Technology Education Department

Name Philip Engstrom, 7 Introduction to Technical Drawing

STUDY QUESTIONS FOR STEP 4

1. **List three (3) uses for freehand sketches:**
   -To record their ideas without using tools
   -Preliminary planning for a drawing or layout
   - Allows engineers to modify their ideas quickly

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.

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

- Top, front, and right sides

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

1. Calculate the length, width, height, number of views, and proportional grid size.
2. Layout the views
3. Lightly draw a block around the views
4. Locate Details
5. Add details
6. Darken visible lines
7. Darken hidden lines

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

-The overall shape from one view of the object

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

Oblique, isotermic, and perspective

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

Because they show the actual size on each side drawn

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

A cylinder/circular form

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

The most realistic view of an object.

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

A floor plan is basically a top view with the roof removed, showing the details inside the house. An elevation basically shows the front view of the house and along with the height of the structure and other details like doors, windows, trimming, and roofing.

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

1. Analyze the object
2. Layout the axis for an isometric sketch
3. Add dimensions to the axis
4. Draw a block around the views
5. Locate details
6. Add details
7. Darken visible lines
8. Erase extra lines

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

Horizontal lines

Vertical lines

Angular lines

Circular lines

13. Sketch an example of a "construction" line and explain how it is used:
Construction lines layout preliminary shapes.

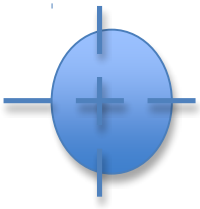
14. Sketch an example of a "visible" line and explain how it is used:
Visible lines are used to show the outline or the visible edges of an object.

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. It shows underneath/non-visible layers.

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

locates center of circles and arcs and indicates the axis of a cylinder.



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

Explain: they are too light.

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

A cylinder

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

Explain: because you want others to make sure can read it.

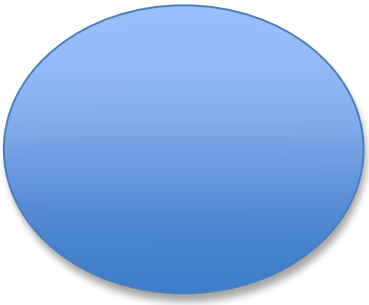
20. Make freehand sketches of the following using appropriate "proportions" in the space below :

1" x 2" rectangle

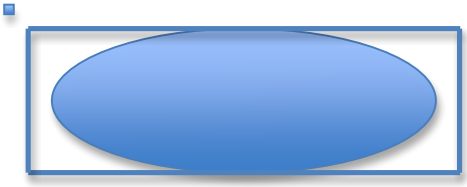
two 1.5" parallel lines 1/2" apart

two 3/4" perpendicular lines

1.5" diameter circle



2" isometric ellipse



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