

STUDY QUESTIONS FOR STEP 4

1. List three (3) uses for freehand sketches:

- To record their ideas quickly on paper without the use of tools
- Can revise and refine their sketches for presentation to their supervisors or clients
- Preliminary planning of a drawing or layout before using tools

2. What does a "multiview sketch" show you about an object?

Shows the actual shape of an object from different directions that are 90° apart. A typical multiview sketch will include views from the top, front and right side. The back, bottom and left side views are optional depending on the complexity of the objects shape

3. List the three (3) principle views that are shown on a multiview sketch:

Front view

Top view

Side view

4. List in your own words the steps to follow in the making of a multiview sketch:

First you have to analyze the object. Look at the measurements of the object. Second layout the views. Mark with dots on the paper the height and width of the object. Third block in the views. Connect the dots with light lines. Fourth locate details. Put in lines that show change like a hole or curve. Fifth add details. Put lines to show diameter of a hole or radius of corners. Sixth darken visible lines. Seventh darken hidden lines. Eighth add center lines.

5. What does a "pictorial sketch" show you about an object?

Shows the overall shape of an object from one direction.

6. List the three (3) principle types of pictorial sketches:

isometric

oblique

perspective

7. Why is the "isometric pictorial sketch" the most commonly used type of pictorial view?

The isometric is the easiest to create as actual measurements are used and the shape of arcs and circles is consistent on all surfaces.

8. What overall shape should an object have to utilize an "oblique view"?

Cylindrical shaped object

9. What does a "perspective sketch" show you about an object?

Perspective sketches provide the most realistic view of an object but are more difficult to create as all distances must be shortened

10. What does a "floor plan" and an "elevation" show you about a building?

Shows the shape of a house or building

11. List in your own words the steps to follow in the making of a pictorial sketch:

Step 1. Analyze the object. Step 2. Layout the axis for an isometric sketch. Step 3. Add dimensions to the axis. Step 4. Block in the view. Step 5. Locate details. Step 6. Add details. Step 7. Darken visible lines. Step 8. Erase excess lines.

12. Show and label with arrows the recommended methods for sketching the following lines:

Horizontal lines- 

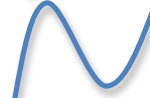
Angular lines



Vertical lines



Circular lines



13. Sketch an example of a "construction" line and explain how it is used:

Very thin, light lines and are used to layout preliminary shapes



14. Sketch an example of a "visible" line and explain how it is used:

Visible or object lines are thick, solid lines and are used to show the outline or the visible edges of the object.



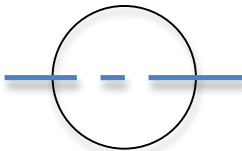
15. Sketch an example of a "hidden" line and explain how it is used:

Hidden lines are medium thick, dashed lines and are used to show edges or surfaces on the inside of an object or behind the top, front or side surfaces.



16. Sketch an example of a "center" line and explain how it is used:

Center lines are thin lines composed of long and short dashes and are used to locate the center point of holes or the central axis of a cylinder



17. Is it necessary to erase "construction" lines? No Explain:

They don't need to be erased because they are too light.

18. What shape does a circle become when sketched on a pictorial view?

Circles become cylinders.

19. Is it necessary to sketch objects in the proper "proportions"? yes

Explain: to make it more realistic and accurate. Helps people interoperate what they are seeing.

20. Make freehand sketches of the following using appropriate "proportions" in the space below :

1" x 2" rectangle



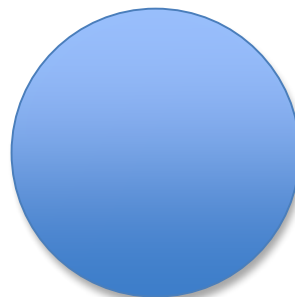
two 1.5" parallel lines 1/2" apart



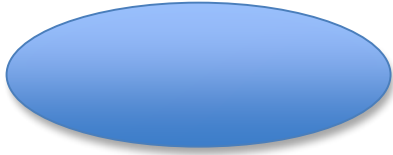
two 3/4" perpendicular lines



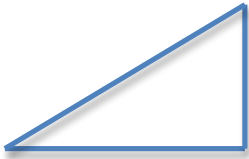
1.5" diameter circle



2" isometric ellipse



30°, 60° & 90° triangle



45°, 45° & 90° triangle

