

STUDY QUESTIONS FOR STEP 4

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

- 1 Record ideas without use of tools
- 2 Revise and refine sketches quickly
- 3 Present sketches to supervisor

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

A multiview sketch shows you the actual shape of an object from different directions that are 90° apart

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

Three principle views that are shown on a multiview sketch are the top, front, and right sideviews

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

1. Analyze the object (determine length, width, height, determine number of views and types of views).
2. Layout the views using 4 dots usually 1" apart to represent the height, width, and length of object
3. Sketch lines lightly to connect dots to establish outlines.
4. Use light construction lines to locate changes in shapes, rounded corners, and holes.
5. Use light construction lines to create a box that represents the diameter of holes or radius of rounded corners using 90 degree arcs
6. Darken the lines that represent visible edges of object with solid thick lines
7. Darken lines that represent interior edges or hollow portions of object with dashed medium thick lines
8. Use thin long and short dashed lines to locate centers of holes and arc

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

A pictorial sketch shows overall shape of an object in a single view

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

Three principle types of pictorial sketches include oblique, isometric, and perspective

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

The isometric sketch is the most common because it is the easiest to create because actual measurements are being used and everything is consistent on all surfaces

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

To use oblique view, an object should utilize cylindrical shapes or furniture

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

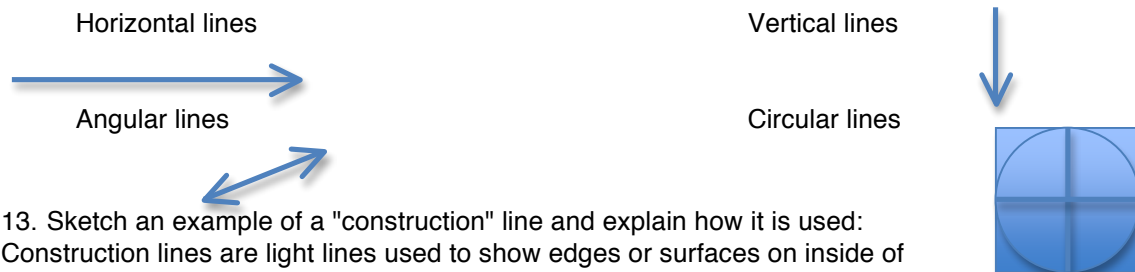
It shows you the most realistic view of the object but is a lot harder to draw

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

A floor plan shows the top view without the roof and shows interior walls, windows, doors, appliances, fixtures, built-in cabinetry and stairways. An elevation is similar to a front view and shows the height of the structure plus exterior materials

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

1. Analyze the object to determine the length, width, and length
 2. Layout the axis on the right and below center of sheet. Draw three axis that should for a Y
 3. Estimate height, width, length and mark it with a dash
 - 4 . Sketch very light construction lines parallel to the axis to form a box that the object will fit in
 5. Locate details and show rounded edges and holes
 6. Use a diamond to represent the diameter of holes or radius of rounded corners
 7. Darken visible lines with solid thick lines
 9. Erase hidden lines or center lines
12. Show and label with arrows the recommended methods for sketching the following lines:



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

Construction lines are light lines used to show edges or surfaces on inside of object

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

Thick and solid lines are used to show outline or visible edges of an object.

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

Hidden lines 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 layout preliminary shapes

17. Is it necessary to erase "construction" lines?

No because they are very light and thin.

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

A circle becomes an oval when sketched in pictorial view.

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

Yes everything must be in scale and proportion.

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

1" x 2" rectangle



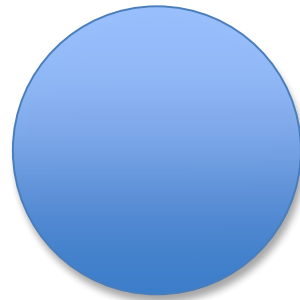
two 1.5" parallel lines 1/2" apart



two 3/4" perpendicular lines



1.5" diameter circle



2" isometric ellipse



30°, 60° & 90° triangle a 45°, 45° & 90° triangle

