

ELC 113 Basic Wiring I  
Worksheet 5-1 (4th Ed.)  
Blueprint Reading

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**True/False**

*Indicate whether the statement is true or false.*

- \_\_\_\_\_ 1. An architect is a qualified person who creates and designs drawings for a residential construction project.
- \_\_\_\_\_ 2. A girder is the building skeleton that provides the structural framework of a house.
- \_\_\_\_\_ 3. A sill is a length of wood that sits on top of the foundation and provides a place to attach the floor joists.
- \_\_\_\_\_ 4. Rafters are the parts of a house that form the vertical framework for the walls.
- \_\_\_\_\_ 5. A circle with a dot in the middle is the standard electrical symbol for a duplex receptacle.

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

- \_\_\_\_\_ 6. A \_\_\_\_\_ is the framing member used to stiffen the ends of floor joists where they rest on the sill.
  - a. bottom plate
  - b. rafter
  - c. band joist
  - d. leader
- \_\_\_\_\_ 7. The \_\_\_\_\_ is a table used on building plans to provide information about specific equipment or materials used in the construction of a house.
  - a. scale
  - b. schedule
  - c. legend
  - d. title block
- \_\_\_\_\_ 8. Which of the following are names for the building plans used by craftspeople to build houses?
  - a. Blueprints
  - b. Construction drawings
  - c. Working drawings
  - d. All of the above
- \_\_\_\_\_ 9. The \_\_\_\_\_ is a drawing that shows building detail from a view directly above the house.
  - a. elevation drawing
  - b. sectional drawing
  - c. detail drawing
  - d. floor plan
- \_\_\_\_\_ 10. A(n) \_\_\_\_\_ shows the side of the house that is facing a certain direction.
  - a. floor plan
  - b. elevation drawing
  - c. sectional drawing
  - d. detail drawing

- \_\_\_\_\_ 11. A(n) \_\_\_\_\_ is a cutaway view that allows you to see the inside of a building.
- floor plan
  - elevation drawing
  - sectional drawing
  - detail drawing
- \_\_\_\_\_ 12. A(n) \_\_\_\_\_ is a solid dark line that is used to show the main outline of the building, including exterior walls, interior partitions, and interior walls.
- object line
  - dimension line
  - hidden line
  - centerline
- \_\_\_\_\_ 13. A(n) \_\_\_\_\_ is a straight dashed line that is used to show the lines of an object that are not visible from the view shown in the plan.
- object line
  - dimension line
  - hidden line
  - centerline
- \_\_\_\_\_ 14. Most residential plans are drawn on a scale of \_\_\_\_\_ = 1'.
- 1/8"
  - 1/4"
  - 1/2"
  - 1"
- \_\_\_\_\_ 15. If a blueprint is drawn with a scale of 1/8" = 1', a line 1 inch long will equal \_\_\_\_\_ on the blueprint.
- 8"
  - 2'
  - 8'
  - 4'
- \_\_\_\_\_ 16. Common symbols used on blueprints are usually based on the symbols developed by the \_\_\_\_\_.
- National Fire Protection Association
  - National Electrical Code
  - National Association of Electrical Manufacturers
  - American National Standards Institute
- \_\_\_\_\_ 17. The \_\_\_\_\_ is the bottom of the wall framework and rests on the top of the sub-floor.
- bottom plate
  - floor joist
  - sill
  - band joist
- \_\_\_\_\_ 18. If a set of blueprints has a scale of 1/8" = 1', a wall that is actually 17' long will be \_\_\_\_\_ long on the blueprint.
- 1-7/8"
  - 2-1/8"
  - 2-1/4"
  - 4-1/4"

- \_\_\_\_ 19. A(n) \_\_\_\_\_ is often shown as a broad line of long dashes followed by two short dashes. Arrows are located at each end of the line.
- section line
  - object line
  - hidden line
  - leader
- \_\_\_\_ 20. A(n) \_\_\_\_\_ shows the location of items such as kitchen cabinets and appliances located on or against a wall in a kitchen.
- exterior elevation drawing
  - interior elevation drawing
  - floor plan
  - section drawing
- \_\_\_\_ 21. A(n) \_\_\_\_\_ shows information such as the location of a house, walkway, or driveway on the building lot.
- exterior elevation drawing
  - floor plan
  - plot plan
  - sectional drawing
- \_\_\_\_ 22. A symbol is a standardized drawing on a building plan that shows the location and type of a particular material or component.
- True
  - False
- \_\_\_\_ 23. The diagonal braces or solid wood blocks installed between floor joists and are used to distribute the weight put on the floor are called \_\_\_\_\_.
- ribbons
  - bridging
  - sills
  - footings

### Completion

*Complete each statement.*

24. The ratio of the size of a drawn object and the object's actual size is the \_\_\_\_\_.
25. A(n) \_\_\_\_\_ is a standardized drawing on the building plan that shows the location and type of a particular material or component.
26. A(n) \_\_\_\_\_ is a series of short and long dashes used to designate the center of items such as windows and doors. They provide a reference point for dimensioning.
27. The scale to which a drawing has been done is usually found in the \_\_\_\_\_.
28. Because many plans may use symbols that are not standard, a(n) \_\_\_\_\_ is usually included in the plans to show the symbols used on the building plans and what they mean.

29. \_\_\_\_\_ are used to form the roof structure of the building and are supported by the top plate.
30. The scale on a building plan is  $1/4" = 1'$ . If a wall on the blueprint measures  $3-1/2"$ , the actual length of the wall is \_\_\_\_\_ feet.
31. On residential blueprints, \_\_\_\_\_ are used to provide the sizes and other pertinent information about the various doors and windows used in the building.
32. In a set of blueprints, the drawing scale, name of the building project, the name of the architectural firm, and the date of completion are found in the \_\_\_\_\_.

### Short Answer

33. Draw the symbol for a recessed incandescent light fixture is \_\_\_\_\_.
34. Draw the symbol for a special purpose outlet (dishwasher).
35. Draw the symbol for a single receptacle.
36. Draw the symbol for a floor receptacle.
37. Draw the symbol for a three-way switch.
38. Draw the symbol for a duplex receptacle.
39. Explain why the electrical plans are important to electrical contractors.
40. Explain why the specifications are important to electricians.