

Name: Unah, Benjamin Sunday.

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Department: Mechatronics Engineering.

Course: Engineering Drawing.

1. A Sectioned surface can be represented on drawing by drawing thick diagonal lines to touch the left and right ends of the cut part, from top to bottom. The lines are usually drawn at angle 45 degrees with very little gaps between them.

2. The principles to be followed when dimensioning drawing are:

--Dimensions should not be duplicated nor should the same information be given in two different ways.

--Avoid dimensioning hidden details.

--Dimension lines shouldn't cross each other.

--Dimensions should be attached to the view where the shape is best shown. --

No line of the drawing should be used as a dimension line.

--Each dimension should be given clearly so it can be interpreted in only one way.

--A dimension should be attached to only one view

--Dimensions applied to two adjacent views should be placed between the views.

3. (I)HALF SECTION is the view of an object showing one half of the view in section, as in the drawing below.

(II) FULL SECTION is the resulting section when a cutting plane passes entirely through an object.

4. A header line can be terminated in three ways:


--With an arrow head on the outline of an object.


--With a dot within the outline of the object.


--Without a dot or an arrow head on the dimension line.

5. SCALE 5:1 is an enlargement scale that represent the drawing 5 times more its original size.

SCALE 1:10 is a reduction scale that represents the drawing 10 times less than its original size.

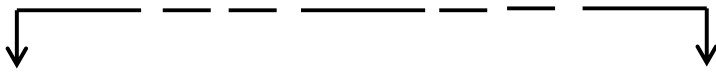
6. *Diameter:* 

*Radius:* 

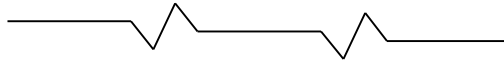
*Square:* 

*Spherical Radius:* **SR**

*Centre line:* 

*Cutting plane line:* 

Long break line:



7. Orthographic projection is a form of parallel projection in which all the projection lines are orthogonal to the projection plane, resulting in every plane of the scene appearing in affine transformation of the viewing surface. It helps to represent three dimensional objects in a two-dimensional form.

The elements to be considered while obtaining a projection are:

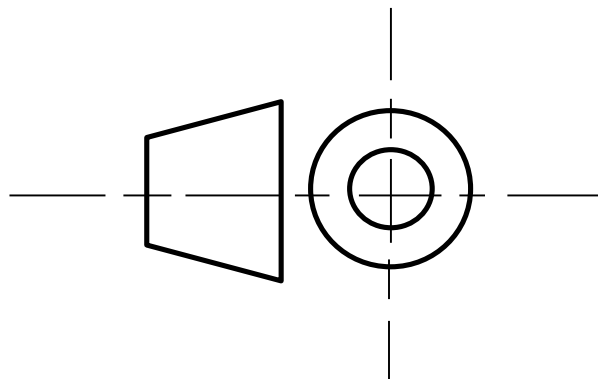
-Front elevation

-Plan elevation

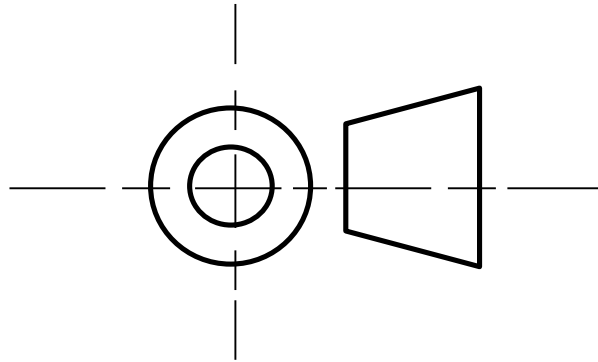
-End view

8. The projection of an object is said to be orthographic when there is a front view, a plan view, and an end view all connected using projection planes. It could be in first-order or third-order.

9. First angle projection is that in which the object is placed in the first quadrant, meaning it's placed between the plane of projection and the observer.



Third angle projection is that in which the object is placed below and behind the viewing planes, meaning its plane of projection is placed between the observer and the object.



### **OBJECTIVE SECTION**

1. A (reference plane)
2. A (true)
3. C (directly)
4. A (60degrees}
5. A (60 degrees)
6. B (rivet)
7. C (crowning)
8. B (45degrees)
9. B (an ellipse)

10. A (an ellipse)
11. C (cylinder)
12. A (cone)
13. C (pivot)
14. C (55degrees)
15. D (horizontal plane)