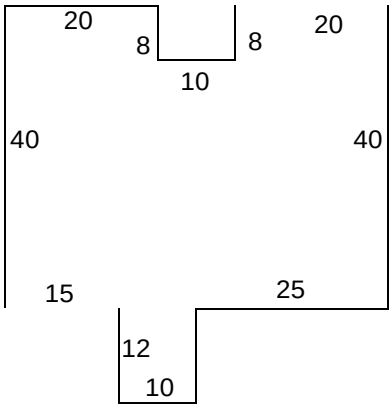
28. What is a satisfactory PRD range?

29. What is the livable square footage of the house below?

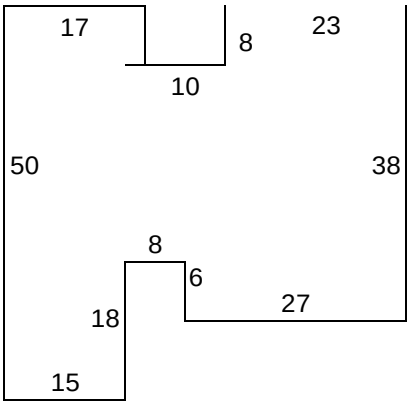


30. You are appraising a residence by the income approach. The gross rent multiplier in the area is 115. Land typically represents 20% and building 80% of value in this neighborhood. There is a busy auto repair shop nearby which reduces the rent on the subject residence by $47 per month. What is the loss in value to the residence due to the nearby commercial property?

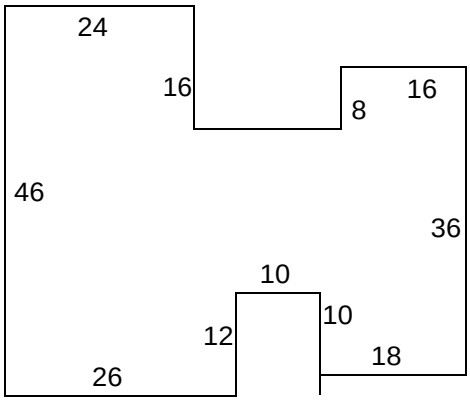
31. You are estimating by comparison the replacement cost of a single family residence. The subject home contains 2042 square feet and is similar to the comparables below in architecture, age, quality, construction materials and other amenities. Using the comparables below, estimate the value of the subject property. The subject land is estimated to be $10,000. Round your answer to the nearest
$100)



Land = $11,500
Sale = $92,500



Land = $12,000
Sale = $93,500



Land = $14,000
Sale = $95,700