1. Woodworking factories that produce windows and doors are commonly called ____ plants.

2. Quality control in the manufacturing of windows is based on guidelines established by the ____ Association.
   A. Architectural Woodwork
   B. Western Wood Products
   C. National Woodwork Manufacturers
   D. National Forest Products

3. A(n) ____ window consists of two sashes that slide up and down in the frame.

4. Identify the name of the labeled measurements in the drawing below.

   ![Diagram]

   A. 2 1/8" from inside of frame to R.O.
   B. 1 3/4" from top of sill to R.O.
   C. Finished floor
   D. Rough floor

5. A ribbon of short window units is sometimes installed high on the wall where it is desirable to ensure privacy or provide wall space for furniture arrangements. ____ windows are especially adaptable to such an installation.
6. In residential construction, the standard height of windows, measured from the bottom side of the head to the finished floor, is _____.
   A. 6'-6"
   B. 6'-8"
   C. 6'-0"
   D. 7'-0"

7. Window glass is a major source of heat loss. A single layer of standard glass has an R-value of about .88. A double pane of the same glass with a 1/2" air space between has an R-value of about _____.
   A. 2.75
   B. 2.00
   C. 1.50
   D. 1.25

8. Sheet glass used in regular windows is produced by the ____ glass process.
   A. draw
   B. stamp
   C. float
   D. roll

9. Double and triple glazing improves insulating values and reduces noise transmission. For a standard, movable sash, two or three layers of 1/8" glass are fused together with an air space between each layer.
   A. 1/8"
   B. 3/16"
   C. 3/8"
   D. 1/2"

10. Architectural drawings usually include a table called a window schedule that lists the manufacturer, unit size, and the rough opening (R.O.). If the R.O. for a given window was listed as 2'-10" × 3'-4", the actual height of the framed opening should be _____.
    A. 2'-10"
    B. 3'-0"
    C. 3'-4"
    D. 3'-6"

11. The horizontal location of window units is shown on the floor plan. In masonry construction, this dimension is usually given to the ____ of the opening.
    A. centerline
    B. edge
    C. middle
12. Basically, windows consist of glass panels mounted in a sash, which is installed in a frame. Standard details of the construction are usually included in three section views, as shown below. Provide the correct name for each view.

13. The first step in installing a window is to check the rough opening. Most windows require at least 1/2” clearance on each side and _____ clearance above the head.
   A. 1/2”
   B. 3/4”
   C. 1”
   D. 1 1/2”

14. Standard window units can be adjusted to walls of various thicknesses. This adjustment consists of attaching a special strip to the window edges. This strip is called a _____.
   A. sill spreader
   B. jamb extension
   C. jamb ribbon
   D. frame spacer

15. After the window unit is placed in the rough opening and temporarily secured, the next step is to _____.
   A. check the corners with a framing square
   B. nail through the lower end of the side casing
   C. raise the frame to the correct height as marked on a story pole
   D. set wedges under the sill and nail it in place

16. The actual sizes of glass blocks are somewhat smaller than the nominal sizes. The actual dimensions of a 12” x 12” unit are _____.
   A. 3 7/8” x 11 3/4” x 11 3/4”
   B. 3 3/4” x 11 3/4” x 11 3/4”
   C. 3 5/8” x 11 5/8” x 11 5/8”
   D. 3 7/8” x 11 7/8” x 11 7/8”
17. What size of opening is required for a glass block installation that is 9 units wide and 11 units high consisting of 6" blocks? Show your calculations in the space below.

18. When replacing windows, one of the first steps is to remove the inside trim. The next step is to ____.
   A. pry off the outside casing
   B. remove the inside stops and lift out the lower sash
   C. make saw cuts through the sill
   D. remove the parting stops and lift out the upper sash

19. Skylights that consist of a hinged sash should not be installed in roofs with less than a ____ slope.
   A. 5-in-12
   B. 4-in-12
   C. 3-in-12
   D. 2-in-12

20. Exterior doors for residential construction are usually ____ high. FHA Minimum Property Standards list a minimum exterior door width of ____.

21. Exterior door frames are similar to window frames. Section views show details and sizes. Identify the detailed views shown below.
Name ____________________________

22. For standard residential construction, the R.O. of an exterior door can be calculated by adding _____ to the door width and height.
   A. 3/4”
   B. 1”
   C. 1 1/4”
   D. 2 1/2”

23. When installing an exterior door frame, extra wedges or blocking should be located in the approximate position of the lock strike plate and the _____.

24. Prehung exterior door units are fastened in place by driving _____ finishing nails through the jambs, shims, and into the structural frame members.
   A. 8d
   B. 10d
   C. 16d
   D. 20d

25. When installing a sliding door frame, it is generally recommended that _____ before nailing the sill into place.
   A. a layer of the subfloor be removed
   B. a bead of sealing compound be applied
   C. one door be set in place and checked
   D. one side jamb be plumbed and nailed

26. There are three basic types of garage doors: hinged or swinging, _____, and roll-up.

27. Standard heights for residential garage doors include 6’-6” and _____.
   A. 6’-8”
   B. 6’-10”
   C. 7’-0”
   D. 7’-6”

28. To offset the weight of roll-up garage doors, an effective counterbalance is required. The two most commonly used in residential installations are the extension spring and the _____ spring. The latter is shown in the view below.

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29. Name the three components of a low-e window.