

ENG 232 questions and answers

18/ eng01/006

Aerospace engineering

Technical drawing

## **1. How do you represent a sectioned surface on a drawing?**

### **ANS:**

When sketching an object or part that requires a sectional view, they are drawn by eye at an angle of approximately 45 degrees, and are spaced about 1/8 apart. Since they are used to set off a section, they must be drawn with care. It is best to use the symbol for material being shown as a section on a sketch.

## **2. List out the various principles to be followed while dimensioning a drawing.**

### **ANS:**

- The dimensions should be given on such view which illustrates the true shape and size of an object.
- As far as possible the dimensions should be given outside a view but can be given inside as well if unavoidable.
- All the dimensions are given in group form. Scattering of these is not correct.
- The dimensions should be intelligibly written.
- All the dimensions should be written parallel to the object line and the numbers should be written such that they could be read easily.

- The extension and dimension lines should not intersect in any case.

**3. Explain the terms, (a) half section, (b) Full section**

**ANS;**

**(a) HALF SECTION:** This is a view of an object showing one-half of the view in the section, the diagonal lines on the section drawing are used to indicate the area that has been theoretically cut.

**(b) FULL SECTION:** This is when the imaginary cutting plane passes through the entire object, splitting the drawn object in two with the interior of the object revealed.

**4. How are leader lines terminated?**

**ANS;**

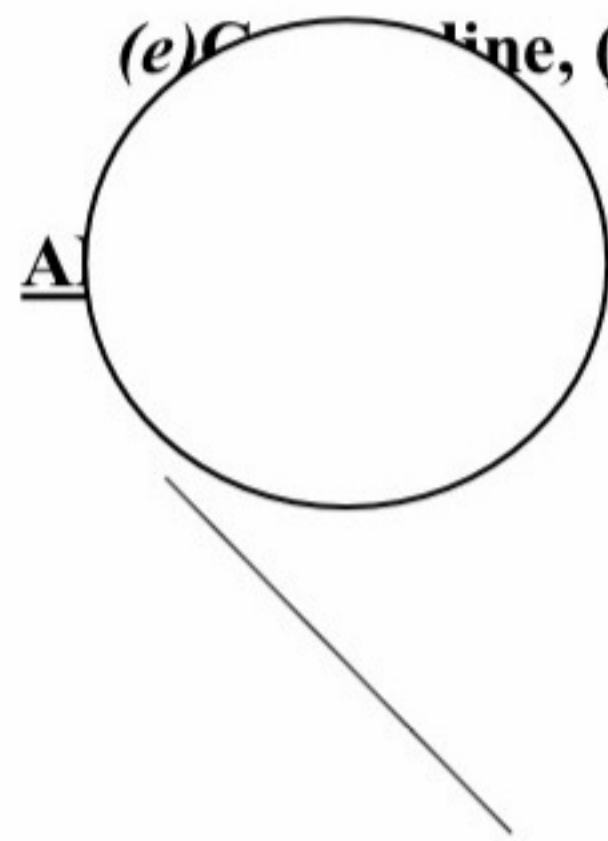
**5. What do you understand by, (a) scale = 5:1 and (b) scale = 1:10?**

**ANS;**

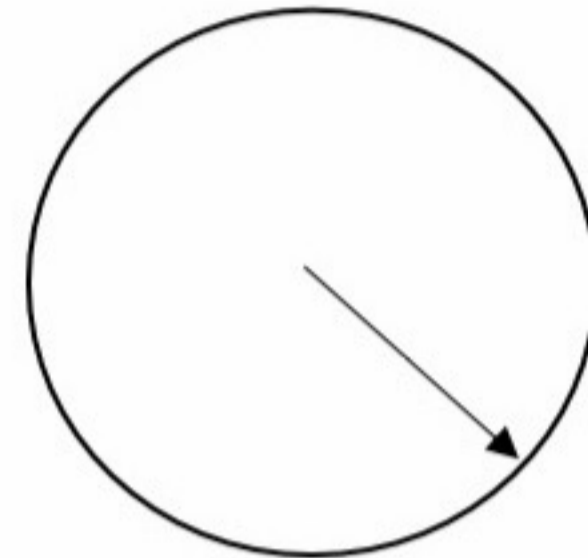
**(a)** Means a 50mm line is to be drawn at a scale of 5:1( ie 5 times more than its original size).

**(b)** This scale means that the object is 10 times smaller than in real life.

6. Give the shape identification symbols for the following: (a) diameter, (b) radius, (c) square and (d) spherical radius.



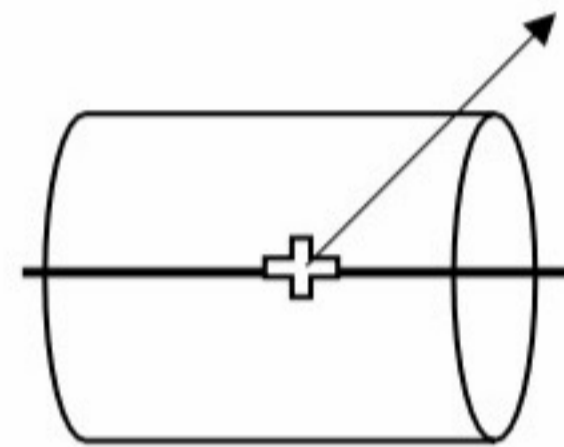
(a) Diameter



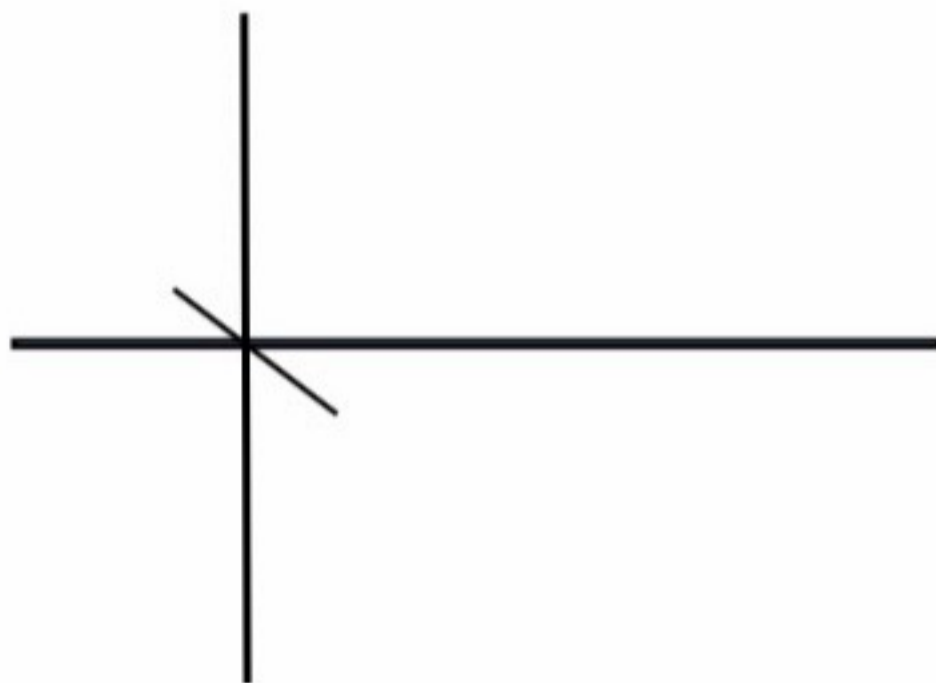
(b) radius



(c) Square



(d) spherical radius



(e) Centre line

**7. What are the elements to be considered while obtaining a projection and what is an orthographic projection?**

**ANS;**

This is a method of projection in which an object is depicted using parallel lines to project its outline on to a plane.

**8. When is a projection of an object called an orthographic projection?**

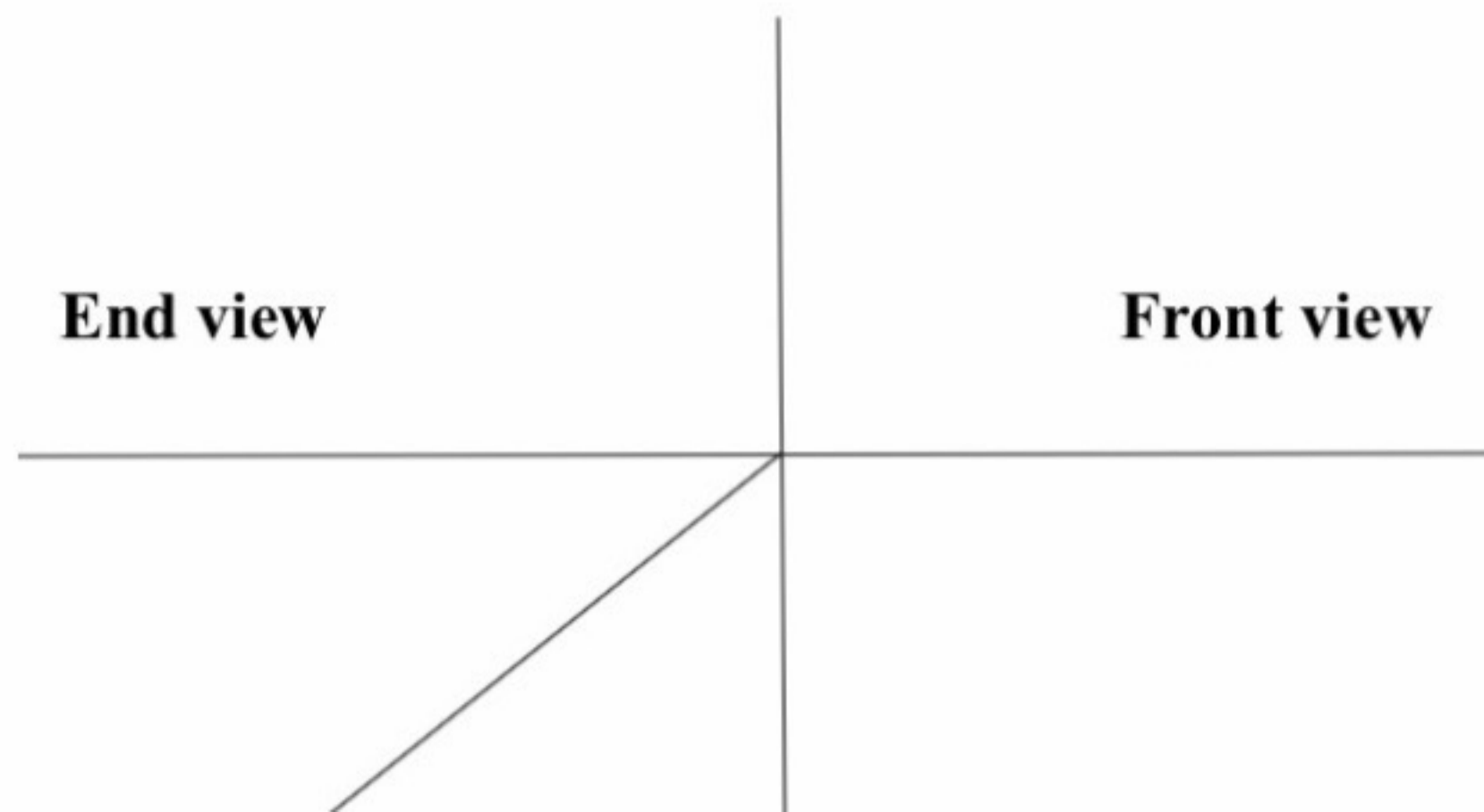
**ANS;**

When the line are orthogonal to the projection plane, resulting in every plane of the scen appearing on the viewing surface.

**9. Explain the following, indicating the symbol to be used in each case: (a) First angle projection, (b) Third angle projection**

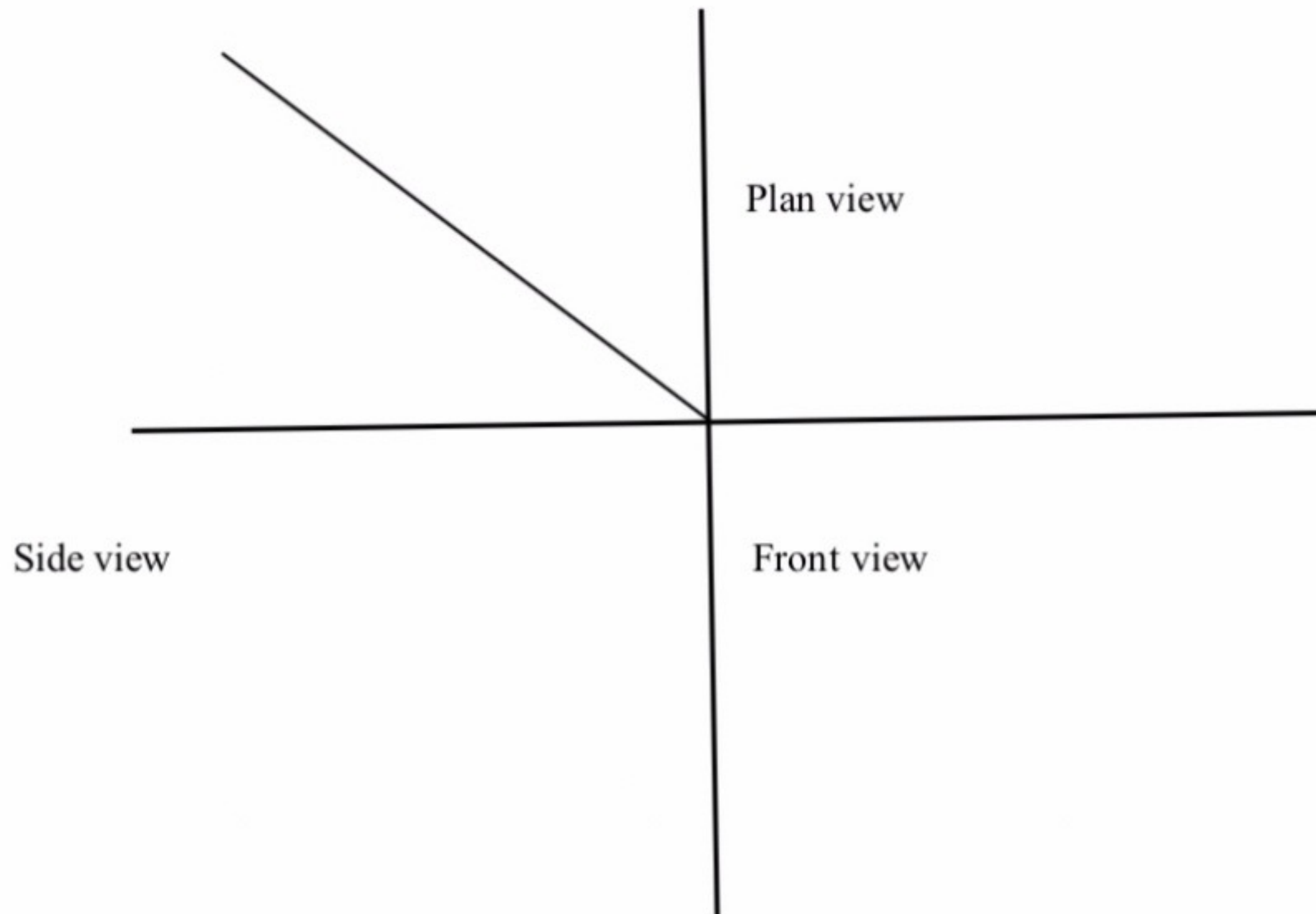
**ANS;**

**(a) First angle projection:** a method of creating a 2D drawing of a 3D object.



## Plan view

(b) Third angle projection: this is used to portray a 3D design using a series of 2D views



## Objectives

1. To project the auxiliary view, an imaginary plane known as .....
  - a) **Reference Plane**
  - b) Principle plane

- c) Normal plane
  - d) Inclined plane
2. Reference plane is parallel to the direction of view
- a) True
  - b) **False**
3. Dimension of one side of the inclined surface can be.....projected on the reference plane
- a) Indirectly
  - b) Equally
  - c) **Directly**
  - d) Normally
4. In isometric projection the three edges of an object are inclined to each other at
- (a)  $60^\circ$  (b)  **$120^\circ$**  (c)  $100^\circ$  (d)  $90^\circ$
5. The angle between the flanks of a metric thread is
- (a)  **$60^\circ$**  (b)  $90^\circ$  (c)  $75^\circ$  (d)  $55^\circ$
6. Which one among the following represents a permanent fastener
- a) Nut b) **Rivet** c) Screw d) Bolt
7. The convexity provided on the rim of the solid web cast iron pulley is called
- a) Bending b) Curving **c) Crowning** d) Riveting
8. Section lines are generally inclined with the base, at an angle of
- a)  $30^\circ$  **b)  $45^\circ$**  c)  $60^\circ$  d)  $90^\circ$

9. The isometric view of a sphere is always

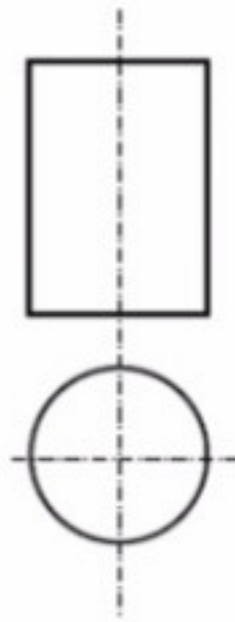
**a) a circle** b) an ellipse c) a Parabola d) a Semicircle

10. In isometric projection, the four center method is used to construct

**a) an ellipse** b) a square c) a triangle d) a rectangle

11 **ans; (C) cylinder**

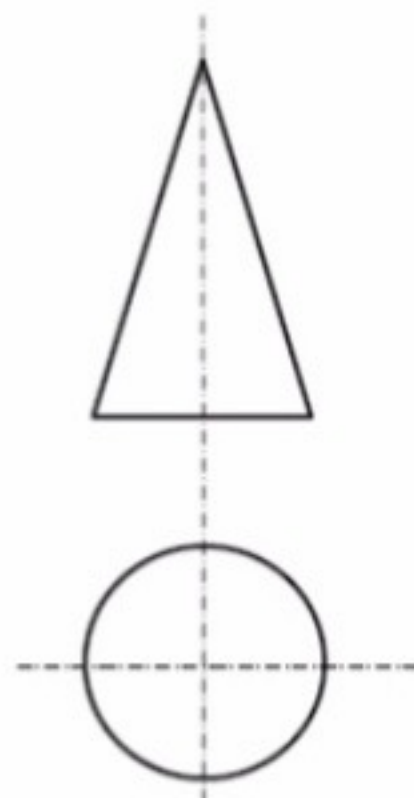
(i) With respect to the elevation and plan given below, name the solid



- (a) Cone
- (b) hexagonal prism
- (c) cylinder
- (d) hexagonal pyramid

12. **ans: cone**

(v) With respect to the front view and top view given below, name the solid



- (a) Cone
- (b) Cylinder
- (c) Cube
- (d) Frustum



13. A footstep bearing is a

a) journal bearing b) thrust bearing c) pivot bearing **d) pedestal bearing**

14. The angle between the flanks of B.S.W. thread is

a)  $60^\circ$  b)  $65^\circ$  **c)  $55^\circ$**  d)  $75^\circ$

15. Top view is projected on the

a) Vertical Plane b) Corner Plane c) Side Plane **d) Horizontal Plane**