

ANSWERS TO THE THEORY QUESTIONS

1. Dash lines are used to represent sectioned surfaces.

2. Principles of dimensioning

Rule 1: Dimensions should not be duplicated, nor should the same info be given in two different ways

Rule 2: Dimensions should be attached to the view that best shows the contour of the feature being dimensioned

Rule 3: Wherever possible avoid dimensioning to hidden lines

Rule 4: Avoid dimensions over or through the object

Rule 5: Wherever possible locate dimensions in adjacent views

Rule 6: In general a circle is measured by its diameter circle with line through it, and arc by its radius R0.50

Rule 7: Holes are located by their centerlines, which may be extended and used as an extension line

Rule 8: Holes should be located and sized in the view that shows that feature as a circle

3. a) HALF SECTION: the cutting plane is assumed to bend at a right angle and cuts through only half of the represented object, not the full length.

When the quarter of the object that was cut is removed, the remainder is called a "half section." A half section view is effective only on symmetrical objects, and its main purpose is to show an object's internal and external construction in the same drawing.

b) FULL SECTION: the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed, this is called a "full section." A full section is the most widely-used sectional view.

4. Leader lines are terminated with arrowhead

5. a) Scale= 5:1, A drawing at a scale of 5:1 means that the object is 5 times more than its original size.

b) Scale= 1:10

A drawing at a scale of 1:10 means that the object is 10 times smaller than in real life scale 1:1.

6. SHAPE IDENTIFICATION SYMBOLS

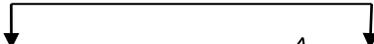
a) Diameter: \varnothing

b) Radius: R

c) Square: 

d) Spherical radius: SR

ii) a.) Center line: CL or Φ 

b.) Cutting plane line: 

c.) long break: 

7. The elements to be considered while obtaining a projection are the four quadrants and the views

An Orthographic projection is a means of representing three-dimensional objects in two dimensions. It is a projection of a single view of an object (such as a view of the front) onto a drawing surface in which the lines of projection are perpendicular to the drawing surface.

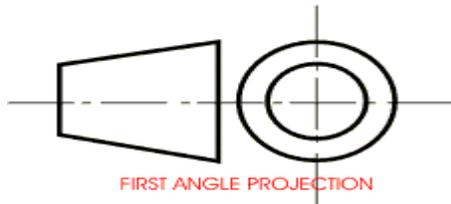
8. A projection is called an orthographic projection when the drawing consists of three different views: a front view, a top view, and a side view.

It is represented in two ways;

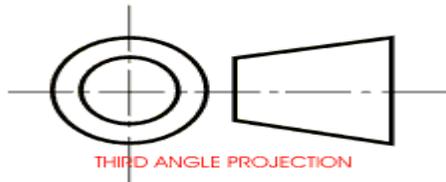
i) First angle projection

ii) Third angle projection

9) **The first angle projection**, the object is placed in the first quadrant meaning it's placed between the plane of projection and the observer.



The third angle projection, the object is placed below and behind the viewing planes meaning the plane of projection is between the observer and the object.



ANSWERS TO THE OBJECTIVE QUESTIONS

1. A
2. A
3. C
4. B
5. A
6. B
7. C

8. B

9. A

10. A

11. C

12. A

13. B

14. C

15. D