

Review Dates:



14%

Competency Area 1: Safety

Knowledge Check

How well do you know how to:

	Very Well	Somewhat Well	Not Well
1. Identify the common causes of construction accidents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Explain the role of OSHA and the 10-Hour Certification?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Explain fall protection and safety requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Recognize the hazards and risk assessment techniques?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Demonstrate safe working procedures and requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Recognize safe work procedures to use around electrical hazards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Use and the care of appropriate personal protective equipment (PPE)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Explain the importance of hazard communications (HazCom) and Material Safety Data Sheets (MSDSs)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Identify other construction hazards on your job site, including hazardous material exposures, environmental elements, welding and cutting hazards, confined spaces and fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

Review Dates



10%

Competency Area 2: Using and Maintaining Hand Tools

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Recognize and identify the basic hand tools and their proper uses in the construction trade?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Visually inspect hand tools to determine if they are safe to use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Identify safe use of hand tools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Use measurement devices?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:



10%

Review Dates:

Competency Area 3: Using and Maintaining Power Tools Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Identify power tools commonly used in the construction trades?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Use power tools safely?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Explain how to maintain power tools properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

Review Dates:



8%

Competency Area 4: Read and Interpret Plans and Elevations from Blueprints

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Recognize and identify basic construction drawing terms, components and symbols?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Relate information on construction drawings to actual locations on the print?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Recognize different classifications of construction drawings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Interpret and use drawing dimensions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

6%

Review Dates:

Competency Area 5: Understanding Material Handling

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Use proper materials-handling techniques?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Choose appropriate materials-handling equipment for the task?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Recognize hazards and follow safety procedures required for materials handling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

6%

Review Dates:

Competency Area 6: Understand Concrete, Reinforcing Materials and Forms

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Identify the properties and composition of cement and concrete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Perform volume estimates for concrete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Identify types of concrete reinforcement materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Identify various types of footings and forms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Erect, plumb, and brace a simple concrete form with reinforcement?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:



16%

Review Dates:

Competency Area 7: Identify and Understand Floor, Wall and Ceiling Systems

Knowledge Check

Floor Systems

How well do you know how to:

	Very Well	Somewhat Well	Not Well
1. Read and interpret drawings and specifications to determine floor system requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Identify floor and sill framing and support members?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. List and recognize different types of floor joists?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. List and recognize different types of bridging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. List and recognize different types of flooring materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Match selected fasteners used in floor framing to their correct uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Estimate the amount of material needed to frame a floor assembly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Demonstrate the ability to lay out and construct a floor assembly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Demonstrate the ability to install bridging?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Demonstrate the ability to install a subfloor using tongue-and-groove and butt-joint installation techniques?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wall and Ceiling Systems

How well do you know how to:

1. Identify the components of a wall and ceiling layout?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Describe the procedure for laying out, assembling, erecting and bracing an exterior wall?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Identify the common materials and methods used for installing sheathing on walls?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Identify tools used in the construction of cold formed steel framing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Describe the correct procedure for laying out, cutting and installing ceiling joists?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

8%

Review Dates:

Competency Area 8: Understand Roof Framing

Knowledge Check

	Very Well	Somewhat Well	Not Well
How well do you know how to:			
1. Identify and apply the terms associated with roof framing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Identify the roof framing members used in gable and hip roofs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Identify the methods used to calculate the length of the rafter?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Demonstrate the usage of a rafter framing square and speed square in laying out a roof?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Identify various types of sheathing used in roof construction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Identify the parts of common rafter?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Frame a roof opening?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Erect a gable roof using trusses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Estimate the materials used in framing and sheathing a roof?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

4%

Review Dates:

Competency Area 9: Understand Exterior Finishes

Knowledge Check

How well do you know how to:

	Very Well	Somewhat Well	Not Well
1. Describe the purpose of wall insulation and flashing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Describe the types and styles of siding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Describe the types and styles of veneer finishes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

Review Dates:

4%

Competency Area 10: Understand Drywall Installation

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Identify the different types of drywall and their uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Measure, cut and install gypsum board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Select fasteners for drywall installation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Estimate square footage for materials needed in drywall installation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

8%

Review Dates:

Competency Area 11: Understand Stair Systems

Knowledge Check

How well do you know how to:	Very Well	Somewhat Well	Not Well
1. Identify the types of stairs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Identify the various stair parts, including railing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Calculate rise and run for stair stringers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Lay out and cut stringers, risers and treads?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Identify the types of material used in stair construction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:

6%

Review Dates:

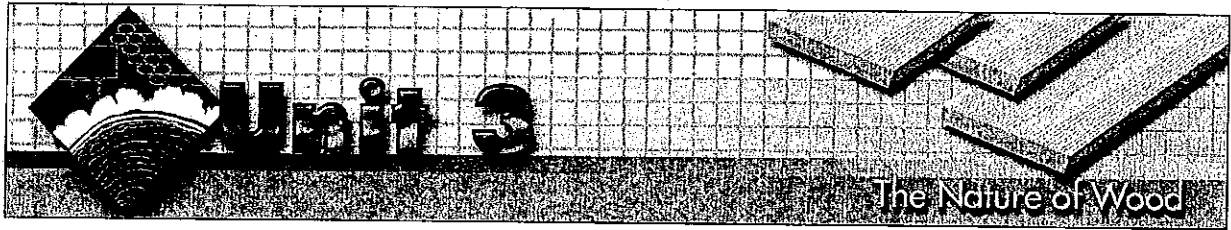
Competency Area 12: Understand the Installation of Windows and Doors

Knowledge Check

How well do you know how to:

	Very Well	Somewhat Well	Not Well
1. Identify the styles of doors and windows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Identify the parts of a window and door?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Install a pre-hung door?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Install a pre-hung window?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Identify the hardware needed for door installation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Identify various types of flashings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Areas I Need To Review:



Name _____ Date _____

Completion

- _____ 1. A tree grows by forming new wood ____.
- _____ 2. The light-colored section of an annual ring is ____.
- _____ 3. Water is present in ____ cavities and ____ walls of wood.
- _____ 4. The moisture content of wood used for interior finish materials should be between ____% and ____%.
- _____ 5. Wood ____ in strength as moisture content ____.
- _____ 6. ____ is the growing portion of a tree.
- _____ 7. Lumber should have a moisture content ____ with the air that will surround it after it is installed.
- _____ 8. Wood cell walls are composed of ____ matter.
- _____ 9. When water leaves the cell walls, the cells begin to ____ in size, causing the wood to shrink.
- _____ 10. Wood shrinks more ____ the grain than ____ the grain.

Multiple Choice

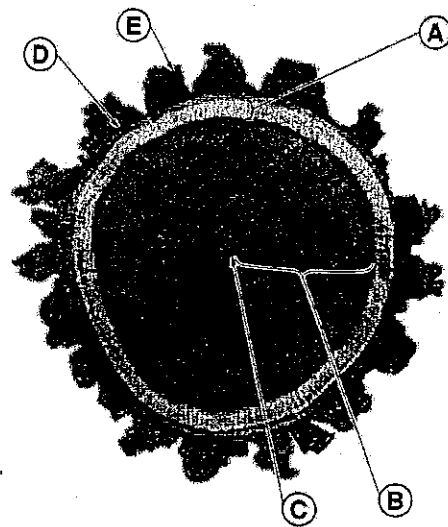
- _____ 1. Wood does not decay when its moisture content is below ____%.
 - A. 20
 - B. 24
 - C. 28
 - D. 32
- _____ 2. Wood cells attain a length of approximately ____.
 - A. $\frac{1}{8}$ " for softwood and hardwood
 - B. $\frac{1}{8}$ " for softwood and $\frac{1}{24}$ " for hardwood
 - C. $\frac{1}{24}$ " for softwood and hardwood
 - D. $\frac{1}{24}$ " for softwood and $\frac{1}{8}$ " for hardwood

Matching

- | | | |
|-------|---------------------------------|---|
| _____ | 1. Springwood | A. watery fluid |
| _____ | 2. Bark | B. light wood of a tree |
| _____ | 3. Equilibrium moisture content | C. decay |
| _____ | 4. Sapwood | D. light-colored section of annual ring |
| _____ | 5. Summerwood | E. outer tree covering |
| _____ | 6. Sap | F. dark-colored section of annual ring |
| _____ | 7. Rot | G. central core of a tree |
| _____ | 8. Pith | H. dark wood of a tree |
| _____ | 9. Cells | I. lumber stops shrinking |
| _____ | 10. Heartwood | J. fibers |

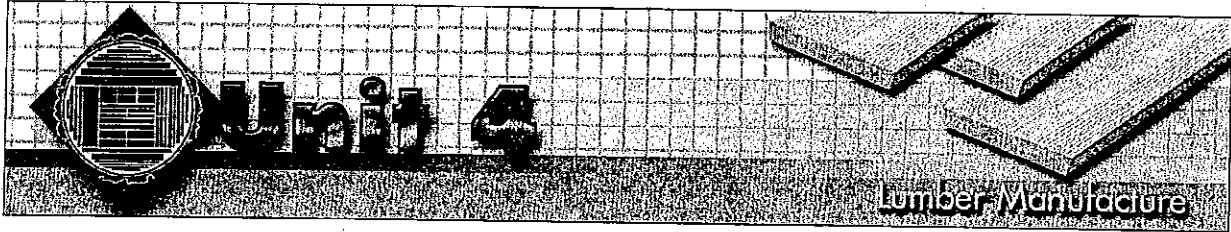
Identification—Tree Growth

- | | |
|-------|--------------|
| _____ | 1. Bark |
| _____ | 2. Sapwood |
| _____ | 3. Heartwood |
| _____ | 4. Pith |
| _____ | 5. Cambium |



True-False

- | | | |
|---|---|---|
| T | F | 1. Wood is composed of numerous cells. |
| T | F | 2. Annual rings are narrower during dry seasons. |
| T | F | 3. Springwood is normally weaker than summerwood. |
| T | F | 4. Lignin holds cells together. |



Name _____ Date _____

Matching

- | | |
|----------------------|--|
| _____ 1. Medium knot | A. separation of wood fibers across annual growth rings |
| _____ 2. Check | B. most common fungus damage |
| _____ 3. Kiln | C. type of wood preservative |
| _____ 4. Dried | D. ignites and burns easily |
| _____ 5. Dry rot | E. check extending completely through the lumber |
| _____ 6. Creosote | F. separation of wood fibers between annual growth rings |
| _____ 7. Knot | G. over $\frac{3}{4}$ " and less than $1\frac{1}{2}$ " in diameter |
| _____ 8. Split | H. most common natural wood defect |
| _____ 9. Combustible | I. oven |
| _____ 10. Shake | J. seasoned |

Multiple Choice

- _____ 1. Approximately ____ of a log becomes usable construction lumber.
- one-fourth
 - one-third
 - one-half
 - two-thirds
- _____ 2. Factors that determine the grade of lumber include ____.
- type and place grown
 - length and width of boards
 - number and type of defects
 - all of the above

Completion

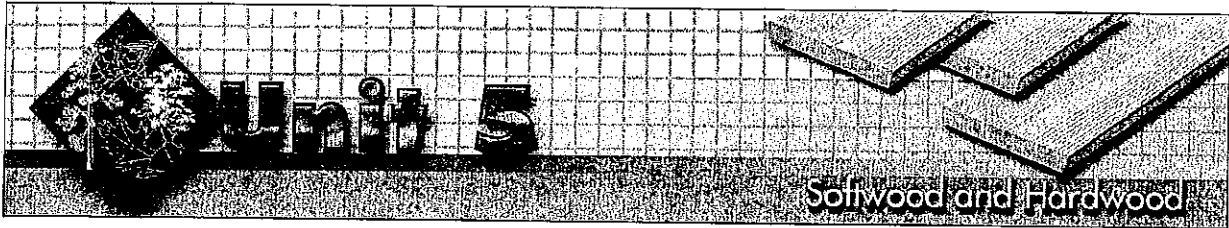
- _____ 1. The portion of a log that does not become lumber is known as _____.
- _____ 2. Hardwood lumber is generally _____ dried.
- _____ 3. Softwood lumber is generally _____ dried.
- _____ 4. A large knot is _____" or more in diameter.
- _____ 5. A pin knot is _____" or less in diameter.
- _____ 6. Dry rot can only survive in wood with a moisture content of _____% or more.
- _____ 7. Most lumber is produced by _____ sawing.
- _____ 8. Two methods of drying lumber are _____ drying and _____ drying.
- _____ 9. _____ is a board's deviation from a flat plane, edge to edge.
- _____ 10. _____ that may mar lumber appearance include chipped grain, surface skip mars, and knife marks.
- _____ 11. The printreading abbreviation BR stands for _____.

Short Answer

1. How is lumber air dried?

2. What are the advantages of quartersawn lumber?

3. Discuss the advantages of plainsawn lumber.



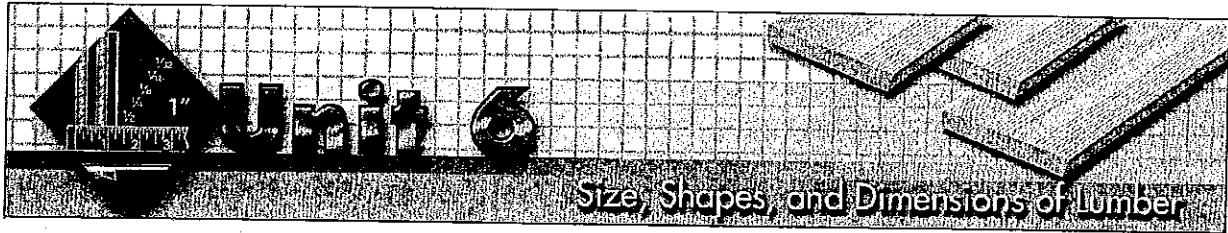
Name _____ Date _____

True-False

- | | | |
|---|---|---|
| T | F | 1. Douglas fir is mostly used for rough construction in the western part of the United States. |
| T | F | 2. Structural light framing lumber applications include load-bearing members. |
| T | F | 3. Studs are 2" x 4" or 2" x 6" pieces of lumber 12' or shorter. |
| T | F | 4. Softwood is normally more expensive than hardwood. |
| T | F | 5. Yellow poplar is a softwood. |
| T | F | 6. Southern pine is the predominant rough construction wood used in the southeastern part of the United States. |
| T | F | 7. Approximately 25% of total lumber production is hardwood. |
| T | F | 8. FAS indicates that hardwood is first and second grade. |
| T | F | 9. Finish materials are used for interior trim work only. |
| T | F | 10. The printreading abbreviation BK stands for benchmark. |

Completion

- _____ 1. ___ and ___ are the two main classes of trees.
- _____ 2. ___ lumber is used for rough construction.
- _____ 3. The grade of lumber is based on ___, ___, and ___.
- _____ 4. ___ classification of lumber is used for beams, stringers, posts, and timbers.
- _____ 5. Three main softwood end-use categories are ___, ___, and ___.
- _____ 6. Most hardwood trees grow in the ___ part of the United States.
- _____ 7. Evergreen trees having needles and cones are ___.
- _____ 8. Timbers are no smaller than ___" wide by ___" thick.



Name _____ Date _____

Abbreviations

- _____ 1. Surfaced on one side
- _____ 2. Surfaced on two sides
- _____ 3. Surfaced on four sides
- _____ 4. Surfaced on two edges
- _____ 5. Surfaced on one edge
- _____ 6. Saw sized
- _____ 7. Surfaced on two sides and one edge
- _____ 8. Surfaced on one side and two edges
- _____ 9. Surfaced on one side and one edge

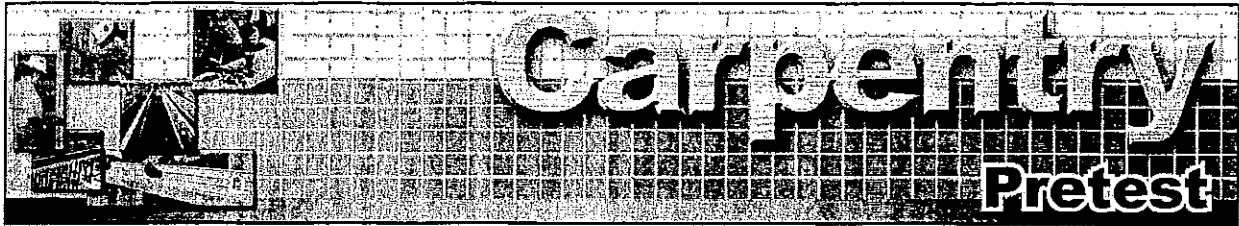
Math

- _____ 1. A board measuring 1" x 4" x 6' contains ____ BF.
- _____ 2. Two boards measure 2" x 6" x 6'. They measure ____ BF.
- _____ 3. Cherry costs \$2.25 per BF for 1" nominal thickness (¹³/₁₆" actual thickness). How much will three pieces 6" wide and 8' long cost?
- _____ 4. A lumber order calls for the following:
 120 lineal feet of ³/₄" screen mold @ \$.28 per lineal foot
 60 lineal feet of 1" x 4" pine @ \$.67 per lineal foot
 3 sheets of ¹/₄" luan @ \$18.16 per sheet
 What is the total material cost for this lumber order?
- _____ 5. An order for hardwood lumber calls for the following:
 150 BF of ¹³/₁₆" Appalachian cherry @ \$2.25 per BF
 75 BF of ¹/₂" plainsawn oak @ \$1.75 per BF
 The sales tax on this order is 6%. Also, there is a 10% delivery charge.
 (Note: Do not figure sales tax on the delivery charge.)
 What is the total cost of this lumber?

- _____ 19. A piece of lumber contains 4 BF. Which of the following could not be this piece?
- A. $1'' \times 12'' \times 48''$
 - B. $2'' \times 6'' \times 48''$
 - C. $4'' \times 6'' \times 24''$
 - D. $9'' \times 2'' \times 48''$
- _____ 20. A $1'' \times 1'' \times 8'$ strip of lumber has ____ BF.

Multiple Choice

- _____ 1. Softwood lumber is usually sold in even lengths ranging from ____' to ____'.
- A. 4; 16
 - B. 6; 24
 - C. 4; 26
 - D. 6; 16
- _____ 2. The actual size of a $2'' \times 4''$ piece of lumber is ____" \times ____".
- A. $1\frac{5}{8}$; $3\frac{5}{8}$
 - B. $1\frac{1}{2}$; $3\frac{1}{2}$
 - C. $1\frac{5}{8}$; $3\frac{1}{2}$
 - D. $1\frac{1}{2}$; $3\frac{5}{8}$
- _____ 3. Lumber measurements are stated in the following order: ____.
- A. thickness, width, length
 - B. thickness, length, width
 - C. width, thickness, length
 - D. length, thickness, width
- _____ 4. Metric lumber and panel sizes are based on the actual standard lumber sizes and are expressed in ____.
- A. meters
 - B. centimeters
 - C. millimeters
 - D. U.S. Customary
- _____ 5. A piece of lumber that measures $2'' \times 8'' \times 16'$ contains ____ BF.
- A. $14\frac{1}{2}$
 - B. $16\frac{1}{4}$
 - C. $21\frac{1}{3}$
 - D. $24\frac{2}{3}$
- _____ 6. Resawn lumber is generally used for ____.
- A. exterior trim
 - B. siding
 - C. paneling
 - D. all of the above



Name _____ Date _____

True-False

- | | | |
|---|---|--|
| T | F | 1. Studs for a platform-framed structure are one story high. |
| T | F | 2. A general contractor is a licensed individual or firm that can enter into legal contracts to perform construction work. |
| T | F | 3. The Occupational Safety and Health Administration is a federal agency that requires employers to provide a safe work environment for their employees. |
| T | F | 4. Each annual ring on a tree trunk represents five years of cellular growth. |
| T | F | 5. Kiln drying is commonly used for rough construction lumber. |
| T | F | 6. Most hardwood trees in North America are deciduous trees. |
| T | F | 7. A board foot is equal to a piece of lumber measuring 1" × 12" × 12" and contains 121 cu in. |
| T | F | 8. The actual measurement of a 2 × 6 is 1½" × 5¼". |
| T | F | 9. The grain in all layers of a plywood panel runs in the same direction. |
| T | F | 10. The wood strands in oriented strand board run in the same direction. |
| T | F | 11. The back of a framing square does not contain any markings. |
| T | F | 12. A powder-actuated tool uses compressed air to drive a fastener. |
| T | F | 13. Prints provide an orthographic view of each part of the building from above and from the sides. |
| T | F | 14. Footings rest directly on the soil and act as a base for foundation walls. |
| T | F | 15. The bottom plate is installed prior to installing the subfloor. |

Multiple Choice

- _____ 1. Light-gauge steel framing members are ____.
- A. lightweight
 - B. straight
 - C. strong
 - D. all of the above
- _____ 2. A ____ roof is pitched in one direction.
- A. gable
 - B. hip
 - C. shed
 - D. gambrel
- _____ 3. The total ____ of a roof is measured from the top wall plate to the ridge of the roof.
- A. span
 - B. rise
 - C. run
 - D. length
- _____ 4. A ____ is an engineered combination of structural members arranged and fastened in triangular units to form a rigid framework for support of loads over a long span.
- A. roof truss
 - B. wood I-joist
 - C. glulam beam
 - D. rim board
- _____ 5. The process that occurs when moisture comes out of the air and forms water droplets on cooler surfaces is ____.
- A. conduction
 - B. convection
 - C. condensation
 - D. radiation
- _____ 6. A(n) ____ coating is a very thin metal or metallic oxide coating that reduces the passage of heat and ultraviolet rays through windows.
- A. translucent
 - B. low-e
 - C. argon
 - D. double-glazed
- _____ 7. Sound intensity is expressed in ____.
- A. sound transmission coefficient
 - B. R value
 - C. U value
 - D. decibels

- _____ 8. In a passive solar heating system, the ____ is the element through which sunlight enters the building.
- A. absorber
 - B. storage medium
 - C. collector
 - D. control element
- _____ 9. Roof ____ are the portions of a pitched roof that project past the side walls of a building.
- A. fascias
 - B. overhangs
 - C. frieze boards
 - D. plumb cuts
- _____ 10. Standing-seam roll-formed panels are manufactured from ____.
- A. aluminum
 - B. copper
 - C. galvanized steel
 - D. all of the above
- _____ 11. A certain amount of settlement can be expected with any newly constructed building, unless it has been built on ____.
- A. gravel
 - B. clay
 - C. silt
 - D. bedrock
- _____ 12. A(n) ____ is a slanted piece at the bottom of a window frame that permits moisture to properly drain away from a building.
- A. sill
 - B. apron
 - C. frame
 - D. muntin
- _____ 13. A fire-rated door has a(n) ____ core.
- A. wood block
 - B. foam
 - C. mineral-based material
 - D. engineered wood product
- _____ 14. ____ is a translucent spun-plastic sheet material that is tightly wrapped around a building to prevent water and air penetration into the structure.
- A. Building paper
 - B. Housewrap
 - C. Asphalt-saturated felt
 - D. Rigid foam insulation

- _____ 15. A ___ is the finish frame in which the door hangs.
A. casing
B. stop
C. rail
D. doorjamb
- _____ 16. Left-hand hinges are on the left and the door _____.
A. slides to the left
B. slides to the right
C. opens inward
D. opens outward
- _____ 17. When manufacturing molding from solid lumber, a strip of lumber is resawn into a ____, which will be used to produce the desired pattern of molding with the least amount of waste.
A. molder
B. blank
C. sticker
D. cleat
- _____ 18. ___ flooring is a composite material that consists of a transparent top layer, decorative layer, carrier layer, and bottom layer.
A. Block
B. Resilient
C. Laminate
D. Plank
- _____ 19. The preferred angle for a stairway is ___° to ___°.
A. 10; 15
B. 20; 30
C. 30; 35
D. 35; 50
- _____ 20. ___ is the minimum vertical clearance required from any tread on the stairway to any part of the ceiling above the stairway.
A. Headroom
B. Total run
C. Total rise
D. Unit rise
- _____ 21. A type of post-and-beam construction is _____.
A. timber frame
B. residential post-and-beam
C. post-frame
D. all of the above

- _____ 22. _____ piles must penetrate completely through unstable soil layers to the firm, load-bearing soil below.
- A. Sheet
 - B. Bearing
 - C. Friction
 - D. H-
- _____ 23. A conical section at the top of a concrete column that helps to support a flat-slab floor above is a _____.
- A. drop panel
 - B. girder
 - C. pilaster
 - D. capital
- _____ 24. A(n) _____ admixture produces microscopic air bubbles in a concrete mixture.
- A. air-entraining
 - B. water-reducing
 - C. accelerating
 - D. set-retarding
- _____ 25. A _____ test measures the consistency of fresh concrete.
- A. compression
 - B. center point
 - C. slump
 - D. beam-deflection
- _____ 26. Determine the thickness of an interior partition constructed of 2×4 s (actual thickness $3\frac{1}{2}$ "") with $\frac{1}{2}$ " drywall on each side.
- A. 3"
 - B. $3\frac{1}{2}$ "
 - C. 4"
 - D. $4\frac{1}{2}$ "
- _____ 27. A sheet of plywood is $\frac{3}{4}$ " thick. This fraction converted to decimal format is _____.
- A. .333
 - B. .75
 - C. 1.33
 - D. .4
- _____ 28. A piece of molding $3'-4\frac{1}{2}$ " long must be cut from a standard 10' length of molding. Determine the length of the remaining molding.
- A. $3'-4\frac{1}{2}$ "
 - B. $6'-5\frac{1}{2}$ "
 - C. $6'-7\frac{1}{2}$ "
 - D. $7'-5\frac{1}{2}$ "

- _____ 29. A $2 \times 6 \times 10'$ piece of lumber must be cut into $14\frac{1}{2}"$ pieces for blocking between joists. Without accounting for the saw kerfs, _____ $14\frac{1}{2}"$ pieces can be cut from the $10'$ length.
- A. four
 - B. six
 - C. eight
 - D. ten
- _____ 30. The total of two dimensions on a print— $13\frac{5}{8}"$ and $16\frac{1}{2}"$ —is _____.
- A. $29\frac{1}{8}$
 - B. $29\frac{1}{4}$
 - C. $30\frac{1}{16}$
 - D. $30\frac{1}{8}$
- _____ 31. A scaffold rated at _____ lb must be used to support a load containing two carpenters (250 lb each), a load of lumber weighing 900 lb, and equipment, tools, and supplies weighing 300 lb.
- A. 1000
 - B. 1400
 - C. 1600
 - D. 1700
- _____ 32. The following deductions were taken from a paycheck that had a gross amount of \$721.56: savings direct deposit = \$100, insurance = \$98.21, association dues = \$25.75, state and local taxes = \$226.54. What is the take-home (net) pay?
- A. \$221.37
 - B. \$271.06
 - C. \$330.24
 - D. \$334.08
- _____ 33. When laying out rough openings, the $\frac{3}{4}"$ side jamb, $\frac{1}{2}"$ shim clearance, and two stud thicknesses ($1\frac{1}{2}"$ actual thickness each) must be laid out. The total thickness of these dimensions is _____.
- A. $2\frac{3}{4}$
 - B. $3\frac{1}{2}$
 - C. $4\frac{1}{4}$
 - D. $4\frac{3}{4}$
- _____ 34. A flat roof has a pitch of $\frac{1}{2}"$ per $1'-0"$ for proper water drainage. On a $14'$ flat roof, the difference in elevation is _____.
- A. $\frac{1}{2}"$
 - B. $3\frac{1}{2}"$
 - C. $7"$
 - D. $1'-0"$
- _____ 35. The difference in actual width between a 2×4 and a 2×10 is _____.
- A. $3\frac{1}{4}$
 - B. $4\frac{1}{2}$
 - C. $5\frac{3}{4}$
 - D. 6



Name _____ Date _____

True-False

- | | | |
|---|---|--|
| T | F | 1. A piece of molding 3'-4½" long is cut from a standard 10' length of molding. The length of the remaining molding is 6'-7½". |
| T | F | 2. A hip roof is pitched in only one direction. |
| T | F | 3. The wood strands in oriented strand board run in different directions. |
| T | F | 4. The bottom plate is installed prior to installing the subfloor. |
| T | F | 5. A board foot is equal to a piece of lumber measuring 1" × 12" × 12" and contains 121 cu in. |
| T | F | 6. A general contractor is an unlicensed individual who can enter into legal contracts to perform construction work. |
| T | F | 7. A double-glazed coating is a very thin metal or metallic oxide coating that reduces the passage of heat and ultraviolet rays through windows. |
| T | F | 8. Studs for a platform-framed structure are one story high. |
| T | F | 9. A powder-actuated tool uses a powder charge to drive a fastener. |
| T | F | 10. Kiln drying is commonly used for higher grades of hardwood lumber used in finish work. |
| T | F | 11. The grain in all layers of a plywood panel runs in the same direction. |
| T | F | 12. A 2 × 6 actually measures 1½" × 5¼". |
| T | F | 13. A compression test measures the consistency of fresh concrete. |
| T | F | 14. A fire-rated door has a wood block core. |
| T | F | 15. The difference in actual width between a 2 × 4 and a 2 × 10 is 5¾". |

Multiple Choice

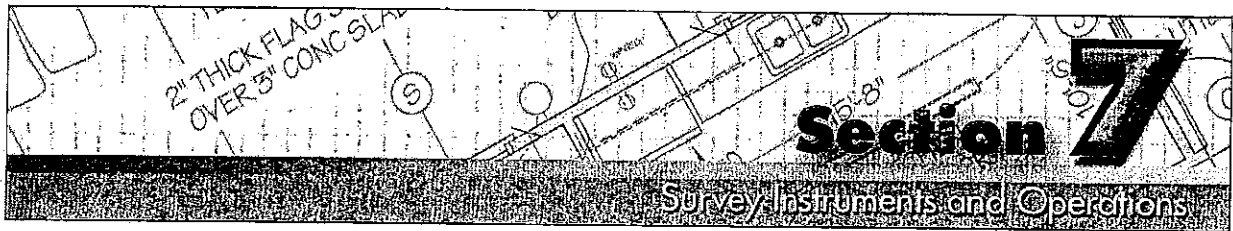
- _____ 1. A type of post-and-beam construction is ____.
- timber frame
 - residential post-and-beam
 - post-frame
 - all of the above
- _____ 2. When manufacturing molding from solid lumber, a strip of lumber is resawn into a ____, which will be used to produce the desired pattern of molding with the least amount of waste.
- molder
 - sticker
 - blank
 - cleat
- _____ 3. A $2 \times 6 \times 10'$ piece of lumber must be cut into $14\frac{1}{2}"$ pieces for blocking between joists. Without accounting for the saw kerfs, ____ $14\frac{1}{2}"$ pieces can be cut from the $10'$ length.
- four
 - six
 - eight
 - ten
- _____ 4. When laying out rough openings, the $\frac{3}{4}"$ side jamb, $\frac{1}{2}"$ shim clearance, and two stud thicknesses ($1\frac{1}{2}"$ actual thickness each) must be laid out. The total thickness of these dimensions is ____".
- $1\frac{1}{4}$
 - $2\frac{1}{4}$
 - $2\frac{1}{2}$
 - $4\frac{1}{4}$
- _____ 5. The ____ is a federal agency that requires employers to provide a safe work environment for their employees.
- American National Standards Institute
 - American Wood Council
 - Occupational Safety and Health Administration
 - none of the above
- _____ 6. The total of two dimensions on a print— $13\frac{5}{8}"$ and $16\frac{1}{2}"$ —is ____".
- $29\frac{1}{8}$
 - $29\frac{1}{4}$
 - $30\frac{1}{16}$
 - $30\frac{3}{8}$

- _____ 7. A conical section at the top of a concrete column that helps to support a flat-slab floor above is a ____.
- A. capital
 - B. girder
 - C. pilaster
 - D. drop panel
- _____ 8. A(n) ____ is a slanted piece at the bottom of a window frame that permits moisture to properly drain away from a building.
- A. muntin
 - B. apron
 - C. frame
 - D. sill
- _____ 9. Left-hand hinges are on the left and the door ____.
- A. opens inward
 - B. opens outward
 - C. slides to the left
 - D. slides to the right
- _____ 10. ____ piles must penetrate completely through unstable soil layers to the firm, load-bearing soil below.
- A. Friction
 - B. H-
 - C. Sheet
 - D. Bearing
- _____ 11. Most hardwood trees in North America are ____ trees.
- A. coniferous
 - B. fir
 - C. deciduous
 - D. all of the above
- _____ 12. A(n) ____ admixture produces microscopic air bubbles in a concrete mixture.
- A. air-entraining
 - B. set-retarding
 - C. accelerating
 - D. water-reducing
- _____ 13. The total ____ of a roof is measured from the top wall plate to the ridge of the roof.
- A. rise
 - B. span
 - C. run
 - D. length

- _____ 14. In an active solar heating system, the _____ is the element through which sunlight enters the building.
- A. absorber
 - B. collector
 - C. storage medium
 - D. control element
- _____ 15. The portions of a pitched roof that project past the side walls of a building are roof _____.
- A. fascias
 - B. frieze boards
 - C. overhangs
 - D. plumb cuts
- _____ 16. The minimum vertical clearance required from any tread on the stairway to any part of the ceiling above the stairway is _____.
- A. total rise
 - B. total run
 - C. headroom
 - D. unit rise
- _____ 17. A sheet of plywood is $\frac{3}{4}$ " thick. This fraction converted to decimal format is _____."
- A. .2
 - B. .75
 - C. 1.33
 - D. 4.7
- _____ 18. The back of a framing square may include _____.
- A. $\frac{1}{2}$ " graduations
 - B. $\frac{1}{16}$ " graduations
 - C. an Essex board measure
 - D. all of the above
- _____ 19. A scaffold rated at _____ lb must be used to support a load containing two carpenters (250 lb each), a load of lumber weighing 900 lb, and equipment, tools, and supplies weighing 300 lb.
- A. 500
 - B. 1200
 - C. 1700
 - D. 2000
- _____ 20. Prints provide _____ views of each part of the building from above and from the sides.
- A. section
 - B. orthographic
 - C. detail
 - D. all of the above

- _____ 21. A flat roof has a pitch of $\frac{1}{2}$ " per 1'-0" for proper water drainage. On a 14' flat roof, the difference in elevation is ____.
- A. $\frac{1}{2}$ "
 - B. $3\frac{1}{2}$ "
 - C. 7"
 - D. 1'-0"
- _____ 22. Laminate flooring is a composite material that consists of a ____ layer.
- A. transparent top
 - B. carrier
 - C. bottom
 - D. all of the above
- _____ 23. The following deductions were taken from a paycheck that had a gross amount of \$721.56: savings direct deposit = \$100, insurance = \$98.21, association dues = \$25.75, state and local taxes = \$226.54. What is the take-home (net) pay?
- A. \$221.37
 - B. \$234.06
 - C. \$271.06
 - D. \$334.08
- _____ 24. A ____ is an engineered combination of structural members arranged and fastened in triangular units to form a rigid framework for support of loads over a long span.
- A. glulam beam
 - B. wood I-joist
 - C. roof truss
 - D. rim board
- _____ 25. Standing-seam roll-formed panels are manufactured from ____.
- A. aluminum
 - B. copper
 - C. galvanized steel
 - D. all of the above
- _____ 26. The preferred angle for a stairway is ____° to ____°.
- A. 1; 5
 - B. 10; 20
 - C. 20; 25
 - D. 30; 35
- _____ 27. ____ is the process that occurs when moisture comes out of the air and forms water droplets on cooler surfaces.
- A. Convection
 - B. Condensation
 - C. Conduction
 - D. Radiation

- _____ 28. A _____ is the finish frame in which the door hangs.
A. doorjamb
B. stop
C. rail
D. casing
- _____ 29. Each annual ring on a tree trunk represents _____ year(s) of cellular growth.
A. one
B. five
C. 10
D. 20
- _____ 30. Sound intensity is expressed in _____.
A. decibels
B. R value
C. U value
D. sound transmission coefficient
- _____ 31. Determine the thickness of an interior partition constructed of 2×4 s (actual thickness $3\frac{1}{2}$ ") with $\frac{1}{2}$ " drywall on each side.
A. 3"
B. $3\frac{1}{2}$ "
C. 4"
D. $4\frac{1}{2}$ "
- _____ 32. _____ rest directly on the soil and act as a base for foundation walls.
A. Hip rafters
B. Footings
C. Sump wells
D. none of the above
- _____ 33. A translucent spun-plastic sheet material that is tightly wrapped around a building to prevent water and air penetration into the structure is _____.
A. building paper
B. asphalt-saturated felt
C. housewrap
D. rigid foam insulation
- _____ 34. A certain amount of settlement can be expected with any newly constructed building built on _____.
A. gravel
B. clay
C. silt
D. all of the above
- _____ 35. Light-gauge steel framing members are _____.
A. lightweight
B. straight
C. strong
D. all of the above



Name _____ Date _____

- T F 1. Builder's levels have telescopes ranging from 12 power to 32 power.
- T F 2. An engineer's leveling rod is graduated in feet only.
- T F 3. Hours and minutes are used to express fractions of a degree.
- _____ 4. A builder's level has crosshairs inside the _____ of the telescope.
- _____ 5. A(n) _____ leveling rod is graduated in feet, inches, and eighths of an inch.
- _____ 6. _____ leveling screws are used to make a rough adjustment for an automatic level.
 - A. Two
 - B. Three
 - C. Four
 - D. none of the above
- T F 7. The right angle is the most frequently used angle in construction work.
- _____ 8. Both arms straight up above the head indicate that the rod _____.
 - A. is plumb
 - B. should be raised
 - C. is too high
 - D. none of the above
- T F 9. Strong air disturbances have no effect on the accuracy of a laser light.
- _____ 10. _____ instruments combine survey technology with digital data processing.
- T F 11. Electronic distance measurement has an accuracy of 0.1' without the use of a measuring tape.
- _____ 12. A architect's leveling rod is graduated in _____, _____, and _____.
 - A. feet; tenths of a foot; hundredths of a foot
 - B. feet; inches; eighths of an inch
 - C. meters; centimeters; millimeters
 - D. none of the above
- T F 13. A manual laser level is leveled in a manner similar to traditional surveying equipment.
- T F 14. The target for a laser transit-level is known as a receiver.

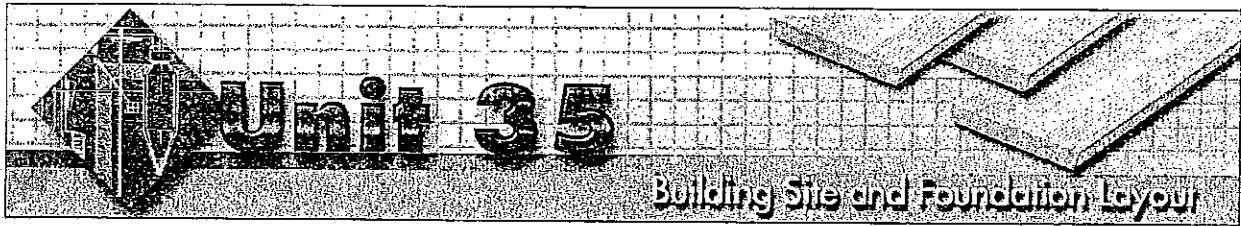
- T F 33. The telescope of a transit-level can be moved only in a horizontal direction.
- _____ 34. The vernier scale of a transit-level has ___ graduations of 0 to 60 minutes at each side of the zero index.
 A. three
 B. four
 C. six
 D. twelve
- _____ 35. Transit-levels have a vertical arc for measuring ___ angles.
- _____ 36. Transit-levels have a(n) ___ or clamp to hold the telescope in a fixed position.
- T F 37. Leveling rods are made of wood, plastic, or sheet metal.
- _____ 38. The three-legged support on which a builder's level is mounted is known as a(n) ____.
- T F 39. A laser level can be used to plumb horizontal items.
- T F 40. Laser transit-levels cannot be wall-mounted.
- _____ 41. The telescope of a builder's level is normally adjusted with ___ leveling screws while checking the spirit level.
 A. two
 B. four
 C. six
 D. eight
- T F 42. Only one person is required to perform layout operations with a laser transit-level.
- T F 43. The legs of a builder's level may be extended if required.
- T F 44. A laser transit-level cannot be used for leveling over long distances.
- _____ 45. A(n) ___ is the vertical measuring device held by a second person when a builder's level is used to check or establish grades and elevations.

46. $112^{\circ}-20' + 15'-10'' =$

48. $180^{\circ} + 70^{\circ} + 10^{\circ} + 32^{\circ} =$

47.
$$\begin{array}{r} 19^{\circ}-22'-36'' \\ + 31^{\circ}-16'-52'' \\ \hline \end{array}$$

49. $58'-40'' - 16'-31'' =$



Name _____ Date _____

Multiple Choice

- _____ 1. Information needed to lay out foundation walls is found in the ____.
- A. floor plan
 - B. plot plan
 - C. elevations
 - D. specifications
- _____ 2. In the building trades, the term *frost line* refers to the ____.
- A. northernmost point at which soil normally freezes
 - B. southernmost point at which soil normally freezes
 - C. depth to which soil freezes
 - D. none of the above
- _____ 3. Building site features that help determine the type of foundation include ____.
- A. shape, size, and slope of the lot
 - B. weather conditions
 - C. soil conditions
 - D. all of the above
- _____ 4. The distances from the property lines to the building are known as ____.
- A. setbacks
 - B. recesses
 - C. offsets
 - D. spacings
- _____ 5. The depth to which trenches for foundation footings must be dug is usually found in the ____ of the foundation plan.
- A. floor plan
 - B. plot plan
 - C. finish schedule
 - D. section views
- _____ 6. Batter boards are normally placed ____' to ____' behind corners to provide working room for form construction.
- A. 2; 4
 - B. 4; 6
 - C. 6; 8
 - D. 8; 10

- _____ 7. A ____ line on a plot plan shows the shape of the varying grades of the lot.
- A. ground
 - B. soil
 - C. profile
 - D. contour
- _____ 8. A paved area around the foundation of a building should slope ____" per ____'.
- A. 1/8; 1
 - B. 1/4; 1
 - C. 1/2; 1
 - D. 1; 1
- _____ 9. ____ are constructed to hold the building lines during foundation form work.
- A. Contour lines
 - B. Batter boards
 - C. Lookouts
 - D. Hubs
- _____ 10. The recommended minimum slope for unpaved areas around a building is ____" in ____'.
- A. 4; 8
 - B. 4; 10
 - C. 6; 8
 - D. 6; 10

Completion

- _____ 1. A piece of property in a residential area with established streets is known as a(n) _____.
- _____ 2. Silt particles are larger than ____ particles.
- _____ 3. Settlement can be expected to occur in any newly constructed building unless it is built on _____.
- _____ 4. Reinforcing steel bars are normally required in concrete or masonry foundation walls constructed in ____ risk zones.
- _____ 5. Most buildings are constructed on soils that are classified as _____, _____, _____ or _____.
- _____ 6. Building lots must be ____ to determine precise boundaries before foundation construction begins.
- _____ 7. Foundation ____ must be placed below the frost line to prevent movement of the foundation during freezing and thawing of the soil.

- _____ 8. Sand particles compress more than _____ particles when subjected to heavy pressure.
- _____ 9. Foundations must be designed to withstand greater _____ in areas where earthquakes might occur.
- _____ 10. Local _____ normally specify the depth of foundation footings.
- _____ 11. The property point, or _____ point, is identified by a small nail driven into the corner stake.
- _____ 12. A shallow _____ should be cut in a batterboard to prevent the lines from moving.
- _____ 13. A wooden stake or a pipe with a lead plug may be used for _____ stakes.
- _____ 14. The printreading abbreviation for excavate is _____.

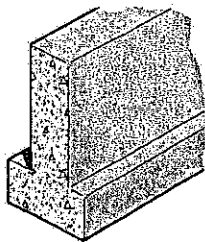
Unit 36

Types of Foundations

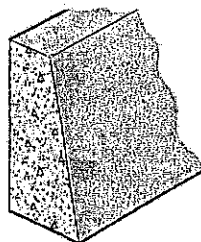
Name _____ Date _____

Identification—Foundations

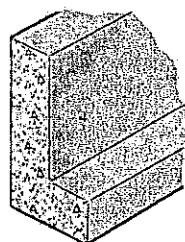
- _____ 1. Rectangular foundation
- _____ 2. Battered pier
- _____ 3. Battered foundation
- _____ 4. L-shaped foundation
- _____ 5. T-shaped foundation
- _____ 6. Stepped foundation
- _____ 7. Wood post
- _____ 8. Wood post block



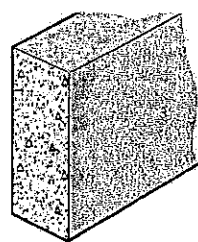
(A)



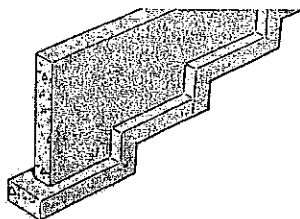
(B)



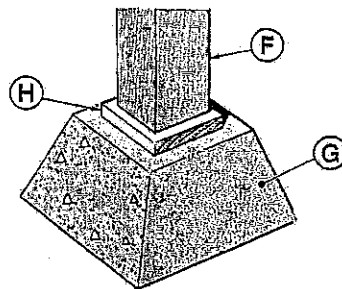
(C)



(D)



(E)



True-False

- | | | |
|---|---|--|
| T | F | 1. A footing is the base for a wall. |
| T | F | 2. Rectangular foundations are designed for buildings with heavy wall loads and loose soil conditions. |
| T | F | 3. Pressure-treated lumber or redwood is recommended for use as mudsills because of its decay and insect resistance. |
| T | F | 4. A common code requirement is that the bent end of an anchor bolt be placed at least 7" into unreinforced masonry. |
| T | F | 5. Sills for interior framed walls may be attached to the floor slab with a powder-actuated fastener. |
| T | F | 6. The bottoms of floor joists in a crawl-space foundation are normally 18" or more above the ground. |
| T | F | 7. Vertical footings of stepped foundations must be at least 8" thick. |
| T | F | 8. The Uniform Building Code requires that anchor bolts be within 12" of the ends of any piece of sill plate. |
| T | F | 9. Footings spread the weight of a building over a wider area. |
| T | F | 10. A slab-at-grade foundation features a framed floor unit. |
| T | F | 11. Concrete piers are square, round, or hexagonal in shape. |
| T | F | 12. Foundation sills are normally constructed of 2 × 4s or 2 × 6s. |
| T | F | 13. Anchor bolts are also known as J-bolts. |
| T | F | 14. Grade beams are foundation walls that receive their main support from stepped footings. |
| T | F | 15. Anchor bolts used to fasten sill plates should be at least 3/4" in diameter. |
| T | F | 16. Anchor bolts used to fasten sills to concrete slabs must be set in the concrete at the time of the pour. |
| T | F | 17. Washers should always be used under nuts on anchor bolts. |
| T | F | 18. Areaways must project below the finish grade and above the bottom of the window. |
| T | F | 19. Stepped foundations cannot be used with a full basement. |
| T | F | 20. The printreading abbreviation for exterior is EXT. |

Completion

- _____ 1. _____ are normally attached to the top of a foundation wall to provide a nailing area for joists or studs directly on the foundation.
- _____ 2. _____ may be applied on foundation walls to provide an even, level base for sills.
- _____ 3. The bottoms of girders supporting floor joists in a crawl-space foundation are normally _____" or more above the ground.
- _____ 4. The gravel bed for a wood foundation must be at least _____ as wide as the footing plate.
- _____ 5. The _____, _____, and _____ are the three main types of foundation systems.
- _____ 6. The moisture content of plywood used in wood foundations should not exceed _____%.
- _____ 7. In a full-basement foundation, the basement wall should extend at least _____" above the finish grade.
- _____ 8. The moisture content of framing lumber used in wood foundations should not exceed _____%.
- _____ 9. A _____ foundation is normally used on a steeply sloped lot.
- _____ 10. Foundation _____ are combined with a concrete floor slab in slab-at-grade foundations.
- _____ 11. Basement walls in a full-basement foundation are normally _____' to _____' high.