

STUDY QUESTIONS FOR STEP 4

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

Allows detailers, designers, engineers, architects, technicians and trades persons to record their ideas quickly on paper without the use of tools. Once they have recorded their ideas, they can revise and refine their sketches for presentation to their supervisors or clients. Sketching is also helpful in preliminary planning of a drawing or layout before using tools.

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. A typical multiview sketch will include views from the top, front and right side. The back, bottom and left side views are optional depending on the complexity of the objects shape.

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

Top, front, and right side.

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

1. Study the object.
2. Make a layout for the views.
3. Make a layout of the paper for easier sketching.
4. Figure out the specifics.
5. Add the specifics.
6. Shade visible lines.
7. Shade hidden lines.
8. Add the lines that define the center.

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

Shows the overall shape of an object from one direction. There are three types of pictorial sketches: isometric, oblique and perspective. The isometric is the easiest to create as actual measurements are used and the shape of arcs and circles is consistent on all surfaces. The cabinet oblique sketch is best used for furniture or cylindrical shaped objects as a normal front view is used. Perspective sketches provide the most realistic view of an object but are more difficult to create as all distances must be shortened.

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

Cabinet oblique sketch, Perspective sketches, and the Isometric

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

The easiest to create as actual measurements are used and the shape of arcs and circles is consistent on all surfaces.

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

The cabinet oblique sketch is best used for furniture or cylindrical shaped objects as a normal front view is used.

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

Perspective sketches provide the most realistic view of an object but are more difficult to create as all distances must be shortened.

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

A **floor plan** sketch is similar to a top view with the roof removed 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 like siding, doors, windows, trim and roofing.

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

1. Study the object.
2. Lay out the design and axis for only an isometric sketch.
3. Put in dimensions.
4. Box in the sketch.
5. Find the details.
6. Put in the details.
7. Shade the visible lines.
8. Get rid of the extra 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:

Layout work. Very light and thin.



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



Outline of the object, visible edges and surfaces. Thick and dark.

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



Used in the interior edges, non-visible surfaces, and hollow areas. Medium Thickness.

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

To show the
Center of a
circle.



17. Is it necessary to erase "construction" lines? Yes. Explain: After sketch is finished the lines are not necessary and can be erased.

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

Ellipse.

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

Explain: Yes, anything that makes a sketch more accurate and at an accurate scale shows proportion and avoids confusion.

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

1" x 2" rectangle



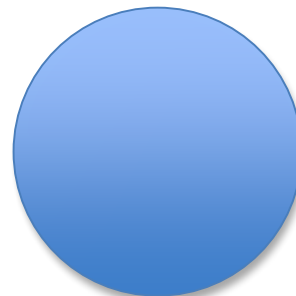
two 1.5" parallel lines 1/2" apart



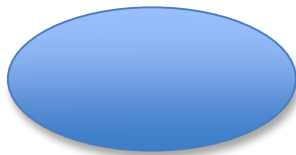
two 3/4" perpendicular lines



1.5" diameter circle



2" isometric ellipse



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

