

Insulator (Heat & Frost) IP Red Seal Practice Exam

1. What is the main reason for sectioning a work piece?
 - a. to adhere to drafting principals
 - b. to project the appropriate view in the proper location
 - c. to show hidden features on a complex part clearly
 - d. to save space on your drafting sheet

2. In a full sectional view the cutting plane is?
 - a. divides the partfully
 - b. is passing though the part along the center line on its full diameter and indicates the viewing direction
 - c. divides the part into four equal portions and indicates the viewing direction
 - d. passing through the object at right angles to each other along the center lines of the object

3. In a half sectional view the cutting plane is?
 - a. divides the partfully
 - b. is passing though the part along the center line on its full diameter and indicates the viewing direction
 - c. divides the part into four equal portions and indicates the viewing direction
 - d. passing through the object at right angles to each other along the center lines of the object

4. Revolved sections are used on parts that contain?
 - a. webs, ribs, spokes
 - b. part drawings
 - c. gears and racks
 - d. non ferrous material

5. What is the advantage of removed detailed sections?
 - a. That the sectioned part can be detached from the object
 - b. can be detached from the object for a truer representation of the part
 - c. to show hidden component that can not be seen from the front view
 - d. to show hidden component that can not be seen from the right side view

6. The direction of the crosshatching when the part is sectioned in more than one place is?

- a. the same in all sectioned areas
- b. at a right angle to each other in all sectioned areas
- c. at opposite direction in all sectioned areas
- d. the direction does not have any importance

7. When a cutting plane line is cutting through of a rib, web or the tooth of a gear?

- a. the crosshatching is represented with object lines
- b. the crosshatching is not shown
- c. the crosshatching is represented with construction lines
- d. the crosshatching is represented with dotted lines

8. A cutting plane line consists of a heavy dash followed by two short dashes. At each end it has a short line terminating with arrow heads. The arrowheads show the reader of the print?

- a. of the position of the view
- b. the direction to view the section from
- c. the position of the removed section
- d. the position of the revolved section

9. The type of drawing that views a building by looking directly at the front, top and side is referred to as a?

- a. isometric
- b. orthographic
- c. oblique
- d. cabinet

10. The symbol in the diagram below represents a?



- a. Screwed tee side outlet away from you.
- b. Screwed tee outlet towards you.
- c. Flanged tee outlet away from you.
- d. Flanged tee outlet towards you.

11. What type of drawing would you find the depth of an open web steel joist?

- a. Structural drawing,

- b. Shop drawing
- c. Electrical drawing
- d. Mechanical drawing

The next 9 questions are based on the drawing below:

12. What section of the house plan is this?

13. How wide is the front of this floor of the house?

Hint: The front is at the bottom of the drawing.

14. Name the room you could enter if you walked up the stairs from the main entrance, then turned right in the hallway, and then went through the door in front of you?

15. What is the length and width (dimensions) of the storage room?

16. What is the height of the doors in this house?

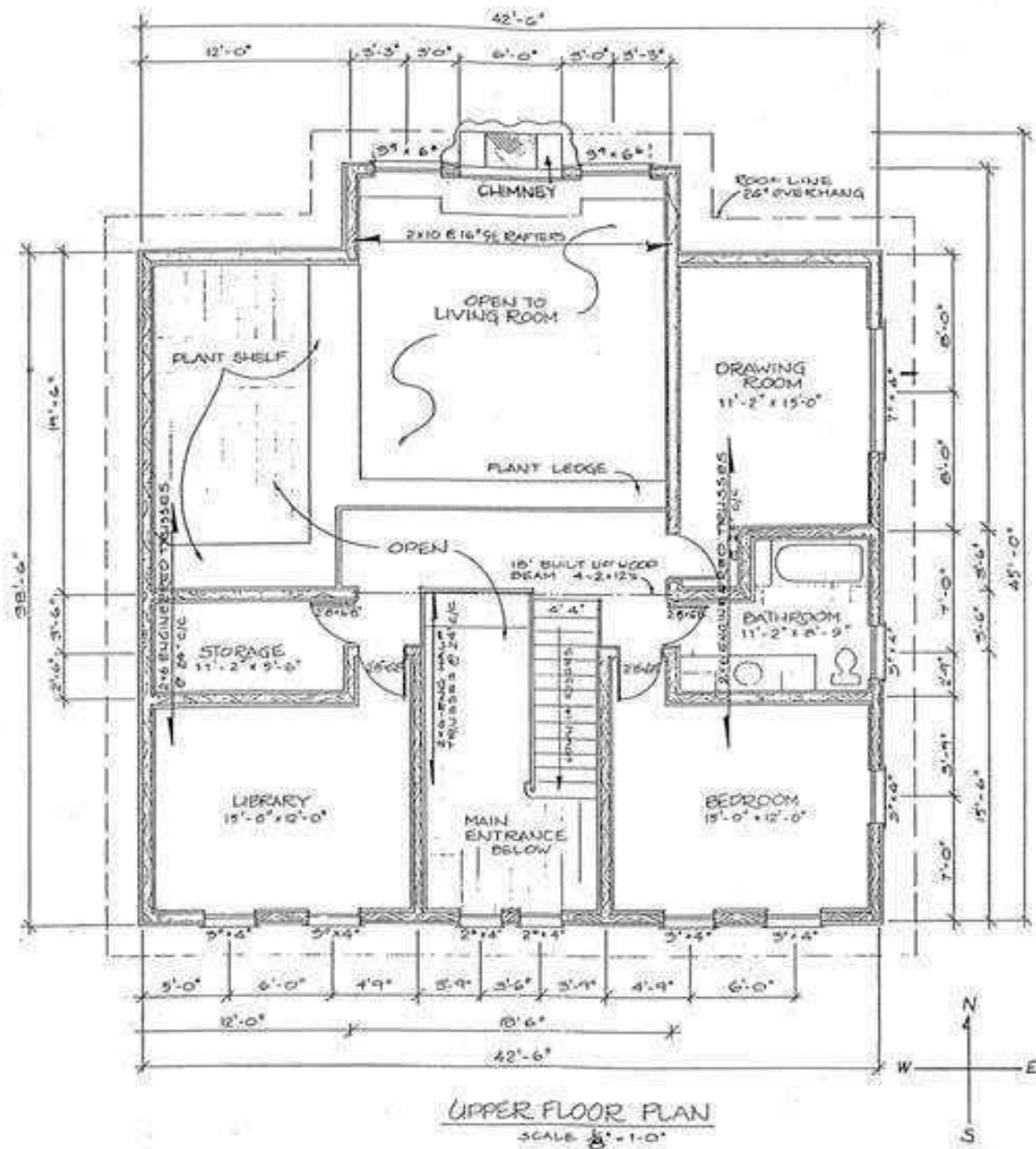
17. There are marks along the bottom of the plan that show the distances between the centers of the windows, the “centre-to-centre distance” between them. The size of each window is also marked next to the window itself, width × height:

What is the width of each of the two windows at the front of the library?

18. How long is the chimney in the north wall of the living room?

19. Determine how many treads there are in this staircase?

20. Calculate the total area of the treads of the staircase?



21. Which of the following does a dotted line on a print mean?

- line is an object line
- line is a center line
- line is a section line
- line is a hidden line

22. Which of the following best describes tolerance?

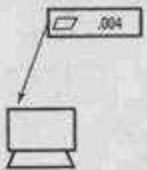
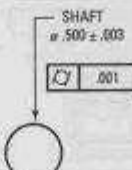
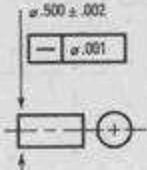
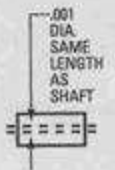
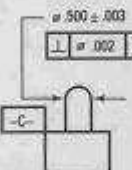
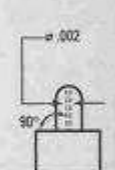
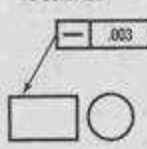
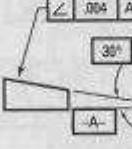
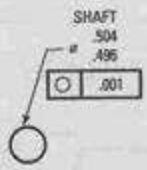
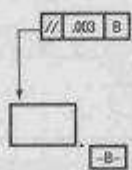
- actual measured dimension of a part section
- capability of a process as dictated by the Cpk

c. the acceptable amount of variation allowed from a specific dimension

23. What orthographic view is represented by the following term “plain view”?

- a. top view
- b. front view
- c. side view
- d. right side view

Tolerance Symbols

SYMBOL	AS SHOWN ON DRAWING	TOTAL TOL ZONE	SYMBOL	AS SHOWN ON DRAWING	TOTAL TOL ZONE
 FLATNESS		 TWO PARALLEL PLANES .004 APART	 CYLINDRICITY		 TWO CONCENTRIC CYLINDERS .001 APART
 STRAIGHTNESS (OF AN AXIS)		 .001 DIA SAME LENGTH AS SHAFT	 PERPENDICULARITY		 .002
 STRAIGHTNESS (SURFACE ELEMENT)		 TWO PARALLEL LINES .003 APART	 ANGULARITY		 TWO PARALLEL PLANES .004 APART
 CIRCULARITY (ROUNDNESS)		 TWO CONCENTRIC CIRCLES .001 APART	 PARALLELISM		 .003 WIDE TOL ZONE

SYMBOL	AS SHOWN ON DRAWING	TOTAL TOL ZONE
 PROFILE OF A LINE		
 PROFILE OF A SURFACE	BASIC DIMENSIONS ARE REQUIRED TO DEFINE THE TRUE PROFILE 	
 PROFILE UNILATERAL ZONE	BASIC DIMENSIONS ARE REQUIRED TO DEFINE THE TRUE PROFILE 	
 RUNOUT (CIRCULAR)		
 RUNOUT (TOTAL)		
 CONCENTRICITY		
 POSITION		

[A] Datum Symbol: this symbol represents physical features or surfaces that must be used for location in machining or inspection.

Ø Diameter Symbol: this symbol replaces the word "diameter." It should be used anywhere there is a diameter on the drawing, and when the tolerance zone is diametral. Example: $\varnothing 0.500 \pm 0.002$ OR $\varnothing 0.500 \pm 0.002$ [A]

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Answers

- 1) C
- 2) B
- 3) D
- 4) A
- 5) A
- 6) A
- 7) B
- 8) B
- 9) A
- 10) A
- 11) A
- 12) Upper floor
- 13) 42'-6"
- 14) The drawing room
- 15) 11'-2"x 5'-6"
- 16) 6'-8"
- 17) The floor plan says the windows are 3' - 0" x 4' - 0", so the windows are 3 feet wide.
- 18) 6ft
- 19) 13
- 20) We know the area of each tread is 3.972 ft^2 , so 13 of them makes a total area of $13 \times 3.972 = 51.639 \text{ ft}^2$
- 21) D
- 22) C
- 23) A