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Technology Education Department Introduction to Technical Drawing

STUDY QUESTIONS FOR STEP 4

- 1. List three (3) uses for freehand sketches:
- 2. What does a "multiview sketch" show you about an object?

MULTIVIEW SKETCH 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 SIDE ARE SHOWN.

- 4. List in your own words the steps to follow in the making of a multiview sketch:
 - 1. ANALYZE THE OBJECT
 - 2. LAYOUT THE VIEWS
 - 3. BLOCK IN THE VIEWS
 - 4. LOCATE DETAILS
 - 5. ADD DETAILS
 - 6. DARKEN VISIBLE LINES
 - 7. DARKEN HIDDEN LINES
 - 8. ADD CENTER LINES

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

IT SHOWS THE OVERALL SHPAE OF AN OBJECT FROM ONE DIRECTION.

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?

ISOMETRIC PICTORIAL SKETCH IS THE MOST COMMONLY USED BECAUSE IT IS 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"?

FURNITURE OR CYLINDRICAL SHAPED OBJECTS AS A NORMAL FRONT VIEW IS USED IN OBLIQUE VIEW.

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

PERSPECTIVE SKETCH PROVIDES THE MOST REALISTIC VIEW BUT IS MORE DIFFICULT TO CREATE.

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

FLOOR PLAN SHOWS INTERIOR WALLS, WINDOWS, DOORS, APPLIANCES, FIXTURES,

BUILT-IN CABINETRY AND STAIRWAYS.

ELEVATION SHOWS THE HEIGHT OF STRUCTURE, EXTERNAL MATERIALS, DOORS, WINDOWS, TRIM AND ROOFING.

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

- 1. STUDY OBJECT TO DETERMINE THE LENGTH, WIDTH, AND LENGTH.
- 2. LAYOUT THE AXIS FOR AN ISOMETRIC SKETCHES.
- 3. ADD DIMENSIONS TO THE AXIS.
- 4. SKETCH LIGHTLY PARALLEL TO THE AXIS TO FORM A BOX THAT THE OBJECT WILL FIT IN.
- 5. USE LIGHT LINES TO LOCATE CHANGES IN THE SHAPE AND TO SHOW THE LOCATION OF HOLES OR ROUNDED CORNERS.
- 6. ADD DETAILS.
- 7. DARKEN VISIBLE LINES.
- 8. HIDDEN LINES OR CENTER LINES ARE NOT SHOWN.
- 12. Show and label with arrows the recommended methods for sketching the following lines:



Vertical lines

Angular lines



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

CONSTRUCTION LINE IS VERY THIN, LIGHT LINES AND ARE USED TO LAYOUT PRELIMINARY SHAPES.

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

VISIBLE LINE IS THICK, SOLID LINES AND ARE USED TO SHOW THE OULINE OR THE VISIBLE EDGE OF THE OBJECT.

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

MEDIUM THICK, DASHED LINES AND ARE USED TO SHOW EDGES OR SURFACES 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 AND SHORT DASHES AND ARE USED TO LOCATE THE CENTER POINT OR HOLES OR THE CENTRAL AXIS OF A CYLINDER.

17. Is it necessary to erase "construction" lines? NO Explain: THEY ARE DRAWN VERY LIGHTLY.

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

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

Explain: IT GIVES REALISTIC VIEW COMPARE TO OTHER OBJECTS. 20. Make freehand sketches of the following using appropriate "proportions" in the space below :





 $30^\circ,\,60^\circ$ & 90° triangle a $45^\circ,\,45^\circ$ & 90° triangle