

Projection of Points

Quadrant system:

The picture planes used for obtaining the orthographic projections are called the Principal planes of projection or reference planes or co- ordinate planes of projection.

VP: The plane in front of observer is the vertical plane. (VP) or it is also called a Frontal plane.

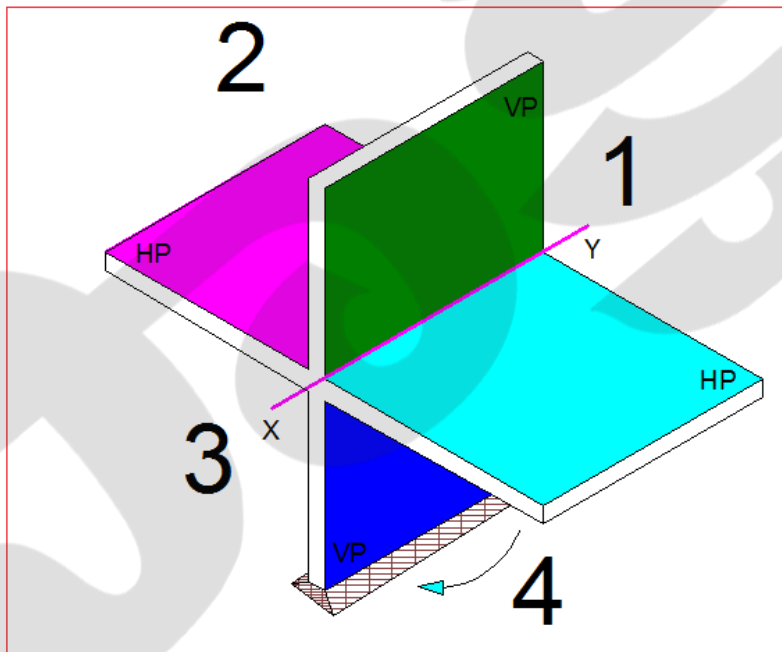
Front View (FV): The projection on the VP is called the **Front View (FV)** or Vertical Projection or front elevation or Elevation.

HP: The plane which is Horizontal and perpendicular to VP is Horizontal Plane.

Top View (TV): The projection on the HP is called the **Top View (TV)** or Horizontal Projection or Plan.

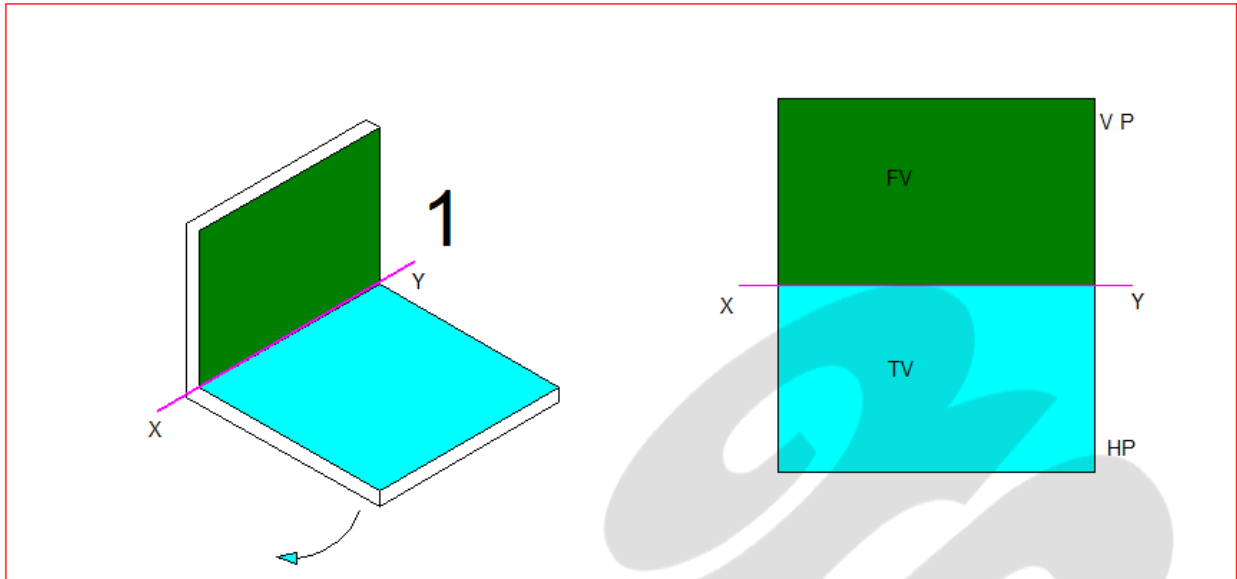
Note: The planes HP and VP are called **Principal Planes**.

Reference Line: The line of intersection of HP and VP is called reference line, which is denoted by X-Y.

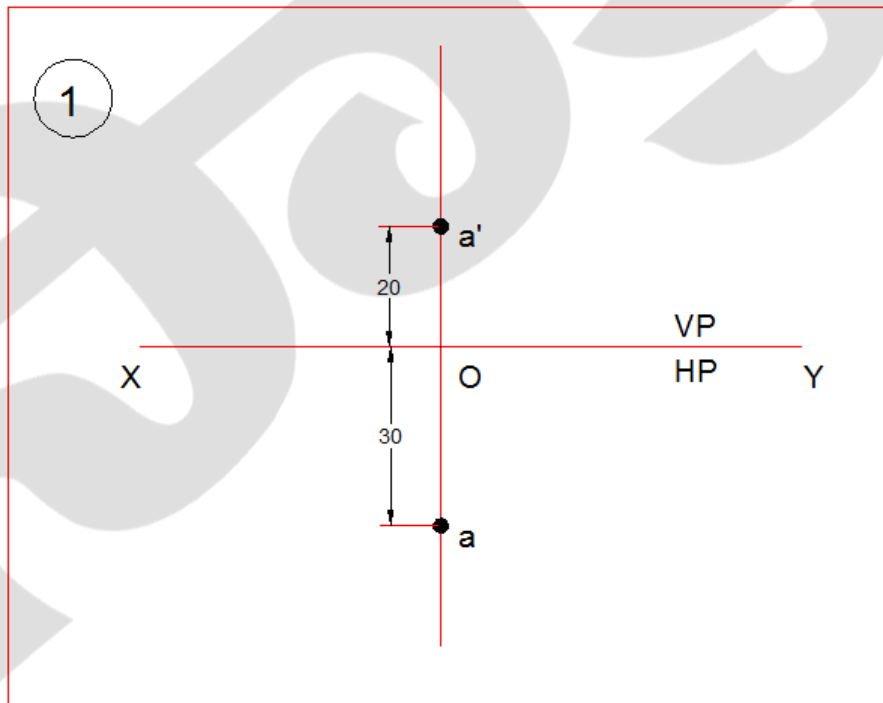


- First quadrant** --- Above HP and in front of VP
Second quadrant --- Above HP and behind VP
Third quadrant --- Below HP and behind VP
Fourth quadrant --- Below HP and in front of VP

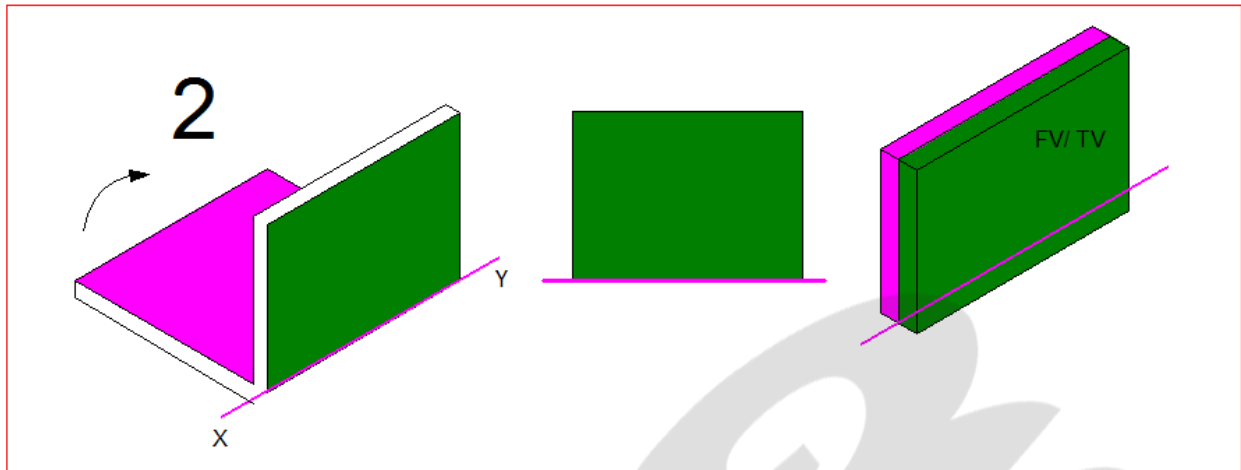
1st QUADRANT



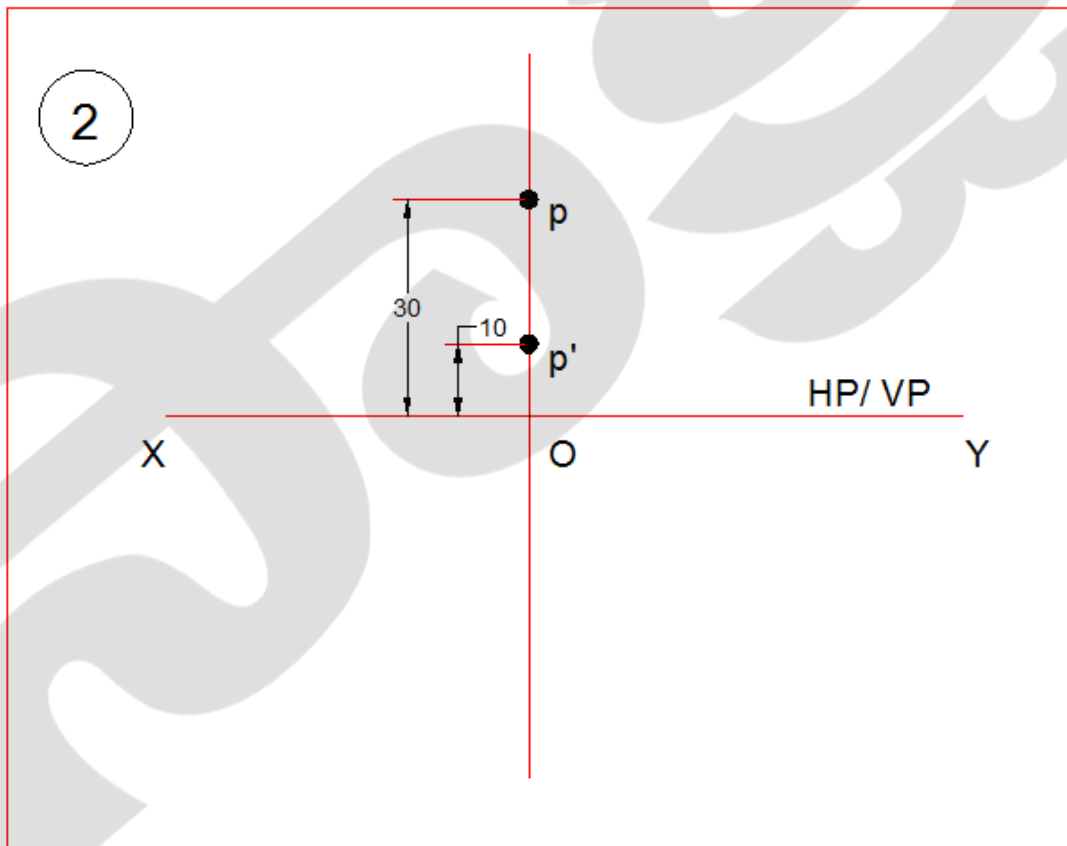
1. Draw the projections of a point 'A' 20mm above HP and 30mm in front of VP. Draw the projections.



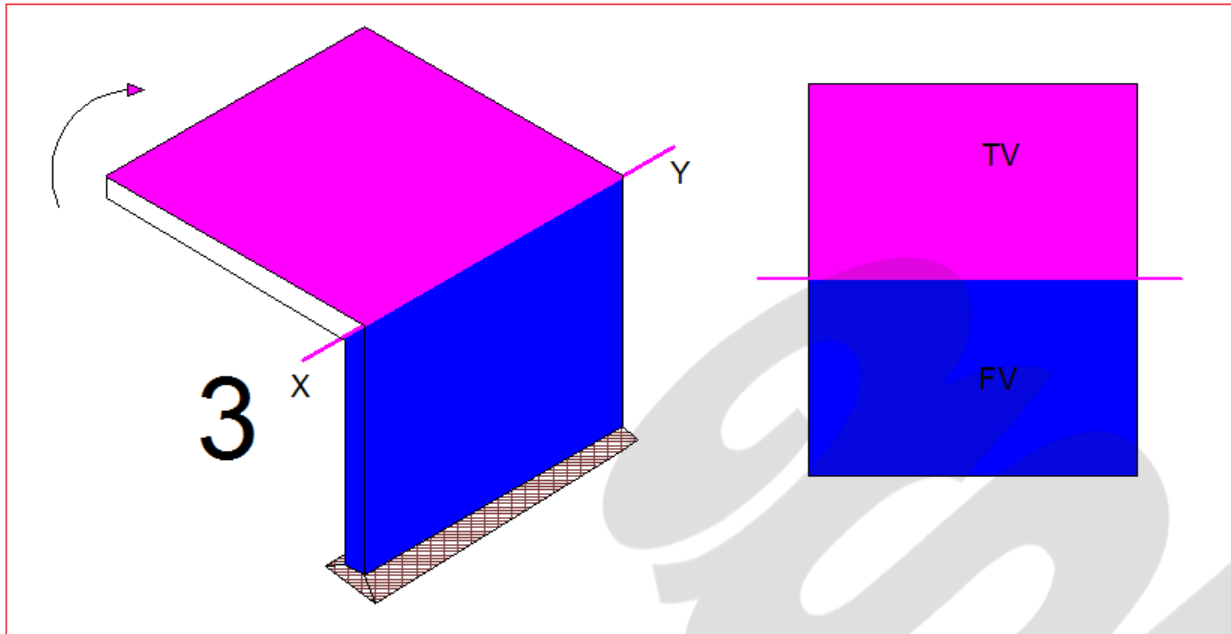
2nd QUADRANT



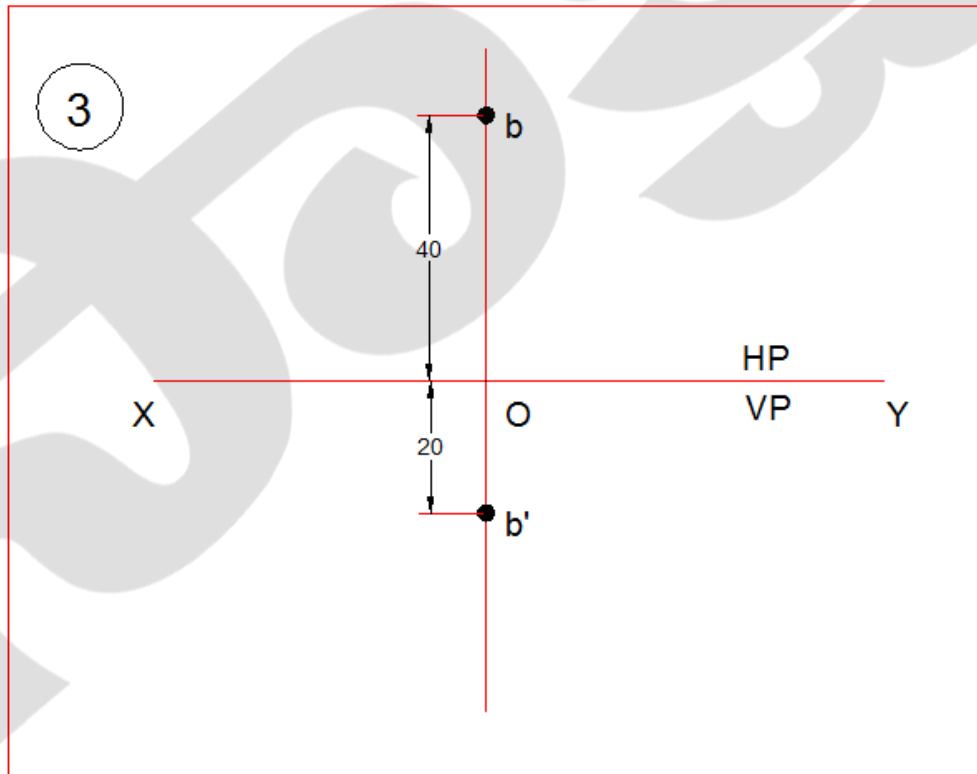
2. Draw the projections of a point 'P' 10mm above HP and 30mm behind VP.



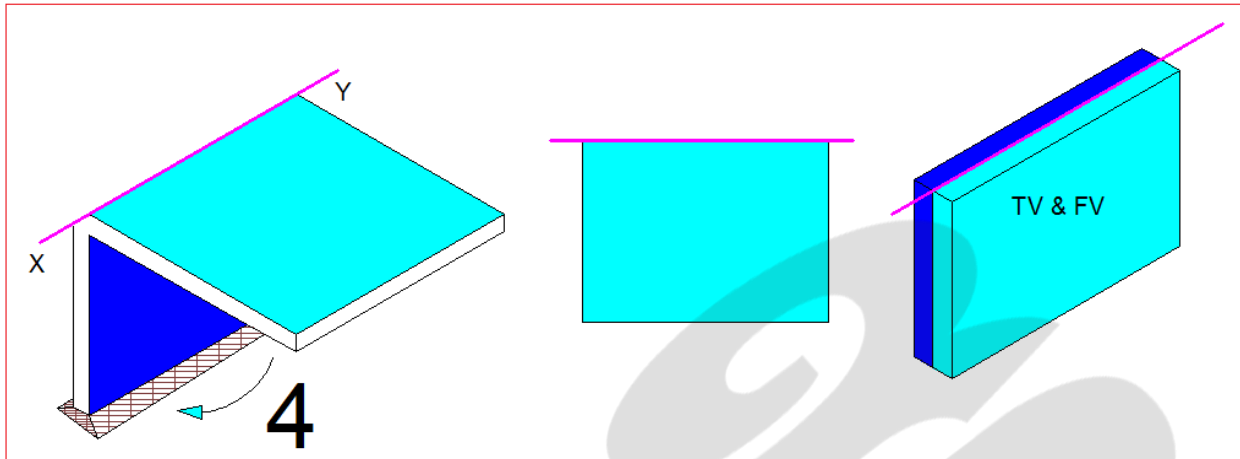
3rd QUADRANT



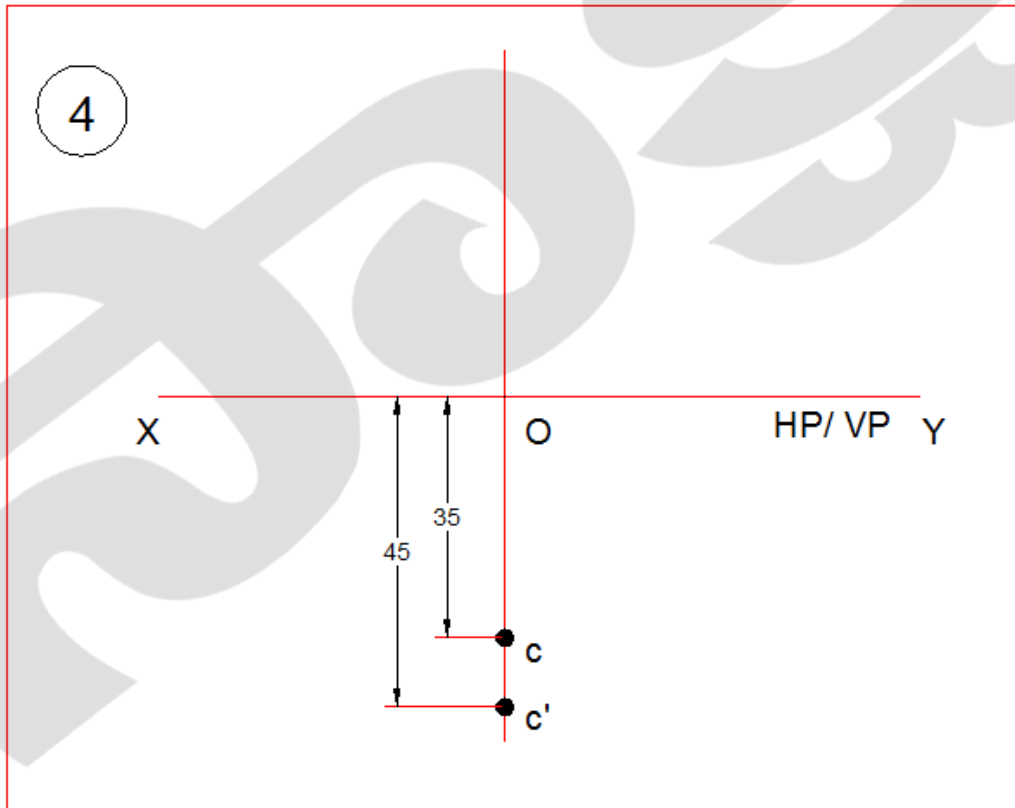
3. Draw the projections of a point 'B' 20mm below HP 40mm behind VP.



4th QUADRANT



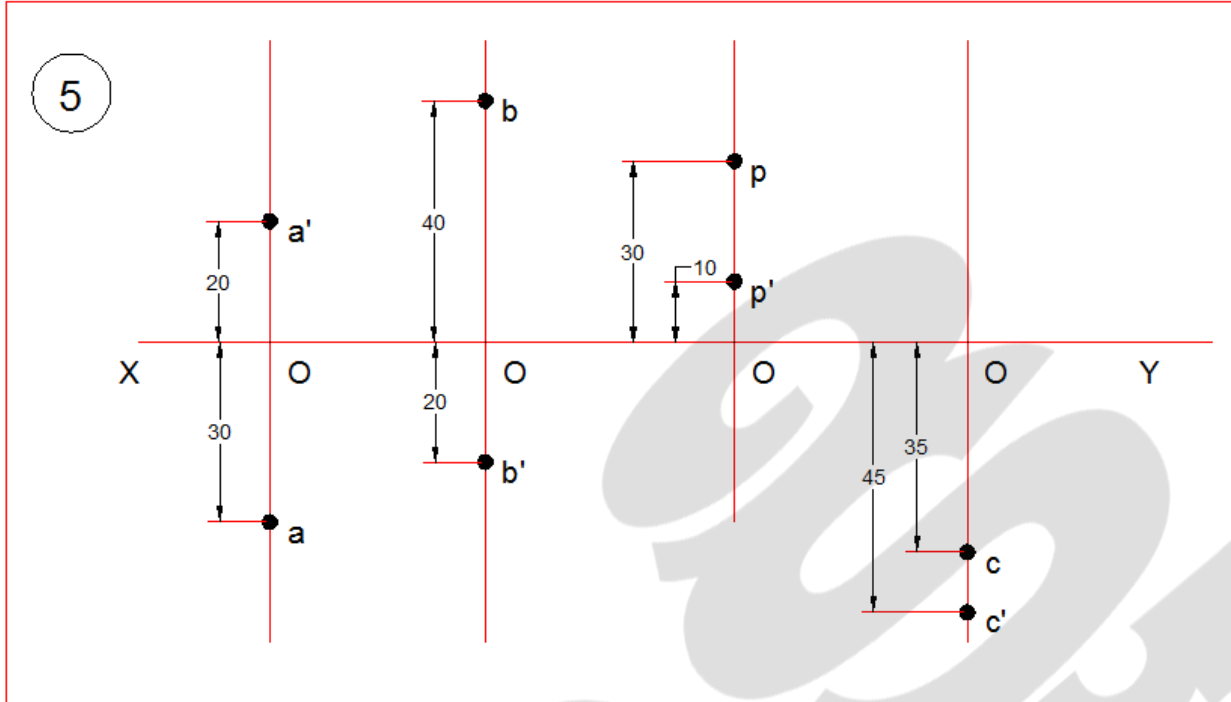
4. Draw the projections of a point 'C' 45mm below HP and 35mm in front of VP.



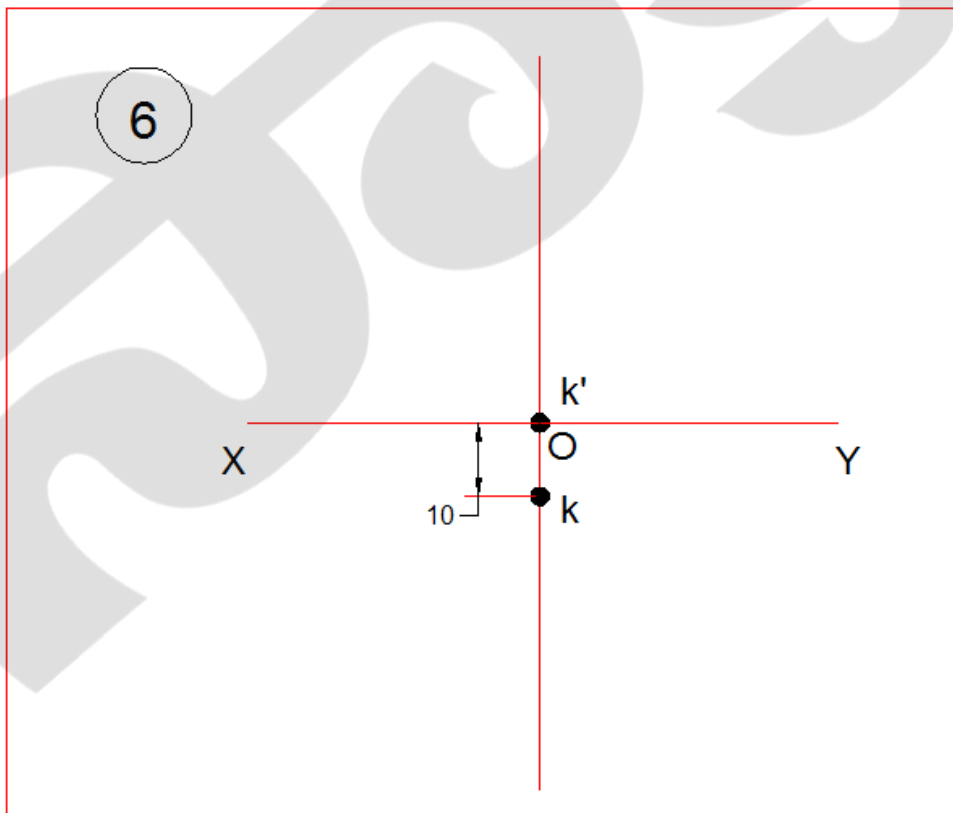
Note: From all the four Quadrants – FV is on VP and TV is on HP.

5. Draw the projections for the below points. Take a single reference line. The distance between the projectors is 40mm.
- a) Point 'A' is 20mm above HP and 30mm in front of VP.

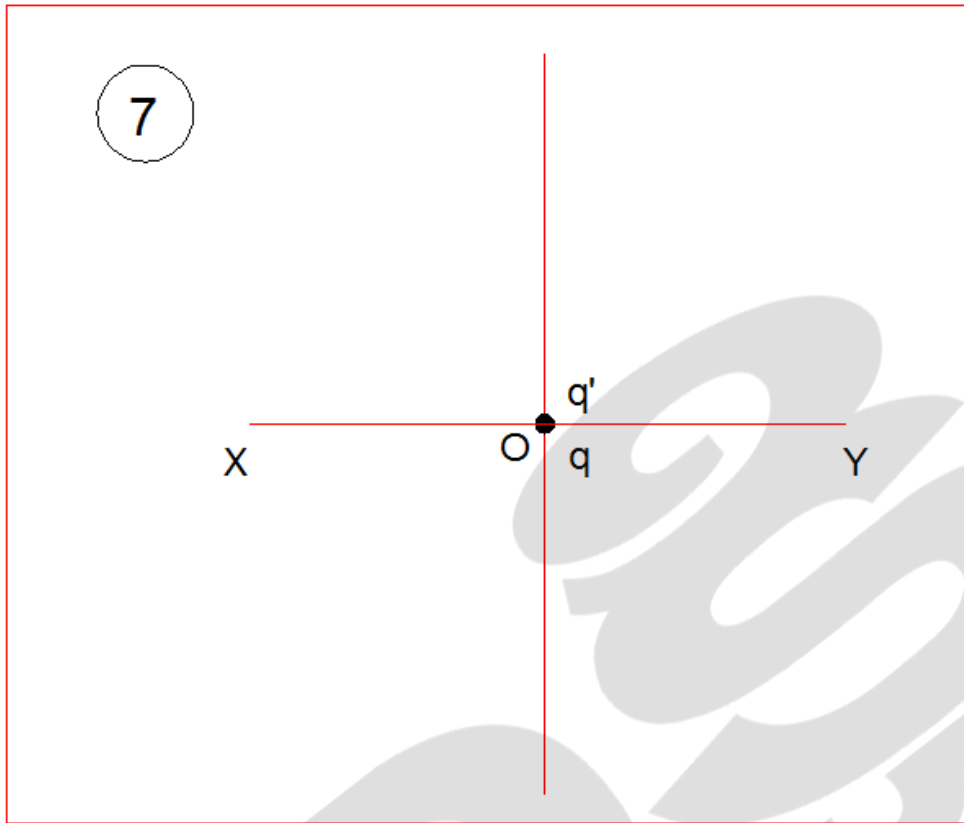
- b) Point 'B' is 20mm below Hp and 40mm behind VP.
- c) Point 'P' is 10mm above HP and 30mm Behind VP.
- d) Point 'C' is 45mm below HP and 35mm in front of VP.



6. The point 'K' is on HP/lies on HP and 10mm in front of VP.



7. Draw the projections of a point 'Q' lies on both HP and VP.



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