

Stairs 16

Text, Pages 353–368

Name _____

Course _____ Date _____ Score _____

Part I: Matching

Match the correct term with its description listed below. Place the corresponding letter on the space provided.

- A. Balusters
- B. Circular
- C. L
- D. Landing
- E. Newel
- F. Nosing
- G. Open

- H. Plain stringer
- I. Rise
- J. Riser
- K. Run
- L. Stairway
- M. Stairwell
- N. Straight run

- O. Stringer
- P. Total rise
- Q. Total run
- R. Tread
- S. U
- T. Winder

1. A series of steps connecting two or more levels of a structure. 1. _____
2. Stairs that require a long open space. 2. _____
3. A type of stairs with one landing at some point in the middle of the run. 3. _____
4. Stairs with two flights of steps parallel. 4. _____
5. Stairs with pie-shaped steps in place of the middle landing. 5. _____
6. The basic shape of these stairs stems from an irregular curve or arc. 6. _____
7. Vertical components that support the handrail on open stairs. 7. _____
8. Floor area at the top, bottom, or along the flight of stairs. 8. _____
9. The primary posts of the handrail. 9. _____
10. The rounded tread overhang that extends past the face of the riser. 10. _____
11. Stairs without walls on one or both sides. 11. _____
12. A stringer notched or cut to fit the shape of the steps. 12. _____
13. Vertical distance from the surface of one tread to the surface of the next tread. 13. _____

- | | |
|--|-----------|
| 14. Vertical face of a step. | 14. _____ |
| 15. Distance from the face of one riser to the face of the next riser. | 15. _____ |
| 16. Opening in which a set of stairs is constructed. | 16. _____ |
| 17. A structural member that supports the treads and risers. | 17. _____ |
| 18. The total vertical height of the stairs. | 18. _____ |
| 19. The total horizontal length of the stairs. | 19. _____ |
| 20. The horizontal member of each step. | 20. _____ |

Part II: Completion

Complete each sentence with the proper response. Place your answer on the space provided.

- | | |
|--|-----------|
| 1. The prime considerations in stair design should be easy ascent/descent and ____. | 1. _____ |
| 2. ____ stairs are usually made from construction lumber, constructed on the site, and steeper than main stairs. | 2. _____ |
| 3. Wide U stairs have a well between the two flights. In ____ U stairs, the space is small or nonexistent. | 3. _____ |
| 4. In homes where little space is available, ____ stairs may be a solution. | 4. _____ |
| 5. ____ stairs require a lot of space and are expensive to build. | 5. _____ |
| 6. A ____ is sometimes called the carriage. | 6. _____ |
| 7. The main stairway should be at least ____ wide. | 7. _____ |
| 8. When constructing plain stringers, nail the treads and risers directly to the ____. | 8. _____ |
| 9. Glue and ____ hold the treads and risers in place permanently on plain stringer stairs. | 9. _____ |
| 10. On housed stringers, ____ hold the treads and risers in place; all three components are then glued and nailed. | 10. _____ |

Part III: Short Answer/Listing

Provide brief answers to the following questions.

1. What is the term used to describe a set of L stairs that has a landing near the top or bottom?

2. In a set of winder stairs, how is the width of the "pie-shaped" steps determined? _____

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3. List the three factors to consider when designing a set of stairs. _____

4. In a set of stairs requiring more than two stringers, where should the third stringer be placed?

5. List advantages and disadvantages of plain stringer stair construction. _____

6. What method is commonly used to hold the treads and risers in housed stairs? _____

7. What is the ideal range for riser height? _____

8. List the four rules to follow when determining the rise-run ratio. _____

Rule 1: _____

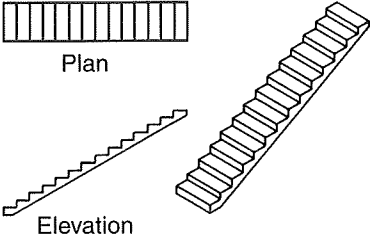
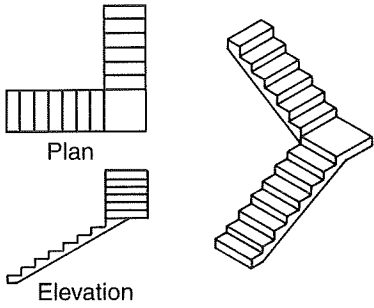
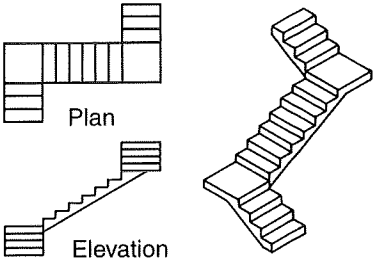
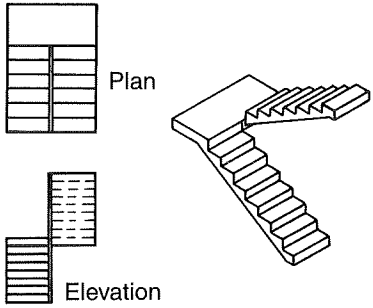
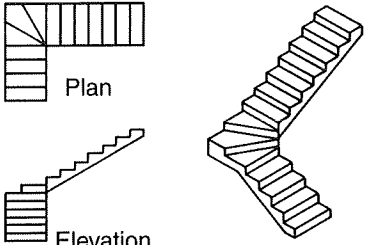
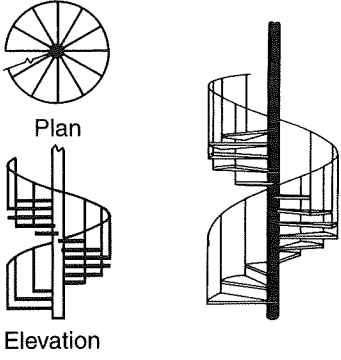
Rule 2: _____

Rule 3: _____

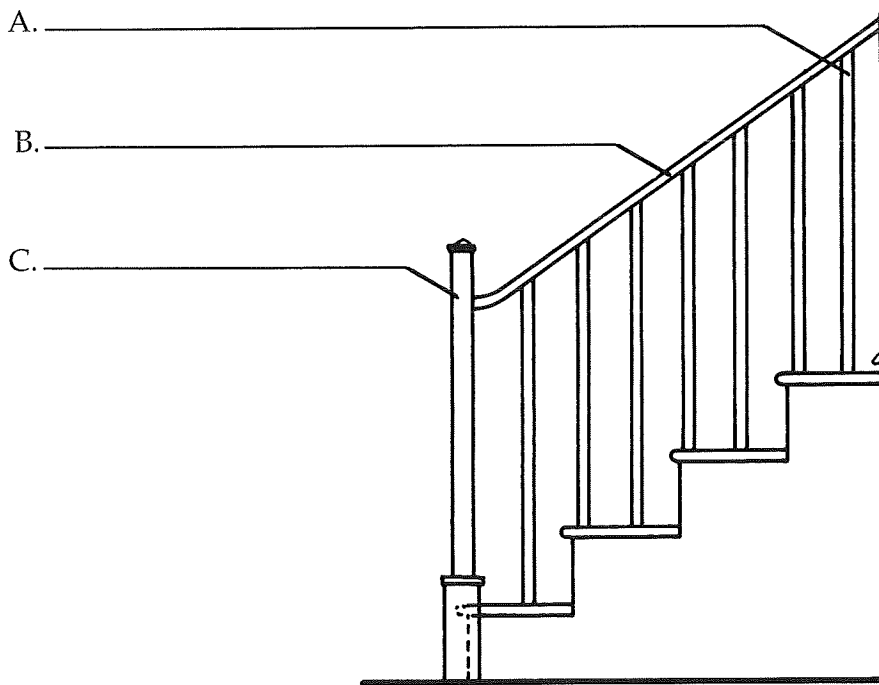
Rule 4: _____

9. Why is there always one less tread than there are risers? _____

10. Label the drawings of the general types of stairs below.

 <p>Plan</p> <p>Elevation</p> <p>A. _____</p>	 <p>Plan</p> <p>Elevation</p> <p>B. _____</p>	 <p>Plan</p> <p>Elevation</p> <p>C. _____</p>
 <p>Plan</p> <p>Elevation</p> <p>D. _____</p>	 <p>Plan</p> <p>Elevation</p> <p>E. _____</p>	 <p>Plan</p> <p>Elevation</p> <p>F. _____</p>

11. Locate and label the items identified on the stairway drawing below.



Name _____

12. Calculate the following design elements for a set of stairs for a two-story home. The total rise is 72", with a standard tread of 11-1/2". A 1" nosing is required and the stairs should have an acceptable slope of 30° to 35°. Calculate the following:

Total Run = _____

Number of Risers = _____

Riser Height = _____

Number of Treads = _____

Run of a Step = _____

Part IV: Multiple Choice

Select the best answer and write the corresponding letter in the space provided.

1. Of the following house styles, which is most likely to have stairs? 1. _____
A. Garrison.
B. Salt box.
C. Southern colonial.
D. All of the above.
2. The type of stairs used most in residential construction is: 2. _____
A. L stairs.
B. Straight run.
C. Spiral.
D. Winder.
3. Circular stairs have _____ steps. 3. _____
A. triangular
B. pie-shaped
C. trapezoidal
D. winder
4. Enclosed stairs are also known as: 4. _____
A. Closed stairs.
B. Housed stairs.
C. Box stairs.
D. All of the above.
5. Plain stringers are constructed for: 5. _____
A. Uncarpeted main stairs.
B. Service stairs.
C. Circular stairs.
D. All of the above.

6. Housed stringers are: 6. _____
- A. Constructed from finished lumber.
 - B. Usually purchased precut or preassembled.
 - C. Sometimes made from 1" × 12" or 2" × 12" lumber.
 - D. All of the above.
7. The actual size of an oak tread used in housed stringer construction is _____ thick. 7. _____
- A. 3/4"
 - B. 1"
 - C. 1-1/16"
 - D. 1-1/4"
8. All stairs should have at least one handrail. The recommended handrail/guardrail height is: 8. _____
- A. 30" along the incline and 36" at the landing.
 - B. 32" along the incline and 36" at the landing.
 - C. 34" along the incline and 38" at the landing.
 - D. None of the above.
9. Minimum stairway headroom is: 9. _____
- A. 6'-0"
 - B. 6'-6"
 - C. 7'-0"
 - D. 7'-5"
10. Recent code changes require handrails for: 10. _____
- A. All stairs, but not ramps.
 - B. Steep stairs.
 - C. All stairs and ramps.
 - D. Handrails were not addressed.