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REAL ESTATE APPRAISAL

1 **LEARNING OBJECTIVES**

2 *When you have completed this unit, you will be able to accomplish the following.*

- 3 ■ Describe federal and state regulations pertaining to appraising, the appraiser's fiduciary relationship,
4 and the *Uniform Standards of Professional Appraisal Practice (USPAP)*.
- 5 ■ Distinguish among value, price and cost; distinguish among the various types of value; define market
6 value and describe its underlying assumptions; and describe the four characteristics of value.
- 7 ■ Distinguish among the principles of value.
- 8 ■ Differentiate among the three approaches to estimating the value of real property.
- 9 ■ Estimate the value of a subject property using the sales comparison approach.
- 10 ■ Estimate the value of a subject property using the cost-depreciation approach.
- 11 ■ Estimate the value of a subject property using the income approach.
- 12 ■ Reconcile the three approaches to establish the final value estimate.
- 13 ■ Calculate value using gross multiplier analysis.
- 14 ■ Explain how to prepare a comparative market analysis (CMA), comparing and contrasting with the sales
15 comparison approach.

1 KEY TERMS

| | | |
|-------------------------------|---------------------------|-------------------------------|
| appraisal | gross rent multiplier | progression |
| assemblage | (GRM) | reconciliation |
| automated valuation model | highest and best use | regression |
| (AVM) | income approach | replacement cost |
| cost | incurable | reproduction cost |
| cost approach | investment value | sales comparison approach |
| curable | market value | subject property |
| depreciation | net operating income | <i>Uniform Standards of</i> |
| economic life | (NOI) | <i>Professional Appraisal</i> |
| effective age | overimprovement | <i>Practice (USPAP)</i> |
| effective gross income | plottage | vacancy and collection |
| (EGI) | potential gross income | losses |
| federally related transaction | (PGI) | value |
| gross income multiplier | price | |
| (GIM) | principle of substitution | |

2 INTRODUCTION

3 This unit will help students learn the basics of appraising required to develop and
4 complete a comparative market analysis. It also will help to improve licensees' communi-
5 cations with professional appraisers.

6 Note that the examples of comparable sales used in this unit are hypothetical and
7 offered for educational purposes only.

8 16.1 APPRAISAL REGULATION—FIRREA

9 **The Appraisal Foundation.** Title XI of the Financial Institutions Reform, Recovery, and
10 Enforcement Act (FIRREA) brought the appraisal industry under federal oversight and
11 mandated states to license and certify appraisers. FIRREA recognizes The Appraisal Foun-
12 dation as the source for the promotion of professional standards and appraiser qualification.
13 The Appraisal Foundation is a not-for-profit organization composed of representatives of
14 the major appraisal organizations. The Foundation accomplishes its goals through the
15 work of its two independent boards:

- 16 ■ *Appraiser Qualifications Board (AQB).* The AQB establishes minimum criteria
17 for state-certified appraisers and endorses uniform examinations for certification.
18 The AQB establishes guidelines for the supervision of registered trainees, includ-
19 ing education for new supervisors.
- 20 ■ *Appraisal Standards Board (ASB).* The ASB sets minimum standards for apprais-
21 als performed for federally related transactions. The ASB develops, interprets,
22 and amends the *Uniform Standards of Professional Appraisal Practice (USPAP)* on
23 behalf of the appraisal industry.

24 **Appraisal Subcommittee (ASC).** The ASC maintains a national registry of state-certi-
25 fied and licensed appraisers who are eligible to perform appraisals in federally related
26 transactions.

475.612,
F.S.
475.25, F.S.

1 **State-Certified Appraisers.** Appraisers are certified according to state law that must con-
2 form to the criteria established by the AQB. FIRREA requires that property appraisals
3 involved in federally related transactions be performed by certified appraisers. There are
4 two categories of certified appraisers:

- 5 ■ *Certified residential appraiser.* Certified residential appraisers may issue appraisal
6 reports for residential real property of one to four residential units.
- 7 ■ *Certified general appraiser.* Certified general appraisers may issue appraisal reports
8 for any type of real property.

9 **Federally Related Transactions.** A **federally related transaction** is a real estate trans-
10 action involving the sale, lease, purchase, investment, or exchange in real property; or
11 the refinancing of real property; or the use of real property as security for a loan; and the
12 appraisal is being performed for a federal financial regulatory agency. A federally related
13 transaction is any real estate-related financial transaction that a federal financial institu-
14 tions regulatory agency has either contracted for, regulates, or requires the services of an
15 appraiser. All appraisals for federally related transactions must be in writing and conform
16 to *USPAP*. FIRREA also requires certified appraisals for all financial transactions involv-
17 ing Fannie Mae, Freddie Mac, FHA, and VA.

18 **Uniform Standards of Professional Appraisal Practice (USPAP).** FIRREA recognizes the
19 **Uniform Standards of Professional Appraisal Practice (USPAP)** as the standard for
20 valuing real property. *USPAP* is a set of guidelines (standards of practice) to follow when
21 providing appraisal services. *USPAP*'s ethics rule concerns conduct, management, confi-
22 dentiality, and recordkeeping. An appraiser must perform assignments with impartiality,
23 objectivity, and independence, without personal interest. The appraiser must protect the
24 confidential nature of the appraiser-client fiduciary relationship. It is unethical for an
25 appraiser to accept compensation that is contingent on the value of the property.

WEBLINK

26 To order a current edition of the standards or to learn more about appraiser qualifica-
27 tions and licensure, visit www.appraisalfoundation.org.

28 **Part I, Chapter 475, F.S., and Appraisal Services of Real Estate.** Chapter 475, Part I, F.S.,
29 regulates real estate brokers, broker associates, and sales associates. Under Part I, apprais-
30 ing is included in the definition of real estate services. Therefore, real estate licensees may
31 perform appraisals for compensation; however, the appraisal services must not involve
32 federally related transactions. Real estate licensees may not represent themselves as cer-
33 tified or licensed appraisers (unless they also hold appraisal certifications under Chap-
34 ter 475, Part II, F.S.). Real estate licensees may conduct appraisals of real property that do
35 not require a state-certified or licensed appraiser. Real estate licensees, when performing
36 appraisal services, must abide by *USPAP*. Real estate licensees who intend to provide
37 appraisal services must be familiar with the *USPAP* standards. Failure to do so may sub-
38 ject a real estate licensee to discipline. Real estate licensees who are not state-certified
39 appraisers are cautioned to get a statement in writing from the client that the appraisal is
40 not associated with a federally related transaction and does not require the services of a
41 state-certified appraiser before accepting the assignment.

42 **Comparative Market Analyses (CMAs).** Real estate sales associates typically prepare com-
43 parative market analyses (CMAs) to establish listing or offering prices. A real estate licensee
44 who prepares CMAs is not required to comply with *USPAP* (see "Comparative Market
45 Analysis and Broker's Price Opinion," Unit 1).

46 **Broker's Price Opinions (BPOs).** Real estate licensees are allowed to prepare and charge
47 for BPOs, provided the BPO is not labeled as an appraisal. A real estate licensee who per-
48 forms a BPO is not required to comply with *USPAP*.

Practice Questions

1. A _____ transaction is any real estate–related financial transaction that a federal financial institutions regulatory agency has either contracted for, regulates, or requires the services of an appraiser.
2. _____ is a set of guidelines (standards of practice) to follow when providing appraisal services.
3. _____ and _____ are exempt from USPAP standards.

16.2 CONCEPT OF VALUE

Cost, Price, and Value

Cost is the total expenditure required to bring a new improvement into existence plus the cost of the land. A contractor will install site improvements (water, sewer, and so forth); acquire the necessary permits; secure the services of architects, engineers, surveyors, and other professionals; construct the building; landscape the site; market the property; and so forth. The total of these expenditures is called *cost*. A contractor wants the cost to be less than the *price* a consumer will pay—and the consumer will pay more than the cost only if the consumer perceives the property's *value* to exceed its cost. If there is no difference between the cost to build and the price a consumer pays, the contractor makes no profit.

Price refers to the amount of money actually paid in a transaction. Price and value are not necessarily equal. For example, you might purchase a computer for \$2,000. Its price was \$2,000. However, it may actually command less (or more) than \$2,000 in exchange if you were to attempt to sell the computer.

Value is the monetary value of a good or a service to many buyers and sellers at a particular time. Value is what it is worth to the consumer.

TO REMEMBER: COST, PRICE, AND VALUE

| | | |
|-------|--------|--|
| Cost | Create | Expenditure to <i>create</i> an improvement, including, materials, labor, and land |
| Price | Paid | The amount <i>paid</i> in a particular transaction; the contract price |
| Value | Worth | The <i>worth</i> of something between many market participants |

Types of Value

There are many types of value that an appraiser may be hired to estimate.

- *Assessed value* is the value used as a basis for property taxation. It is published on the property tax rolls and is sometimes confused with market value by buyers who are interested in a property.
- *Insurance value* is an estimate of the amount of money required to replace a structure in the event of some catastrophic event such as fire.

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- 1 ■ *Investment value* is the price an investor would pay, given the investor's own
2 financing requirements and income tax situation. This type of value is personal
3 to a particular investor.
- 4 ■ *Liquidation value* is the amount a property most likely will bring at a forced or rapid
5 sale. Liquidation value is used for businesses going out of business. It is sometimes
6 used in valuing foreclosed properties and properties subject to tax liens.
- 7 ■ *Going-concern value* is the value of an income-producing property or business
8 characterized by a significant operating history. It is the type of value estimated
9 when the business will continue in operation but ownership is being transferred.
10 Going-concern value includes intangible assets such as trademarks, patents,
11 copyrights, and goodwill associated with the business's reputation, recognition of
12 its name and franchise, and customer loyalty.
- 13 ■ *Salvage value* is the estimated amount for which improvements can be sold at the
14 end of a structure's useful life.

15 Market Value

16 **Market value** is the most probable price a property should bring in a competitive and
17 open market under all conditions requisite to a fair sale under certain guidelines published
18 by Fannie Mae and Freddie Mac. Market value assumes that the buyer and the seller are
19 each acting prudently and knowledgeably and that the price is not affected by undue
20 stimulus. Market value assumes the consummation of a sale as of a specified date and
21 the passing of title from seller to buyer under the following conditions:

- 22 ■ The buyer and the seller are typically motivated (neither party is under pressure
23 to conclude the sale).
- 24 ■ Both parties are well-informed or well-advised, and each party is acting in what
25 they consider to be their own best interest.
- 26 ■ The property is exposed on the open market for a reasonable time.
- 27 ■ Payment is made in terms of cash or in terms of comparable financial arrangements.
- 28 ■ The price represents normal valuable consideration for the property, unaffected by
29 creative financing or sales concessions granted by anyone associated with the sale.

30 Characteristics of Value

31 To have value, goods or services must possess the following four traits:

- 32 ■ Demand
- 33 ■ Utility
- 34 ■ Scarcity
- 35 ■ Transferability

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TO REMEMBER: CHARACTERISTICS OF VALUE

| | |
|---|-----------------|
| D | Demand |
| U | Utility |
| S | Scarcity |
| T | Transferability |

1 **Demand.** In economics, demand is more than a desire or a need. Demand also implies
 2 the available means to obtain what is desired. Herders and farmers who live in the infertile
 3 desert lands of the world desire fertile land, but they do not have the financial means to
 4 obtain other, more expensive land. Consequently, their desires alone have no economic
 5 impact on the supply of fertile land or on the price of such lands. In contrast, look at
 6 Miami Beach, where people desire to live and have the money to acquire the use of part
 7 of the available supply. The need or desire combined with the economic means creates
 8 effective demand.

9 **Utility.** To be valuable, goods or services must be useful and able to fill a need. In real
 10 estate, *utility* means the ability to provide useful services and benefits to an owner or a
 11 tenant.

12 **Scarcity.** The availability of goods or services in relation to present or anticipated
 13 demand determines *scarcity*. If the supply exceeds demand, there is less scarcity and the
 14 value falls. If demand exceeds supply, more scarcity is created and value increases. When
 15 the number of available apartment units in an area exceeds the demand, apartment units
 16 are relatively less scarce and landlords must reduce rents or lose tenants. When apart-
 17 ments are scarce, landlords can increase rents and the excess demand will fill any resulting
 18 vacancies.

19 **Transferability.** The legal ability to convey title and possession of goods creates *trans-*
 20 *ferability*. This is an unusually important factor in real estate. Value cannot exist in cases
 21 where rights in land and the use of property cannot be transferred.

Practice Questions

4. A property owner purchases a lot and builds a house for \$270,000. Ten years later, the owner is thinking of selling the property and has the house appraised. The property is appraised at \$525,000. Shortly before putting the property on the market, the owner's son graduates from law school and lands a position with a firm in the owner's hometown. The property owner decides to help the young lawyer and his family by selling the house to them for \$450,000.
 - What is the cost of this home?
 - What is the price of this home?
 - What is the value of this home?
5. _____ is the MOST probable price a property should bring in a competitive and open market under all conditions requisite to a fair sale.
6. _____ value is the value associated with a rapid sale.
7. _____ value is the value used as a basis for property taxation.

16.3 PRINCIPLES OF VALUE

Principle of Substitution

23 The **principle of substitution** states that the maximum value of a property tends to be
 24 set by the cost of acquiring an equally desirable substitute property through purchase or
 25 construction. This principle of value thus sets an upper limit of value for a property by estab-
 26 lishing the cost of acquiring an equally desirable substitute property on the open market.
 27

1 Highest and Best Use

2 The most profitable single use of a property is the property's **highest and best use**. The
3 use must be:

- 4 ■ legally permissible (zoning),
- 5 ■ physically possible (soil type, the site's shape, size, and slope), and
- 6 ■ financially feasible (income generated considering cost of improvements).

7 The use that meets these three criteria and that yields the highest return to the land is
8 the highest and best use. An appraiser estimates two types of highest and best use, which
9 are described in the following paragraphs.

10 **Highest and Best Use of the Land as Though Vacant.** The appraiser considers the use
11 that would yield the highest return to the land by taking into account the three elements
12 previously described. If the site has existing improvements, the appraiser considers what
13 type of use should be placed on the site if it were vacant.

14 Suppose there are three potential buyers for a site. The first buyer estimates the prop-
15 erty would yield a net income of \$6,000 per year. The second buyer estimates the property
16 would yield \$8,000 net income, and the third buyer estimates the property would yield
17 \$12,000 per year after expenses. Which buyer will offer the most for the land? Assume a
18 10% rate of return in all three cases. The use that produces \$12,000 annually has a value
19 of \$120,000 compared to just \$60,000 for the use that produces \$6,000 annual net income.
20 Therefore, assuming the three criteria (listed previously) have been met, the use that
21 yields a net income of \$12,000 per year is the site's highest and best use.

22 **Highest and Best Use of a Property as Improved.** The highest and best use of a property
23 as improved pertains to how a property that already has improvements erected on the
24 site can be best used. The appraiser considers whether (1) the improvements should con-
25 tinue as is, (2) the improvements should be renovated, or (3) the improvements should
26 be demolished and new improvements erected. In each case, the appraiser must consider
27 the costs associated with each option in relation to the income that will be generated.
28 Therefore, highest and best use is a *residual* concept because it is concerned with value
29 after expenses are deducted. Demolishing an existing structure and building a new apart-
30 ment building may generate more monthly income than would remodeling the existing
31 apartment building. But the highest and best use will be the use with the greatest yield
32 after deducting the costs of renovation or the costs of demolition and new construction.



HIGHEST AND BEST USE

The *highest and best use* of land is the use that generates the most return (income) to the land and improvements when compared with alternative uses. Highest and best use is fundamentally determined by potential buyers bidding for a site in accordance with the locational and environmental value of the site in the various proposed uses. If the value of a site in its current use declines relative to competing uses, the highest and best use may change and land use transition will result.

In the Tampa Bay area, for example, there are mobile home parks located on waterfront or water-view sites. The land is attractive for other uses today, such as highrise waterfront condominiums or choice restaurant sites. Even though the property owners can get more money for their mobile home sites than their homes are worth, it is not sufficient compensation to warrant moving—the residents cannot “replace” the waterfront location they enjoy. So the highest and best use is for something other than mobile homes and the land use will eventually, over time, transition to another highest and best use.

1 **Increasing and Decreasing Returns**

2 Returns refers to the relationship between the cost of an improvement and the value
3 it adds (its contribution) to the property. A certain number of improvements may add sub-
4 stantial value to the property (increasing return), but adding more than that number will
5 add less value or no value (diminishing return). At some point, if a homeowner puts too
6 many improvements into a home, the homeowner will not recover the capital investment.
7 The home at that point is overimproved. An **overimprovement** occurs when an owner
8 invests more money in a structure than the owner can reasonably expect to recapture.

9 **Conformity**

10 The appraisal principle of conformity is based on the concept that the more a prop-
11 erty is in harmony with its surrounding properties, the greater the contributory value. In
12 a single-family residential neighborhood, buildings should be similar in design, construc-
13 tion, size, and age.

14 **Assemblage and Plottage**

15 **Assemblage** is the combining of two or more adjoining properties into one tract; it
16 is the process of consolidating properties. The purpose of assemblage is to increase the
17 usability and value of the resulting consolidation. **Plottage** is the added value as a result
18 of assembling (combining) two or more properties into one large parcel. For example,
19 two adjacent lots, each valued at \$35,000, might have a combined value of \$90,000
20 if consolidated. The process of merging two separately owned lots under one owner is
21 called assemblage. Plottage value is the increase in value that is realized through the act
22 of assemblage.

23 **Progression and Regression**

24 **Progression** is the principle that the value of an inferior property is enhanced by its
25 association with superior properties of the same type. In contrast, **regression** is the prin-
26 ciple that the value of a superior property is adversely affected by its association with an
27 inferior property of the same type.

Practice Questions

8. According to the principle of _____, the maximum value of a property tends to be set by how much it would cost to purchase an equally desirable substitute property.
9. An _____ occurs when an owner invests more money in a structure than the owner can reasonably expect to recapture.
10. The combining of two or more adjoining properties into one larger tract is called _____.

28 **16.4 INTRODUCTION TO THE THREE APPROACHES TO VALUE**

29 An **appraisal** is an opinion of value based on supportable evidence and approved
30 methods.

31 There are three approaches to estimating real property value:

- 32 ■ Sales comparison approach (comparable sales method)

1 ■ Cost approach (cost method)

2 ■ Income approach (income method)

3 In theory, an appraisal report uses all three approaches to estimate the value of a prop-
4 erty. If all the information used to prepare the appraisal were perfectly accurate, and if the
5 real estate appraiser's judgment were perfect, the results from each of the three approaches
6 theoretically would be the same.

7 However, in this imperfect world, most appraisers must *reconcile* the usually different
8 results from each of the three approaches. Any detected errors are corrected and, based on
9 the type of property, a degree of priority (importance) is assigned to each approach used.

10 **Relevance of the Three Approaches to Value.** If the property being appraised is a vacant
11 lot in an established neighborhood, the sales comparison approach is considered the most
12 relevant approach to value. The sales comparison approach is also the most relevant
13 approach for estimating the value of single-family homes.

14 If the property is an income-producing property, the income approach usually is given
15 the most importance.

16 The cost approach is considered the most significant for newly constructed homes
17 and for cross-checking the other two approaches. The cost-depreciation approach is also
18 considered the most relevant approach when appraising special-purpose properties such as
19 hospitals, schools, or government buildings.

20 The remainder of this unit provides an introduction into the three approaches to
21 value. Correct application of the information should help licensees produce reasonably
22 accurate opinions of value and comparative market analyses. Much further study and
23 experience is required before licensees should offer appraisal services.

Practice Questions

11. The _____ approach to value is the MOST relevant approach for estimating the value of a vacant lot.
12. The _____ approach to value is the MOST relevant approach for estimating the value of special-purpose properties.
13. The _____ approach to value is the MOST relevant approach for estimating the value of income-producing property.

16.5 SALES COMPARISON APPROACH

24
25 The **sales comparison approach** to value is based on the theory that a knowledgeable
26 purchaser will pay no more for a property than the cost of acquiring an equally accept-
27 able substitute property. The sales comparison approach (also called the *comparable sales*
28 *approach*) is based on the premise that the value of a property can be estimated accurately
29 by reviewing recent sales of properties (called *comparables* or *comps*) similar to the prop-
30 erty being appraised (**subject property**) and comparing those properties with the subject
31 property. Because time can affect property values, the sales used for comparison purposes
32 must meet two qualifications:

- 33 ■ They must have occurred recently in the same market area where the subject
34 property is located.
- 35 ■ The comparable properties selected must be similar to the subject property.

1 Because no two properties are exactly alike, adjustments must be made for any differ-
 2 ences between the subject property and each of the comparable sale properties.

3 **The Adjustment Process.** Adjustments are made for transactional differences (changes
 4 in market conditions since date of sale, for example) and property differences (size, loca-
 5 tion, etc.). All adjustments necessary to achieve the maximum degree of similarity must
 6 be made to each comparable property, not to the subject property. The intent is to adjust
 7 the comparable property to make it as similar to the subject property as possible.

8 If a comparable property is *inferior* to the subject property on a given feature, an
 9 *upward* adjustment is made to that comparable property (add the value of the difference).
 10 If a comparable is *superior* on a given feature, a *downward* adjustment is made to the com-
 11 parable property (subtract the value of the difference).

12 The process of comparison in the sales comparison approach is organized into an
 13 *adjustment grid*. The adjustment grid is used to ensure that no adjustment factor important
 14 to a value conclusion is overlooked.

| TO REMEMBER: APPRAISAL ADJUSTMENTS | | | |
|------------------------------------|----------|---|----------|
| C | Comp | C | Comp |
| B | Better | I | Inferior |
| S | Subtract | A | Add |

15 **Adjustment Process Example.** Figure 16.1 is an abbreviated adjustment grid example.
 16 The example illustrates the procedure for adjusting the sale prices of selected comparable
 17 properties to arrive at an approximate market value for the subject property.

FIGURE 16.1 ■ Adjustment Grid: Sales Comparison Approach

| | Comparable 1 | Comparable 2 | Comparable 3 |
|---------------------|---------------------------|-------------------------------------|-------------------|
| Address | 3752 Shamrock Dr. | 3748 Shamrock Dr. | 3619 Shamrock Dr. |
| Date of sale | (6 months ago) | (3 months ago) | (0 months ago) |
| Sale price | \$141,500 | \$136,000 | \$140,000 |
| Financing | Conventional | Conventional | Conventional |
| Conditions of sale | Normal | Normal | Normal |
| Market conditions | +\$2,830 | +\$1,360 | Same as subject |
| Square footage | -\$9,600 | +\$1,200 | Same as subject |
| Landscaping | Same as subject | Same as subject | -\$1,000 |
| Total Adjustments | -\$ 6,770 | +\$2,560 | -\$1,000 |
| Adjusted Sale Price | \$134,730 | \$138,560 | \$139,000 |
| Reconciliation: | Comp 1: = \$134,730 × .20 | \$26,946 | |
| | Comp 2: = \$138,560 × .30 | \$41,568 | |
| | Comp 3: = \$139,000 × .50 | \$69,500 | |
| Indicated Value: | | \$138,014 or \$138,000 (rounded) | |

1 **Adjustment Process Example.** The appraiser prepares the adjustment grid by first enter-
2 ing the street address and sale price for each selected comparable. Adjustments for trans-
3 actional differences such as conditions of sale, financing terms, and changes in market
4 conditions since the date of sale are made first, followed by adjustments for property char-
5 acteristics. Those adjustments include the following:

- 6 ■ *Financing terms.* Appraisers must confirm the financing associated with each sale
7 because the sale price could reflect special financing terms, such as seller financ-
8 ing or seller-paid points. For purposes of the example presented in Figure 16.1,
9 assume the financing associated with each of the sales was conventional financ-
10 ing and that it was typical financing for the market area.
- 11 ■ *Conditions of sale.* Appraisers must research the conditions of sale to determine
12 whether the buyer or the seller was under abnormal pressure to buy or sell or if
13 there was a special relationship between the parties to the transaction, such as
14 between family members or business associates. In the example in Figure 16.1,
15 the appraiser verified the conditions of sale for each of the sales and found them
16 to be normal.
- 17 ■ *Market conditions.* A property that sold last month or last year may sell for more,
18 or for less, today, even though the property itself has not physically changed.
19 The criterion for making an adjustment for market conditions is whether the
20 price paid for a comparable property, if that property were sold on today's mar-
21 ket, would differ from the price paid during some other period of time. Referring
22 to Figure 16.1, we see that the appraiser adjusted Comparable (Comp) 1 plus
23 \$2,830. Assume that Comp 1 sold six months ago and the appraiser has esti-
24 mated a market conditions adjustment of 4% annually (or 2% for six months).
25 The appraiser is adjusting the sale price of the comparable to estimate what the
26 comp would have sold for under today's market conditions. Similarly, Comp 2
27 sold three months ago so the appraiser has entered a plus \$1,360 adjustment
28 (or 1%). Comp 3 sold very recently, so a market conditions adjustment was not
29 needed.
- 30 ■ *Square footage.* Assume Comp 1 is 160 square feet larger than the subject prop-
31 erty. Because Comp 1 is superior to the subject property with respect to square
32 footage, a downward adjustment is needed. The appraiser has estimated \$60 per
33 square foot as an appropriate unit of comparison and has entered an adjustment
34 of *minus* \$9,600 (or 160 square feet \times \$60). Because Comp 2 is 20 square feet
35 smaller than the subject, the appropriate upward adjustment is needed.
- 36 ■ *Landscaping.* Because Comp 3 has nicer landscaping, compared with the subject
37 property, a downward adjustment is made to Comp 3.

38 **Reconciliation.** The process of analyzing and effectively weighing the various comps
39 is called **reconciliation**. If the comparables are all equally suitable comparisons of the
40 subject property, the appraiser may simply average the adjusted sale prices. On the other
41 hand, if the appraiser considers one comparable to be a better indicator of the subject
42 property's value than the others, the appraiser may "weigh" that comparable more heavily.
43 This is entirely a matter of the appraiser's judgment.

44 **Reconciling the Example.** Note that, in the last row of Figure 16.1, the appraiser recon-
45 ciled the three comps into a single indicated value. Because Comp 3 was considered most
46 similar to the property being appraised, it received a reconciliation weight of 50%. This
47 means that 50% of the appraised value of the subject property is going to be based on the
48 adjusted sale price of Comp 3. Comp 2 was next in similarity and therefore was awarded

a reconciliation weight of 30%. In each case, the adjusted sale price is multiplied by the reconciliation weight assigned, producing a part of the eventual reconciled value, which will be the estimated market value. The three reconciled values were added together to produce the sum of \$138,014, which was then rounded to \$138,000 indicated value.

Principle of Substitution at Work. The comparable sales approach is the real estate market “speaking” through past sales. By using only sales already transacted, the market tells us about that particular type of property. Regardless of what one might wish for a sale price, the market indicates what value buyers and sellers have already established for properties similar to the subject property. This is the theory behind the principle of substitution.

Valuing Vacant Property. The sales comparison approach is usually considered the most reliable approach in appraising single-family homes. The sales comparison approach is also effective for valuing vacant residential lots. The appraiser selects four to six lots most similar to the subject lot. Differences in size or shape are neutralized by using a common unit of comparison, such as front feet or square feet. Using the recent four to six sales selected as market indicators, one can find the price paid per square foot or front foot for each lot. The reconciled average of all comparable sales gives the approximate value per square foot or front foot of the subject lot. To calculate the average cost per square foot of any property, always divide dollars by square feet.

EXAMPLE: What is the estimated market value of a subject lot that is 110' × 120' (13,200 sq. ft.)?

Adjustment Analysis

Comparable Sales:

Sale 1: A lot 100' × 120' located across the street from the subject lot sold recently for \$36,800.

Sale 2: A lot 110' × 120' in the same neighborhood as the subject lot sold recently for \$37,000.

Sale 3: A lot 100' × 100' in a different but similar-quality neighborhood sold recently for \$36,000.

Sale 4: A lot 130' × 150' located in a different but similar neighborhood but near a railroad sold recently for \$39,800.

Solution:

Sale 1: $\$36,800 \div 12,000 \text{ sq. ft.} = \$3.067 \text{ per sq. ft.}$

Sale 2: $\$37,000 \div 13,200 \text{ sq. ft.} = \$2.803 \text{ per sq. ft.}$

Sale 3: $\$36,000 \div 10,000 \text{ sq. ft.} = \$3.600 \text{ per sq. ft.}$

Sale 4: $\$39,800 \div 19,500 \text{ sq. ft.} = \$2.041 \text{ per sq. ft.}$

Reconciliation:

Sale 1: $\$3.067 \times .35 = \1.073

Sale 2: $\$2.803 \times .30 = \$.841$

Sale 3: $\$3.600 \times .20 = \$.720$

Sale 4: $\underline{\$2.041 \times .15 = \$.306}$

$100\% = \$2.940 = \2.94 per sq. ft.

$\$2.94 \times 13,200 \text{ square feet} = \$38,808 \text{ or } \$38,800 \text{ is the estimated market value.}$

Note that in the reconciliation process, sale 3 was given less weight in the final analysis because it was in a different neighborhood, and sale 4 was given the least weight because of its proximity to a railroad track and its location in a different neighborhood.

- 1 If all the comparables had been considered good representations of the subject property,
 2 the appraiser would have given all four comparables equal weight and simply averaged
 3 them to arrive at a value per square foot.

Practice Questions

14. An appraiser is estimating the value of a single-family house. The house has three bedrooms, two bathrooms, and a pool. The appraiser has located one comparable that sold for \$184,500. The comparable has four bedrooms and two bathrooms but does not have a pool. Based on the market in the neighborhood, the appraiser estimates that a fourth bedroom adds \$6,000 of value and a pool adds \$11,000. What is the adjusted sale price of the comparable?
15. The subject property is a vacant lot. It is located at the end of a cul-de-sac. A comparable lot in the same neighborhood recently sold for \$27,000, but it is on an interior lot on a through-street (a less-desirable location). However, the comparable lot is larger than the subject. The difference in location is valued at \$5,000, and the difference in size is valued at \$4,000. What is the adjusted sale price of the comparable?
16. An appraiser has assigned weights to three adjusted sale prices (see the following table). Reconcile the adjusted sale prices using weighted averaging to determine the estimated market value.

| Comparable | Adjusted Sale Price | Weight Assigned |
|------------|---------------------|-----------------|
| Comp 1 | \$334,500 | 35% |
| Comp 2 | \$338,700 | 45% |
| Comp 3 | \$369,200 | 20% |

16.6 COST APPROACH

4
 5 The **cost approach** to value (also called the *cost-depreciation approach to value*) is based
 6 on the theory that a knowledgeable purchaser will pay no more for a property than the
 7 cost of acquiring a similar site and constructing an acceptable substitute structure. The
 8 maximum value of a property can be measured by determining the cost to acquire an
 9 equivalent site and to reproduce a structure as though new, and then subtracting accrued
 10 depreciation. There are four steps in the cost approach:

- 11 1. Estimate reproduction cost
 12 2. Subtract accrued depreciation
 13 3. Estimate the value of the land
 14 4. Add the land value to derive indicated value of the property

49

1 **Step 1: Estimate Reproduction Cost.** The appraiser estimates the current cost to repro-
 2 duce (or replace) the improvements as of the appraisal date. **Reproduction cost** is the
 3 amount of money required to build an exact duplicate of the structure. **Replacement cost**
 4 is the amount of money required to replace a structure having the same use and functional
 5 utility as the subject property, but using modern, available, or updated materials. Consider
 6 a historic bungalow home. The cost to duplicate the home in exact detail, including the
 7 hand-carved trim on the porch, is reproduction cost. However, if the home were to be
 8 reconstructed in the same bungalow style but with modern materials and techniques, this
 9 cost is replacement cost.

Formula: Cost Depreciation Approach

$$\text{reproduction cost of the structure} - \text{accrued depreciation} = \text{depreciated value of the structure} + \text{estimated value of the site} = \text{indicated value of the property}$$

10 The cost of reproducing a recently built structure similar in size and function to the
 11 subject structure is often used as a basis for estimating the reproduction cost. To reduce
 12 errors in this method, square-foot or cubic-foot costs are obtained for a standard (or *bench-*
 13 *mark*) house of average size for the locality. Exterior walls are used for measurements.
 14 Adjustments are then made for quality, shape, and extra features. This method is the
 15 predominant costing method used for appraisal purposes. However, its use is limited to
 16 relatively small, uncomplicated structures such as single-family homes and small office
 17 buildings. Many cost-calculation publications and computer programs are available to
 18 assist appraisers in determining standard square-foot costs in different geographic regions.
 19 An abbreviated version of the comparative square-foot method is provided in Figure 16.2
 20 to illustrate its use.

FIGURE 16.2 ■ Comparative Square-Foot Method

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| | | |
|--|----------------------------------|-------------------|
| Estimated reproduction cost: | | |
| Main dwelling: | 2,110 sq. ft. @ \$80 per = | \$168,800 |
| Utility room: | 117 sq. ft. @ \$52 per = | 6,084 |
| Entrance porch: | 75 sq. ft. @ \$32 per = | 2,400 |
| Garage: | 412 sq. ft. @ \$45 per = | <u>+ 18,540</u> |
| Total estimated reproduction cost of structure | | \$195,824 |
| Less total accrued depreciation | | <u>- \$13,055</u> |
| Depreciated value of the structure | | \$182,769 |
| Add value of land (sales comparison approach) | | + 36,000 |
| Add value of improvements: | | |
| Landscaping | | \$2,128 |
| Driveway | 300 sq. ft. @ \$14 per sq. ft. = | <u>+ 4,200</u> |
| Indicated value of the property by cost approach | | \$225,097 |

21 **Step 2: Subtract Accrued Depreciation.** The appraiser begins with an estimate of what
 22 it would cost to reproduce the structure as though new today. But the subject property is
 23 usually not a brand new structure. The difference between the structure's reproduction
 24 (or replacement, if applicable) cost new and the perceived market value of the structure
 25 today in its actual condition is called *accrued depreciation*. **Depreciation** is the loss in value

1 caused by things such as wear and tear, poor design, or the structure's surroundings (prox-
2 imity). *Accrued* depreciation is the total depreciation that has accumulated over the years.

3 Depreciation can be curable or incurable, depending on whether it can be corrected
4 economically. **Curable** depreciation occurs when a building component has been added
5 or repaired and the owners are able to get their money back in added value. For example,
6 assume it costs \$1,500 to repair and clean the screens in a screened-in porch. If potential
7 buyers would pay at least \$1,500 more for the home because of the condition of the porch,
8 the depreciation is curable. **Incurable** depreciation occurs when a building component
9 has been added or repaired but the owners are unable to get their money back in added
10 value. For example, assume a home has five-year-old kitchen appliances in excellent work-
11 ing order. The owners purchase all new kitchen appliances for \$20,000. If potential buyers
12 are unwilling to pay an extra \$20,000 for the home with new appliances, the depreciation
13 (at least at the time of the appraisal) is incurable.

14 The appraiser estimates the amount of depreciation from all causes and deducts it from
15 the reproduction (or replacement) cost. Generally, accrued depreciation is associated with
16 a structure's age. As a building grows older, it loses value because of exposure to the sun
17 and rain, as well as general usage. However, not all depreciation is associated with age.
18 Depreciation in a structure can be attributed to three major causes:

- 19 1. *Physical deterioration*. Physical deterioration includes ordinary wear and tear
20 caused by use, lack of maintenance, exposure to the elements, and physical dam-
21 age. Brittle roof shingles or a worn-out central air-conditioning compressor are
22 examples of physical deterioration.
- 23 2. *Functional obsolescence*. Anything that is inferior because of operational inad-
24 equacies, **poor design**, or changing tastes and preferences is functional obso-
25 lescence. Examples include a poor traffic pattern, too few bathrooms, or an
26 inadequate amount of insulation. An overimprovement is also considered func-
27 tional obsolescence.
- 28 3. *External obsolescence*. Any loss in value due to influences originating outside the
29 boundaries of the property, such as an expressway adjacent to a residential sub-
30 division or deterioration of the neighborhood, is external obsolescence. Because
31 external obsolescence is normally beyond the control of the property owner, it is
32 considered incurable.

33 Land is not depreciated in the cost-depreciation approach. Only the buildings or other
34 improvements to land are subject to these three types of depreciation because the *site value*
35 is estimated separately, typically using the sales comparison approach. Any adjustments to
36 the site for size, location, and nonstructural improvements were already made when the
37 appraiser applied the sales comparison approach to estimate the site value. When the cost
38 to reproduce the improvements is determined, depreciation is applied only to that portion
39 of the property. The appraiser estimates the total accrued depreciation from all causes
40 (physical deterioration, functional obsolescence, and external obsolescence) and deducts
41 it from the reproduction cost of the structure (or the replacement cost, if applicable). The
42 result is the depreciated value of the structure.

43 **Age-Life Method.** Sometimes, appraisers estimate each category of depreciation separately.
44 However, the vast majority of residential appraisals that employ the cost-depreciation
45 approach use the age-life method to estimate accrued depreciation. The method is so named
46 because it estimates a single value for accrued depreciation.

1 The age-life method is based on a ratio of a property's effective age to its economic
 2 life. **Effective age** is the age indicated by a structure's condition and utility. Chronologi-
 3 cally, a home may be five years old. However, if the structure has been well maintained,
 4 its effective age may be only two years. There is no precise method for estimating effective
 5 age. The appraiser estimates a structure's effective age by observing the structure's current
 6 condition. A structure's total **economic life** (or useful life) is the total estimated number
 7 of years that the structure is expected to contribute to the property's value.

8 The appraiser divides the effective age of the structure by the total economic life of
 9 the structure. Refer to the following formula.

10

Formula: Accrued Depreciation

$$\text{effective age} \div \text{total economic life} \times \text{reproduction cost new} = \text{estimated total accrued depreciation}$$

10 **EXAMPLE:** Suppose an appraiser estimates that the effective age of a 10-year-
 11 old building is four years. The appraiser estimates the cost to reproduce the structure as
 12 though new today is \$225,000. If the total economic life is 60 years, what is the amount
 13 of accrued depreciation?

$$\begin{aligned} &(4 \text{ years effective age} \div 60 \text{ years economic life}) \times \$225,000 \text{ reproduction cost new} \\ &= \$15,000 \text{ accrued depreciation} \end{aligned}$$

16 The age-life method of calculating depreciation assumes that a structure depreciates at
 17 a constant rate. For this reason, it is sometimes called straight-line depreciation (the same
 18 amount of depreciation each and every year).

19 **EXAMPLE:** To demonstrate this point, let's calculate the accrued depreciation in
 20 the previous example by first determining the amount of annual depreciation. Divide the
 21 reproduction cost by the economic life. The result is the annual depreciation. Multiply the
 22 annual depreciation by the effective age to derive the total accrued depreciation:

$$\begin{aligned} &\$225,000 \text{ reproduction cost new} \div 60 \text{ years economic life} = \$3,750 \text{ annual depreciation} \\ &\$3,750 \times 4 \text{ years effective age} = \$15,000 \text{ accrued depreciation} \end{aligned}$$

Formula: Alternate Accrued Depreciation

$$\text{reproduction cost new} \div \text{total economic life} = \text{annual depreciation} \times \text{effective age} = \text{estimated total accrued depreciation}$$

25 The value of the structure today, in its current condition, is estimated by subtracting
 26 the accrued depreciation from the reproduction cost new:

$$\begin{aligned} &\$225,000 \text{ reproduction cost new} - \$15,000 \text{ accrued depreciation} = \$210,000 \text{ depreciated value of the structure} \end{aligned}$$

29 **Step 3: Estimate the Value of the Land.** We have only been concerned with the structure
 30 thus far. Now the appraiser estimates the value of the site and nonstructural site improve-
 31 ments, assuming the site is vacant and will be put to its highest and best use. The value
 32 of land is normally determined by the sales comparison approach. For example, if neigh-
 33 boring comparable properties are selling for \$5 per square foot and the lot on which the
 34 subject structure stands has an area of 11,000 square feet, the land value is estimated to
 35 be \$55,000:

$$11,000 \text{ square feet} \times \$5 \text{ per square foot} = \$55,000$$

Step 4: Add the Land Value to Derive Indicated Value of the Property. The appraiser adds the estimated value of the site, including site improvements, to the depreciated value of the structure. The estimated property value of the subject property is as follows:

\$210,000 depreciated structure + \$55,000 site value = \$265,000 estimated value of subject property

Practice Questions

17. List the three types of depreciation used in the cost approach.
 1. _____
 2. _____
 3. _____
18. _____ cost is the current construction costs to produce improvements that are identical to the subject property.
19. _____ is the loss in value caused by things such as wear and tear, poor design, or the structure's surroundings.
20. If the value added is greater than the cost to cure the defect, the depreciation is said to be _____.
21. Total _____ life (or useful life) is the total estimated number of years that the structure is expected to contribute to the property's value.

16.7 INCOME APPROACH

The object of the **income approach** is to measure a flow of income projected into the future. This method is a complete departure from the sales comparison and cost-depreciation approaches. The income approach develops an estimated market value based on the present worth of future income from the subject property. It is the primary approach for appraising income-producing property and for comparing possible investments.

Let's begin with an explanation of the various types of income.

Potential Gross Income. The total annual income a property would produce if it were fully rented and no collection losses were incurred is called **potential gross income (PGI)**.

Effective Gross Income. When **vacancy and collection losses** are *deducted* from annual PGI and any income from other sources (e.g., laundry, vending machines, parking) is *added*, the result is annual **effective gross income (EGI)**. *Vacancy and collection losses* consist of the expected income loss that will result from occasional turnover of renters and periodic vacancies, as well as the likelihood that not all rental income will be collected. Even when a property is 100% occupied, the probability of continuous total occupancy is unlikely. Therefore, some vacancy and collection losses always should be deducted from PGI.

Formula: Effective Gross Income (EGI)

potential gross income (PGI) – vacancy and collection losses + other income =
effective gross income (EGI)

Net Operating Income. Net operating income (NOI) is the income remaining after subtracting all relevant operating expenses from EGI. Operating expenses are grouped into three separate categories:

1. Fixed expenses are costs that do not fluctuate with operations or occupancy level, for example, property taxes and hazard insurance.
2. Variable expenses fluctuate based on occupancy level, for example, utilities, maintenance, management, supplies, janitorial, and garbage collection.
3. Reserve for replacements. The term *reserve for replacements* refers to a reserve allowance that provides for the periodic replacement of building components, such as roof coverings and heating and air-conditioning equipment that wear out at a faster rate than structural components.

Formula: Net Operating Income (NOI)

effective gross income (EGI) – operating expenses = net operating income
(NOI)

All costs of mortgage expense, depreciation, income taxes, capital improvements, personal expenses, and business-related expenses (such as payroll and advertising) that do not contribute to actual operation of the property are business expenses, not operating expenses. Depreciation does not involve an outlay of cash and is not used to calculate NOI.

NOI is the annual income (before mortgage or income tax payments) that may be expected to occur over the remaining economic life of a property. It is this income (NOI) that is capitalized into *present value*. To use the income approach, an appraiser must know the annual NOI produced by the property or be able to forecast the annual NOI based on reasonable estimates.

Licensees may have access to the accounts; may be provided the information required; or in the case of a vacant lot on which a business building will be constructed, may project a pro forma NOI statement from several existing similar properties.

EXAMPLE: Suppose your client is considering construction of a 10-unit apartment building. You are estimating the value of the vacant property zoned for apartments. Your survey of other apartment projects of similar size and quality in the market area reveals that each of the proposed new apartments could be competitive if rented at \$665 per month. The survey also discloses that an annual vacancy and collection loss rate of 10% is typical for the area. By using normal costs of operation, a pro forma statement can be developed to indicate the probable annual NOI. Begin by estimating the potential gross income (\$665 rent × 10 units × 12 months = PGI).

Solution:

| | |
|-------------------------------------|----------------|
| Potential annual gross income | \$79,800 |
| Vacancy and collection losses (10%) | <u>– 7,980</u> |
| Effective annual gross income | \$71,820 |

| | | |
|----|---------------------------------|-----------------|
| 1 | Expenses (per year): | |
| 2 | Taxes | \$5,494 |
| 3 | Insurance | 996 |
| 4 | Management | 24,600 |
| 5 | Repairs and maintenance | 4,100 |
| 6 | Reserve for replacements | <u>+ 1,800</u> |
| 7 | Total annual operating expenses | \$36,990 |
| 8 | Effective annual gross income | \$71,820 |
| 9 | Total annual operating expenses | <u>- 36,990</u> |
| 10 | NOI | \$34,830 |

11 Once known or estimated, the NOI is usually divided by an *overall capitalization rate*
 12 (*OAR*). The *OAR* normally is determined by using the sale prices and NOIs of similar
 13 properties in the market area. Dividing the NOI of a property by its current value or sale
 14 price produces an *OAR*.

Formula: Overall Capitalization Rate (OAR)

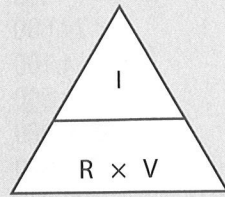
net operating income (NOI) ÷ value (sale price) = overall capitalization rate
 (OAR)

15 The components of this formula are said to be *market-driven*—that is, income figures
 16 and recorded sale prices represent the market in action. That is the reason most licensees,
 17 appraisers, and others prefer the *OAR* as a capitalization rate.

18 **EXAMPLE:** Sales data, income records, and expense records indicate the
 19 following:

| 20 | Comparable Garden | | | |
|----|--------------------------|---|----------|-----------------------------------|
| 21 | Apartment Complex | Annual NOI | ÷ | Sale Price = Indicated OAR |
| 22 | A | \$31,400 | | \$325,000 .097 |
| 23 | B | \$48,230 | | \$450,000 .107 |
| 24 | C | \$39,600 | | \$400,000 .099 |
| 25 | D | \$37,400 | | \$395,000 .095 |
| 26 | E | <u>\$44,700</u> | | <u>\$440,000 .102</u> |
| 27 | | \$201,330 | | \$2,010,000 .500 ÷ 5 = .100 |
| 28 | | \$201,330 ÷ \$2,010,000 = .100 or 10% OAR | | |

29 The same procedure could be used to determine the *OAR* for other types of income-
 30 producing properties. Once an appropriate capitalization rate and NOI are determined, the
 31 following formula is used to estimate the present value of income-producing properties.

Formula: Direct Capitalization

$$\begin{aligned} \text{Income} &= \text{Rate} \times \text{Value} \\ \text{Rate} &= \text{Income} \div \text{Value} \\ \text{Value} &= \text{Income} \div \text{Rate} \end{aligned}$$

Where: I = Net operating income (NOI)
 R = Capitalization rate
 V = Value (or Sale price)

capitalization rate \times value (or sale price) = net operating income (NOI)

net operating income (NOI) \div value (or sale price) = capitalization rate

net operating income (NOI) \div capitalization rate = value (or sale price)

1 For example, using the results of the pro forma statement in the earlier problem and
 2 the market area OAR of 10%, the estimated value of the property is calculated.

$$3 \quad \$34,830 \text{ (NOI)} \div .10 \text{ rate} = \$348,300 \text{ estimated value}$$

4 Investors, on the other hand, often prefer to specify a capitalization rate because
 5 investors are free to choose the acceptable rate of return they desire. When the type of
 6 estimated value is investor-driven, the minimum rate of return acceptable to the inves-
 7 tor is frequently used as the capitalization rate. Net annual income is then divided by the
 8 specified capitalization rate to obtain the investment value of the property. It is important
 9 to mention, however, that this is not market value, but rather investment value. **Invest-**
 10 **ment value** is the value of property to a particular investor based on the investor's desired
 11 rate of return, risk tolerance, and so forth. Market value is objective and impersonal;
 12 investment value is subjective and based on personal criteria.

13 **EXAMPLE:** A small income property produces an annual net income of \$8,000.
 14 Your client wants you to tell her the amount of money that she may invest in the property
 15 to provide a return of 10% per year from the investment.

$$16 \quad \$8,000 \text{ NOI} \div .10 \text{ rate} = \$80,000 \text{ value}$$

17 So the investment value to this investor is \$80,000 if a 10% rate of return is required
 18 from the subject property.

19 A definite relationship exists between present value, net income, and capitalization
 20 rate. If, for example, the rate (R) is increased and the net income (I) remains constant, the
 21 present value (V) will decrease. If the net income (I) goes up and the capitalization rate
 22 (R) remains constant, the present value (V) will be greater (see Figure 16.3).

FIGURE 16.3 ■ Effect of Change in Capitalization Rate or Expenses on Value

| | |
|------------------------------|--|
| Value <i>decreases</i> when: | <i>Rate</i> increases NOI is unchanged |
| Value <i>decreases</i> when: | <i>Expenses</i> increase (NOI goes down) Rate is unchanged |
| Value <i>increases</i> when: | <i>Expenses</i> decrease (NOI goes up) Rate is unchanged |
| Value <i>increases</i> when: | <i>Rate</i> decreases Expenses are unchanged (NOI is unchanged) |

1 **EXAMPLE:** To demonstrate the relationship between changes in the rate or NOI,
2 let's take another look at the previous example. Suppose that the rate was increased from
3 10% to 12% but the NOI remained unchanged:
4 \$8,000 NOI ÷ .12 rate = \$66,666.67 value

5 We see that when the NOI was unchanged but the rate was increased, the value
6 decreased.

7 **EXAMPLE:** This time, assume the rate remains unchanged at 10% in the original
8 example, but decrease the NOI (more expenses results in smaller net income):
9 \$7,000 NOI ÷ .10 rate = \$70,000 value

10 When the NOI was decreased and the rate was unchanged, the value decreased.

Practice Questions

22. A property has a net income of \$60,000 and sells for \$400,000. What is the capitalization rate for this property?
23. An income property produces an annual net income of \$75,000. Your client wants you to estimate what can be invested in the property to provide a 15% per year rate of return from the investment. What is the value of this property?
24. The income approach is based on the _____ of _____ income from the subject property.
25. _____ is the total annual income of a property that is fully rented with no collection losses.
26. _____ is the expected income loss that will result from occasional turnover of renters and periodic vacancies.
27. _____ is the income remaining after subtracting all relevant expenses from the effective gross income.

16.8 RECONCILING THE VALUE INDICATIONS INTO A FINAL VALUE ESTIMATE

Reconciliation is the process of evaluating and weighting each value indication obtained from the three approaches to value. The appraiser will have three indicated values (one from each approach). The appraiser reconciles the three indicated values into a final estimate of value. The reconciliation process requires that the appraiser consider each approach's relative applicability and the source of the data collected in each approach. The appraiser evaluates the data's reliability and decides which approach is best suited to the specific appraisal assignment. The appraiser performs a weighted average from the alternative indications of value that best represents the subject property. The indicated value that best applies to the specific assignment is given the greatest percentage; the next best, the next highest percentage; and so on, so that the total assigned percentages in the weighted averages equal 100%.

EXAMPLE: Assume the appraiser has applied all three approaches to the appraisal of a two-year-old single-family home located in an established neighborhood. The appraiser was able to locate five recent comparable sales. The sales comparison approach is likely the most reliable indication of the subject property's worth because the comparables were actual sales in the same neighborhood. The indicated value using the sales comparison method is \$160,000.

The appraiser also finds the cost approach reliable for valuing the subject property. The homes in the neighborhood are similar in style, construction, and age. The subject property is only two years old, so there is little accrued depreciation. The indicated value from the cost approach is \$155,000.

The appraiser was able to apply the income approach using rental data obtained from two homes in the same neighborhood. However, the subject property is being sold as a single-family home that will be owner occupied (based on mortgage financing obtained for the purchase). Therefore, the appraiser decides that the sales comparison approach and the cost approach are the most relevant approaches for this assignment. The appraiser assigns 10% weight to the indicated value of \$150,000 based on the income approach.

The appraiser reconciles the various data to obtain the final estimate of what the subject property is worth. In the final reconciliation, the appraiser used a weighted average, giving the most weight (55%) to the sales comparison approach, 35% weight to the cost approach, and just 10% weight to the income approach (see Figure 16.4).

FIGURE 16.4 ■ Final Reconciliation of the Three Approaches

| Approach | Indicated Value | | Weight | | Weighted Value |
|-----------------------|-----------------|---|--------|---|------------------|
| Sales comparison | \$160,000 | × | 55% | = | \$88,000 |
| Cost approach | \$155,000 | × | 35% | = | \$54,250 |
| Income approach | \$150,000 | × | 10% | = | +15,000 |
| Final estimate | | | | | \$157,250 |

Practice Questions

28. Using the information in the table, reconcile the three indicated values to estimate the value of the subject property.

| Approach | Indicated Value | Weight |
|------------------|-----------------|--------|
| Sales comparison | \$260,000 | 55% |
| Cost approach | \$228,000 | 35% |
| Income approach | \$220,000 | 10% |

16.9 GROSS RENT MULTIPLIER (GRM)

A **gross rent multiplier (GRM)** relates sale price to monthly rental income. The GRM is a simple substitute for the income capitalization analysis for one- to four-unit residential rental properties. The GRM applies to rental income only. Use gross monthly rent when calculating a GRM. The GRM is found by dividing the sale price by the gross monthly rent:

Formula: Gross Rent Multiplier (GRM)

$$\text{sale price} \div \text{gross monthly rent} = \text{gross rent multiplier (GRM)}$$

EXAMPLE: A single-family property sold for \$229,400. This residential investment property earns a monthly rental income of \$1,850. What is the property's GRM?

$$\$229,400 \text{ sale price} \div \$1,850 \text{ gross monthly rent} = 124 \text{ GRM}$$

Multipliers must be determined for each local area. A multiplier is market-derived by using comparable properties and averaging the results. To establish a market-derived GRM, an appraiser must locate recent sales and rental data from at least four rental properties that are comparable to the subject property. The sale price of each comparable rental property is divided by the property's gross rent to calculate each property's GRM. The individual GRMs are averaged to estimate a market area GRM. Then the market area GRM is used to estimate the subject property's market value:

Formula: Estimated Market Value

$$\text{monthly rent} \times \text{market area GRM} = \text{estimated market value}$$

EXAMPLE 1: An appraiser has found five rental properties that are comparable to the subject property. The sale price and monthly rent for each of the five sales is listed in the table. What is the market area GRM?

| Sale | Sale Price | ÷ | Monthly Rental | = | GRM |
|------|------------|---|----------------|---|--------------|
| 1 | \$98,000 | | \$575 | | 170.4 |
| 2 | \$96,600 | | \$550 | | 175.6 |
| 3 | \$99,900 | | \$595 | | 167.9 |
| 4 | \$92,500 | | \$550 | | 168.2 |
| 5 | \$98,000 | | \$560 | | 175.0 |
| | | | | | <u>857.1</u> |

$$857.1 \text{ (sum of GRMs)} \div 5 \text{ comparable sales} = 171.4 \text{ market area GRM}$$

EXAMPLE 2: The appraiser has estimated the fair market rent for the subject property to be \$560 per month. What is the estimated market value of the subject property using the market area GRM of 171.4?

$$\$560 \text{ rental income} \times 171.4 \text{ GRM} = \$95,984 \text{ or } \$96,000 \text{ (rounded)}$$

Gross Income Multiplier (GIM). The **gross income multiplier (GIM)** is used with small income-producing properties. Notice that the procedure for calculating a GIM is basically the same as for calculating a GRM. However, the GIM refers to all income a property may produce, while the GRM refers to rent only. The GIM uses annual income, whereas the GRM applies monthly rent.

Formula: Gross Income Multiplier (GIM)

sale price \div gross annual income = gross income multiplier (GIM)

gross annual income \times market GIM = value

1 **EXAMPLE 1:** A commercial property produces \$50,000 of annual gross income.
 2 The property recently sold for \$400,000. What is the property's GIM?
 3 \$400,000 sale price \div \$50,000 gross annual income = 8.0 GIM

4 **EXAMPLE 2:** The appraiser has projected that the subject property can gener-
 5 ate a gross annual income of \$58,000. What is the estimated market value of the subject
 6 property using the market area GIM 8.0?
 7 \$58,000 annual gross income \times 8.0 GIM = \$464,000

Practice Questions

29. What is the market value of a subject property using a market area GRM of 126.5 and gross monthly rent of \$1,500?
30. What is the market value of a subject property using a market area GIM of 12.5 and gross annual income of \$25,500?
31. What is the GIM of a small income-producing property that sells for \$425,000 and has a projected gross annual income of \$72,000?

16.10 COMPARATIVE MARKET ANALYSIS (CMA)

8
 9 In the normal course of business, licensees typically prepare a comparative market
 10 analysis (CMA) for sellers or buyers as a means to help them make informed decisions
 11 on pricing a property. Although CMAs are a variation of the sales comparison approach,
 12 they are not appraisal reports. Appraisals employ all three approaches to value and must
 13 conform to the *Uniform Standards of Professional Appraisal Practice (USPAP)*.

Preparation of a Comparative Market Analysis

14
 15 **Categories of Comparables.** A CMA typically presents information concerning three
 16 major categories of properties:

- 17 ■ *Recently sold.* Studying the sale prices of similar properties in the same market
 18 area that have recently sold provides information concerning what buyers have

1 been willing to pay for similar properties. The amount of recent sale activity and
2 the average days on the market are also valuable information.

- 3 ■ *Currently on the market.* Studying the asking prices of properties in the mar-
4 ket area provides important information concerning what the sellers of similar
5 properties are asking in today's market. When properties with equally desirable
6 characteristics are available, buyers normally choose the property with the lowest
7 price. Therefore, the seller should price the property taking into consideration
8 the average asking price of competing properties.
- 9 ■ *Recently expired listings.* Properties that were listed but failed to sell often were
10 priced too high. This information helps explain to sellers the consequences of
11 overpricing listings.

12 **Common Elements of Comparison.** It is important that all properties used in the CMA be
13 similar to the subject property in size, age, amenities, and location. Adjustments should
14 be made for important differences compared with the subject property, such as swimming
15 pools, condition, style, and so forth. Examples of features that must be considered include
16 location, size, and shape of the lot; landscaping; construction quality; style, design, and
17 age of the structure; square feet; and number of rooms. Adjustments are made to the comps
18 (comparables) using the same procedure as discussed in the sales comparison approach.

19 **Computer-Generated CMAs.** Software programs are available that will organize the data
20 that sales associates gather into attractive presentations. Many MLS service providers
21 offer software for REALTOR® members to download the comparable information directly
22 into a listing presentation package.

23 **Automated Valuation Models (AVMs)**

24 The **automated valuation model (AVM)** is a data analysis that is compiled using
25 a computer database of closed sales. AVMs are used by lenders in situations where the
26 expense of an appraisal may not be warranted. For example, if a homeowner is applying
27 for a home equity loan and the combined loan-to-value ratio of the first mortgage and the
28 home equity loan are below certain risk levels, the lender may forgo a formal appraisal.
29 AVMs are not appraisals and do not meet USPAP standards. They do not involve the
30 inspection of the property, measurements, photographs, and so forth. AVMs work well in
31 tract subdivisions where the homes are similar in condition, building materials, age, and
32 square footage. However, AVMs are not as reliable when homes are unique or in areas
33 with a mix of price ranges, and so forth. AVMs are available online at different real estate
34 websites and are mostly free to customers. AVMs provide useful information to real estate
35 associates and potential buyers and sellers.

Practice Questions

32. List the three major categories of property used in the preparation of CMAs.

1. _____
2. _____
3. _____

16.11 SUMMARY OF IMPORTANT POINTS

- Real estate licensees who conduct real estate appraisals are required to comply with *USPAP*. Appraisal reports involving a federally related transaction must be prepared by a state-certified or licensed appraiser.
- *Market value* is the most probable price that a property should bring in a competitive and open market under all conditions requisite to a fair sale, with the buyer and the seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.
- *Value* is determined by what consumers are willing to pay in the marketplace. *Price* refers to the amount of money actually paid. *Cost* is the total expenditure to create the improvement.
- An *overimprovement* occurs when an owner invests more money in a structure than can reasonably be expected to be recaptured.
- To have value, goods and services must possess four traits: (1) demand, (2) utility, (3) scarcity, and (4) transferability.
- *Highest and best use* is the most profitable use of a property. The use must be legally permissible, physically possible, and financially feasible.
- The three approaches to estimating value are (1) sales comparison approach, (2) cost-depreciation approach, and (3) income approach. The principle of substitution is the basis for all three approaches.
- The *sales comparison approach* compares similar properties to the subject property. The comparable properties' sale prices are adjusted upward or downward to reflect differences between each comparable and the subject property. If a comparable is superior to the subject property on a given feature, a downward adjustment is made to the comp. If a comparable is inferior to the subject property, an upward adjustment is made to the comp. The adjusted sale prices of the comparables are reconciled using a weighted average to estimate the market value of the subject property.
- The *cost-depreciation approach* estimates the market value of a property based on the cost to buy an equivalent site and to reproduce the structure as if new, less depreciation. *Reproduction cost* is the amount of money required to build an exact duplicate of the structure. *Replacement cost* is the amount of money required to replace a structure having the same use and functional utility as the subject property but using modern, available, or updated materials.
- *Depreciation* is the loss in value. *Accrued depreciation* is the total depreciation that has accumulated over time. Depreciation is curable when a building component has been added or repaired and the owners are able to get their money back in added value. If the owners are not able to recoup the cost of the repaired or added item, it is said to be incurable depreciation. The three major causes of depreciation are (1) physical deterioration, (2) functional obsolescence, and (3) external obsolescence.
- The age-life method of estimating depreciation is based on a ratio of the property's effective age to its economic life. *Effective age* is the age indicated by a structure's condition and utility. *Total economic life* is the total estimated number of years that a structure is expected to contribute to the property's value.

- 1 ■ The *income approach* develops an estimated value based on the present worth of
2 future income from the subject property. The approach capitalizes net operating
3 income into value.
- 4 ■ *Potential gross income (PGI)* is the total annual income a property would pro-
5 duce if it were fully rented and no collection losses were incurred. *Effective gross*
6 *income (EGI)* is calculated by subtracting vacancy and collection losses from
7 the PGI. *Net operating income (NOI)* is the income remaining after subtracting
8 operating expenses from EGI. The three categories of operating expenses are
9 (1) fixed, (2) variable, and (3) reserve for replacements.
- 10 ■ The *gross rent multiplier (GRM)* is the ratio between a property's gross monthly
11 rent and its selling price. The *gross income multiplier (GIM)* is the ratio between a
12 property's gross annual income and its selling price.
- 13 ■ Automated valuation models are not appraisals. They do not conform to *USPAP*
14 standards.

UNIT 16 EXAM

1. The total expenditure required to bring a new improvement into existence is called
 - a. cost.
 - b. price.
 - c. market price.
 - d. market value.
2. Which assumption does NOT apply to definition of market value?
 - a. Payment is made in cash or its equivalent.
 - b. Neither the buyer nor the seller is under any compulsion to act quickly.
 - c. Market value is the median price a property will bring.
 - d. Both buyer and seller are fully informed.
3. The approach to estimating value that is called "the real estate market speaking through past sales because it uses actual sales transactions" is the
 - a. transactional comparison approach.
 - b. economic indicator approach.
 - c. sales comparison approach.
 - d. sales transaction approach.
4. When more money is invested in a building than can reasonably be expected to be recaptured, it is called
 - a. economic lack of utility.
 - b. overimprovement.
 - c. underimprovement.
 - d. depreciation.
5. Loss of value for any reason is called
 - a. transferability.
 - b. substitution.
 - c. depreciation.
 - d. economic obsolescence.
6. All these characteristics are required to create value EXCEPT
 - a. demand.
 - b. supply.
 - c. utility.
 - d. transferability.
7. The approach to value MOST likely to be relevant for appraising a community college is the
 - a. comparable sales approach.
 - b. cost approach.
 - c. income approach.
 - d. straight-line approach.
8. The subject property has 200 less square feet of living area than a comparable. The market area value of 200 square feet is \$20,000. Which adjustment should the appraiser make?
 - a. Add \$20,000 to the subject
 - b. Add \$20,000 to the comparable
 - c. Subtract \$20,000 from the subject
 - d. Subtract \$20,000 from the comparable
9. The MOST relevant approach to estimating the value of a vacant lot in a residential neighborhood usually is the
 - a. square-foot approach.
 - b. cost approach.
 - c. unit-in-place method.
 - d. sales comparison approach.
10. Which condition is considered external obsolescence?
 - a. Peeling exterior paint
 - b. One bathroom in a three-bedroom home
 - c. Metal utility shed that is in poor condition located just inside the property line
 - d. A residential property's proximity to an industrial area
11. Loss in value because of operational inadequacies, poor design, or changing tastes is called
 - a. physical deterioration.
 - b. functional obsolescence.
 - c. external obsolescence.
 - d. underimprovement.
12. The total estimated time in years that an improvement can be profitably useful is called
 - a. effective age.
 - b. economic life.
 - c. accrued depreciation.
 - d. chronological age of the improvement.

13. In the income approach, if the capitalization rate is increased and the net income is unchanged, the
- present value will be less.
 - future value will be less.
 - present value will be more.
 - future value will be more.
14. A home has 1,800 square feet of living area and 200 square feet of garage. The reproduction cost new is \$48 per square foot for living area and \$28 per square foot for finished garage area. The site measures 75 feet wide by 110 feet deep and is valued at \$3 per square foot. The economic life of the home is estimated to be 50 years. The house is 10 years old. The value of the property using the cost-depreciation approach is
- \$73,600.
 - \$86,400.
 - \$92,000.
 - \$98,350.
15. A limited partnership wishes to purchase an apartment building that has a monthly net income of \$4,000 and monthly expenses of \$1,000. If the partnership is to get a 12% return on its investment, what should it pay for the property?
- \$25,000
 - \$33,000
 - \$300,000
 - \$400,000
16. An income-producing property has a potential annual gross income of \$81,420. Vacancy and collection losses are estimated at 10% of potential gross income. Expenses are estimated at \$40,000. The estimated value of the property is \$250,000. The capitalization rate for this property is
- 13.31%.
 - 14.91%.
 - 16.57%.
 - 17.5%.
17. Effective gross income is
- net operating income divided by an appropriate capitalization rate.
 - potential gross income minus vacancy and collection losses plus other income.
 - net operating income minus annual mortgage expense.
 - before-tax cash flow divided by equity invested.
18. You are preparing a CMA for a single-family home that has a two-car garage. You have located a comparable house that sold for \$226,000, but it does not have a garage. If a two-car garage is valued at \$18,000, which adjustment would you make?
- Add \$18,000 to the comparable
 - Subtract \$18,000 from the comparable
 - Add \$18,000 to the subject
 - Subtract \$18,000 from the subject
19. A building is valued at \$150,000 when NOI is capitalized at a rate of 8%. NOI is 40% of effective gross income. The effective gross income is
- \$12,000.
 - \$22,000.
 - \$30,000.
 - \$32,000.
20. A commercial property has a potential gross income of \$40,000. Vacancy and collection losses are 5% of PGI. Additional operating expenses total \$12,920. The property has a first mortgage requiring payments of \$1,070.75 per month. Using a capitalization rate of 12%, which amount is an accurate estimate of the property's value?
- \$101,333
 - \$107,667
 - \$209,000
 - \$316,667