

STUDY QUESTIONS FOR STEP 4

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

1. Allows engineers, and other people in the technical drawing field to record their ideas quickly on paper without using tools.
2. They can revise and refine their sketches for presentation.
3. Sketching is also helpful in preliminary planning of a drawing before using tools.

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

Shows different views of the product from the top, front, and right side. The back, bottom, and left side are optional.

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. Study the Object.
2. Layout the different views of the object
3. Establish an outline for each view
4. Locate the important details
5. Add the details
6. Make the visible lines darker
7. Make interior lines dashed, and medium thick.
8. Add the lines through circles and arches

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

It shows the overall shape of an object from one direction.

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

1. Isometric
2. Oblique
3. Perspective

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

Because it is the easiest to make as actual measurements are used.

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

It should be a cylindrical shape or furniture.

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

It shows the most detailed, and realistic view of the object even though distances are shortened.

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

A floor plans shows you the top view with the roof removed and shows interior details. An elevation is an external front view and shows height and external details of the building.

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

1. Study the object
2. Layout the axis to create an isometric sketch
3. Add dimensions to the x, y, and z axis
4. Create an image outline
5. Locate the details of the object
6. Add the details
7. Darken all visible lines
8. Remove unneeded 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:

Construction lines are used to layout preliminary shapes. They are very thin, and light.



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

Thick, solid lines used to show the outline of the object.



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

Medium thick, dashed lines used 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:

Thin lines composed of long & short dashes used to locate the center of holes and the central axis of cylinders.



17. Is it necessary to erase "construction" lines? Explain: It is not necessary to erase construction lines. It is not necessary because they should be very thin and light.

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

_____Oval_____

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

So that the product is built to the proper proportions, and so that the picture doesn't look strange.

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

1" x 2" rectangle



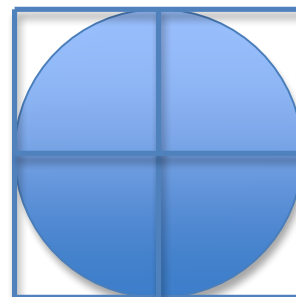
two 1.5" parallel lines 1/2" apart



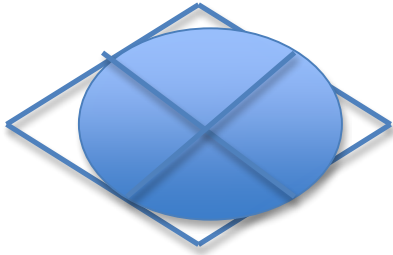
two 3/4" perpendicular lines



1.5" diameter circle



2" isometric ellipse



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

