Name _____

Technology Education Department
Introduction to Technical Drawing

STUDY QUESTIONS FOR STEP 4

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

Freehand sketching helps people to put their ideas on paper quickly, as well as for making a first draft of what you want to design. Can also be used to revise details in a project.

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

A multiview sketch shows an object from different angles to allow a more accurate design and build.

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

The 3 principal views are top, side, and bottom.

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

1. View and analyze the object
2. Begin laying out the views needed for the sketch
3. Lightly block in the views chosen
4. Locate key details in the object
5. Sketch these key details
6. Darken all visible edges of the drawing
7. Darken interior lines on the drawing
8. Add center lines to locate holes and arcs

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

Pictorial sketches allow you to see an object drawn in many steps as it is being completed.

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

The three principal types are oblique, isometric, and perspective.

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

Isometric is the most common type of pictorial sketch because they show the true size of the object according to each side.

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

The shape of an object using an oblique sketch is ideally a cylinder.

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

Perspective sketches show the true size of an object and what it would really look like.

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

A floor plan sketch shows the top of a building without the roof while an elevation sketch shows the height and exterior of an object.

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 by estimating lengths
4. Lightly block in the views of the drawing
5. Locate key details in the drawing
6. Sketch the details located lightly
7. Darken visible lines
8. Erase all excess lines in the drawing

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:

(very thin) Construction lines are very thin lines used as a start to a sketch. Should not need to be erased.

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

(thick) Visible lines are thick, solid lines used to shop outline and visible edges of an object.

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

(medium thick, dashed) Hidden lines are medium thick dashed lines used to show edges of an object behind other sides.

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

(thin, long + short dashes) Center lines are thin lines with long and short dashes used to locate the center of holes or cylinders.

17. Is it necessary to erase "construction" lines Explain:

No, it is not necessary to erase construction lines because they are very light and thin.

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

A circle becomes an oval when in a pictorial view.

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

Yes, it is necessary because if the objects aren't in proper proportions then the product won't be correct.

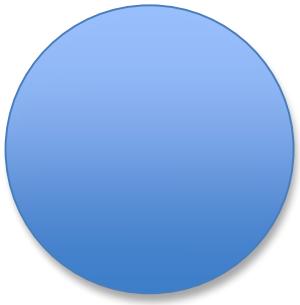
20. Make freehand sketches of the following using appropriate "proportions" in the space below :

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