

**WEEK: FOUR and FIVE (4&5)**

**DATE:**

**CLASS: SS 2**

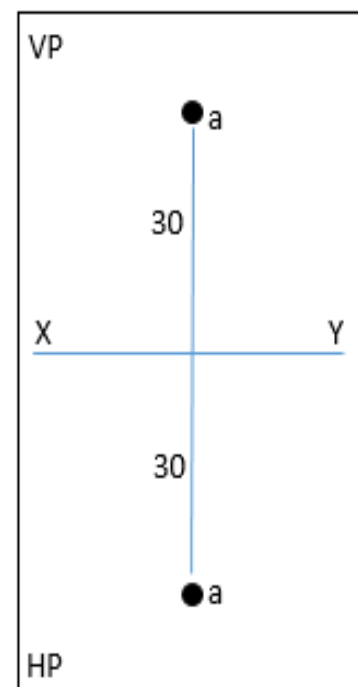
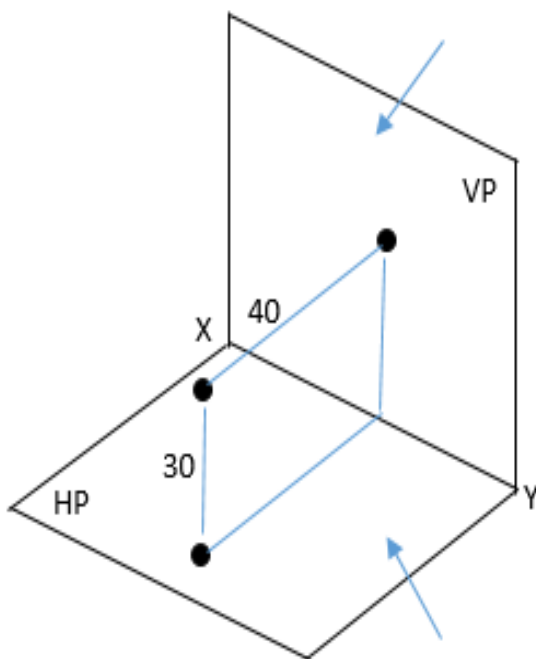
**TOPIC: DESCRIPTION OF POINTS, LINES AND PLANES IN SPACE**

### **DESCRIPTION OF POINTS, LINES AND PLANES IN SPACE**

Generally, most technical drawing students are frequently associated with solving problems dealing with descriptive geometrical figures such as points, lines, planes, laminas and even true lengths.

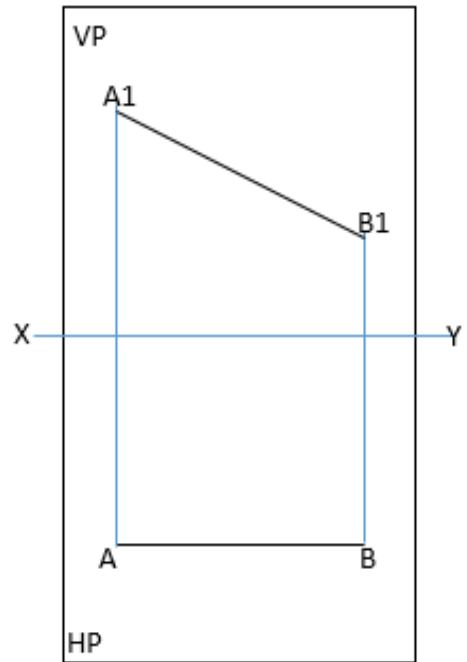
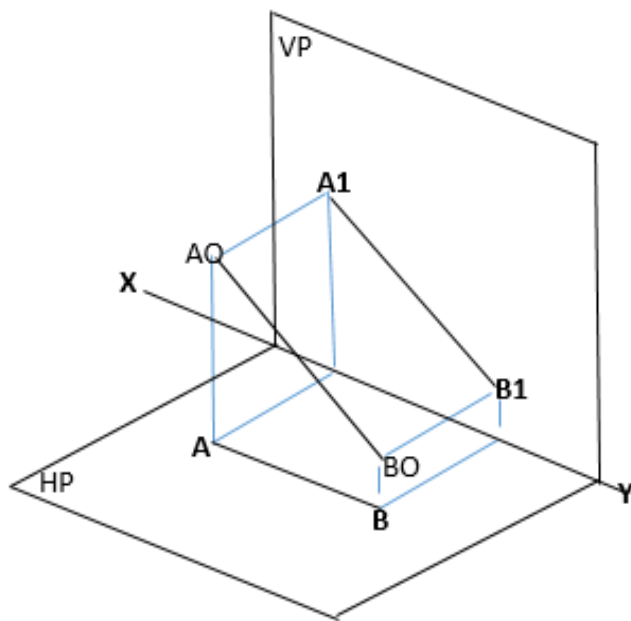
#### **Point in space**

To determine the position of a point in space, the planes must be drawn. The planes are the horizontal plane (HP), vertical plane (VP), auxiliary vertical plane (AVP), right side vertical plane (RSVP), left side vertical plane (LSVP) etc. The point in space could be located by measurement from the plane points in space. They are always described by letters.



#### **Lines in space**

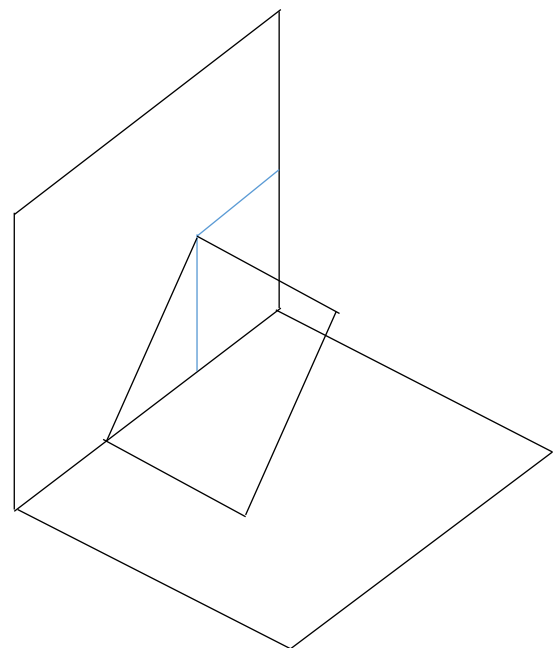
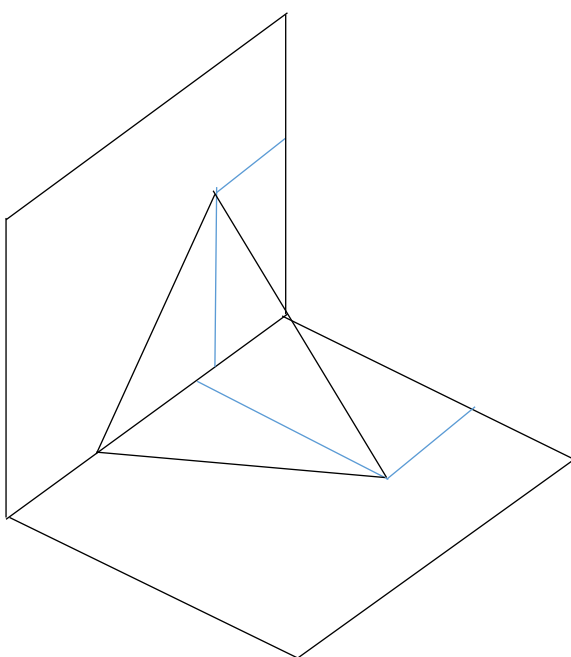
Straight line parallel to two principal planes, here AC is parallel to VP and HP; therefore, the projection on any of these planes is called the true length.

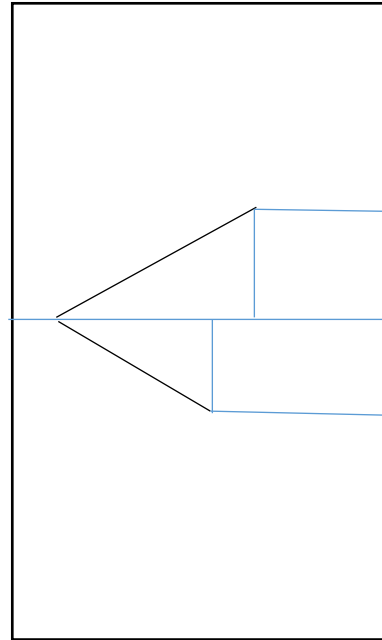
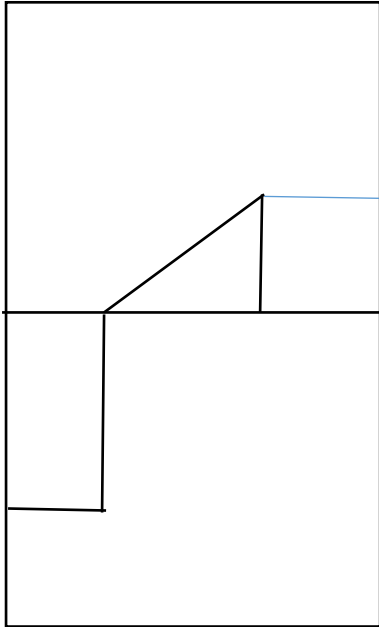


### Projection of auxiliary plane

The line projected to an auxiliary plane is positioned parallel to the front elevation FE. The auxiliary vertical plane (AVP) is drawn parallel to the front  $A_1 B_1$  arbitrarily. Also, projection are drawn perpendicularly from points  $A_1$  and  $B_1$  such that the distance of point A in front of the vertical plane,  $da$  is obtained from view and stepped off to obtain point AF.

Also the distance of point B in front of the vertical plane  $db$  is obtained and stepped off for BF. A straight joining both points is the true length. Any line projected to an auxiliary plane is positioned parallel to the plane. Also, any line to an auxiliary plane is positioned to the side elevation as shown below;





#### **ASSIGNMENT:**

- 1. Define orthographic projection**
- 2. Using symbols and line diagrams, define the two types of orthographic projection.**