

## STUDY QUESTIONS FOR STEP 4

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

First off it allows us to record ideas quickly without tools, used to revise and refine sketches for presentation, and finally it allows us to do the preliminary planning of a drawing or layout.

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

Shows us the actual shape of an object from various angles, such as from top, front, and the right side. This is a two dimensional sketch.

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

Front Top Right Optional Ones: Bottom Back Left

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

1. Analyze the object with determining the number of angles for drawing

2. Layout the views with each of the angles of drawings

3. Block in the views to separate each drawing

4. Locate details giving shape to the objects

5. Add in the details

6. + 7. Darken visible and hidden lines

8. Add center lines to show center of holes and arcs

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

Shows the overall and entire shape of an object from only one direction, not many 90 degree angular ones like a multiview sketch. (Three dimensional)

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?

This is the most commonly used type due to the fact that actual measurements are used and all shapes of arcs and circles are consistent on all services.

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

A furniture shape or cylindrical shaped objects like cans used as a front view are best to utilize the oblique view.

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

Gives the most realistic view of an object, but is not normally the most accurate because all lengths and distances must be shortened.

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

Floor plan is similar to seeing a building without the roof showing all interior objects, where the elevation shows the front view with the height and the exterior objects.

11. List in your own words the steps to follow in the making of a pictorial sketch:
1. Analyze the object determining length, width, and the height
  2. Layout the axis for isometric sketch by drawing three axes in the X, Y, and Z coordinates
  3. Add dimensions to the axis by estimating the height, length, and width
  4. Block in views to form a box
  5. Locate details inside the box just drawn
  6. Add more details by sketching in holes and rounded corners
  7. Darken visible lines all that are seen in the end
  8. Erase excess lines that should not be part of the final drawing
12. Show and label with arrows the recommended methods for sketching the following lines:

Horizontal lines



Angular lines



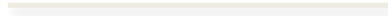
Circular lines



Vertical lines



13. Sketch an example of a "construction" line and explain how it is used:  
Very thin, light lines used to layout preliminary shapes



14. Sketch an example of a "visible" line and explain how it is used:  
Thick solid lines to show outline or edge of object



15. Sketch an example of a "hidden" line and explain how it is used:  
Medium thick, dashed lines used to show edges or surfaces inside object



16. Sketch an example of a "center" line and explain how it is used:  
Thin lines composed of long and short dashes



17. Is it necessary to erase "construction" lines? No.  
Explain: They do not need to be erased normally due to the fact they are light and underneath heavier lines.

18. What shape does a circle become when sketched on a pictorial view?  
It becomes an ellipse due to the fact that the length and width dimensions are distorted to make the 3-D effect..

19. Is it necessary to sketch objects in the proper "proportions"? Yes.  
Explain: This will help actually show to size differences between objects.

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

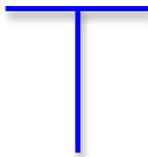
1" x 2" rectangle



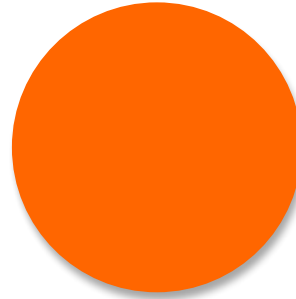
two 1.5" parallel lines 1/2" apart



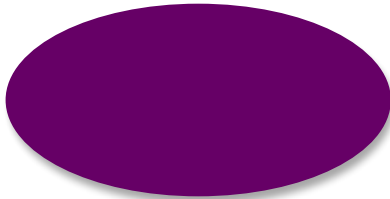
two 3/4" perpendicular lines



1.5" diameter circle



2" isometric ellipse



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

