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STUDY QUESTIONS FOR STEP 4

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

    1. It allows designers, engineers, etc. to record their ideas quickly on paper without using
       tools.
    2. With this, they can easily revise or refine the sketches.
    3. It is helpful for creating a basic first draft, that can be used later for presentations.

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

    It shows you the object from three or more perspectives, also showing you three or more sides of an object.

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

    top   front   right side

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

    1. Analyze information about object ex. Measurements, views, detail
    2. Layout the drawings with four dots or dashes vertically to represent 1"
    3. Outline dots/dashes
    4. Using light lines drawing in some details of object's shape
    5. Add other details (use boxes to outline holes and rounded corners' radius)
    6. Go over visible lines to make dark and solid
    7. Dash hidden lines darker
    8. Draw dashed lines in centers of holes and arcs

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

    It shows the shape of an object, from the outside, from one direction/view.

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?

    Because it is the easiest drawing to make since it uses actual measurements, with no scales, and the shape of circles and arcs are the same, since they are not changed in views.

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

Rectangular/boxed objects or cylindrically shaped objects are easiest to draw in oblique view.

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

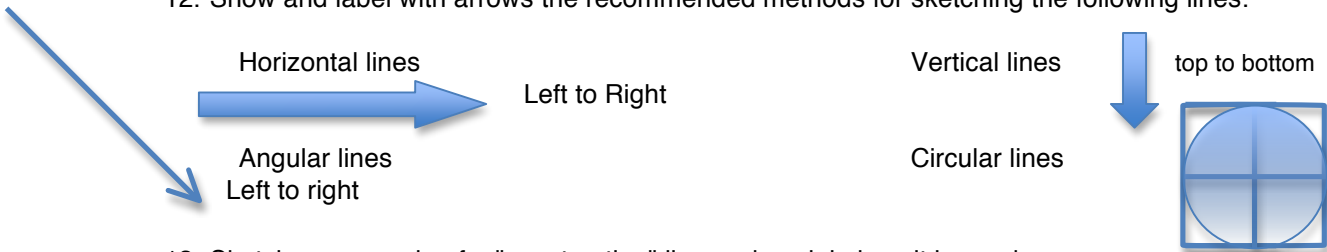It shows you the object the most realistically, but actual distances are shortened.

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

It shows you the shape of a house or building. The floor plan shows interior objects from the top view and their placement. An elevations shows the exterior objects and their heights.

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

   1. Obtain information about the objects (ex. Measurements)
   2. Layout the vertical and horizontal axis (x and y axis)
   3. Add tick marks to show measurements for the dimensions
   4. Lightly draw in outlines for the object
   5. Lightly draw details (ex. Rounded corners)
   6. Add other details
   7. Darken visible construction lines
   8. Erase all hidden and center lines

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

Horizontal lines

Left to Right

Angular lines
Left to right

Vertical lines   top to bottom

Circular lines

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

Rough sketches of very light lines of the objects.

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

It shows the outline of objects and their outside surfaces.
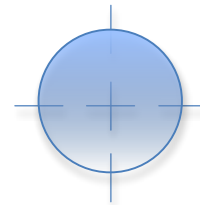
15. Sketch an example of a "hidden" line and explain how it is used:

It shows the interior lines and edges, not visible from the outsides.

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

It is located in the center of a circle to indicate the center and dimensions of the circle or cylinder.

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

No, because construction lines should be drawn lightly enough to not be erased

18. What shape does a circle become when sketched on a pictorial view?
A circle becomes an oval when sketched on a pictorial view.

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

Explain: Yes, because the object needs to be realistic and relatively actual size

20. Make freehand sketches of the following using appropriate "proportions" in the space below :
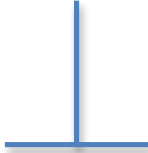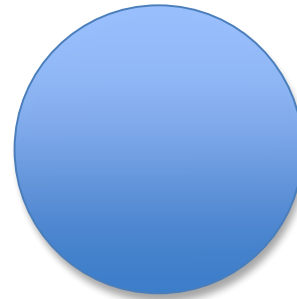
1" x 2" rectangle
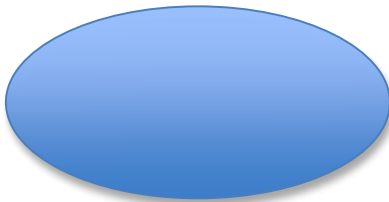
two 1.5" parallel lines 1/2" apart

two 3/4" perpendicular lines

1.5" diameter circle

2" isometric ellipse

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