Q.3. A 50 mm long line $A B$ is parallel to both H.P and V.P. The line is 25 mm in front of V.P and 60 mm above H.P, draw the projections of the line.

Sol.

Q. 3 A 80 mm long line $A B$ has the end $A$ at a distance of 20 mm above HP and 40 mm in front of V.P. The line is inclined at $30^{\circ}$ to H.P and parallel to V.P, draw the projection of the line.

Sol.

Q.4. $A 80 \mathrm{~mm}$ long line $A B$ is inclined at $30^{\circ}$ to V.P and is parallel to H.P. The end $A$ is 20 mm above the H.P and 20 mm in front of the V.P, draw the projection of the line.

Sol.

Q. 5 A line $A B, 65 \mathrm{~mm}$ long has its end $A 20 \mathrm{~mm}$ above $H . P$. and 25 mm in front of $V P$. The end $B$ is 40 mm above H.P. and 65 mm in front of V.P. Draw the projections of $A B$ and shows its inclination with H.P.

Sol.


Ans. $\theta=18^{\circ}$

Ans. $\varnothing=38^{\circ}$

## Questions

Q. 1 A line AB 75 mm has its end a 10 mm above the HP and 15 mm in front of the VP. It is inclined at $35^{\circ}$ to the HP and $45^{\circ}$ to the VP. Draw its projections.
(2) A line CD , inclined at $25^{\circ}$ to the HP , measures 80 mm in top view. The end C is in the first quadrant and 25 mm and 15 mm from the HP and the VP respectively. The end D is at equal distance from the both the reference planes. Draw the projections, fine true length and true inclination with the VP.
(3) A straight line ST has its end $\mathrm{S}, 10 \mathrm{~mm}$ in front of the VP and nearer to it. The mid-point M line is 50 mm in front of the VP and 40 mm above HP. The front and top view measure 90 mm and 120 mm respectively. Draw the projection of the line. Also find its true length and true inclinations with the HP and VP.
(4) A line PQ has its end $\mathrm{P}, 10 \mathrm{~mm}$ above the HP and 20 mm in front of the VP. The end Q is 85 mm in front of the VP. The front view of the line measures 75 mm . the distance between the end projectors is 50 mm . Draw the projections of the line and find its true length and its true inclinations with the VP and HP.
(5) A line PF, 65 mm has its end $\mathrm{P}, 15 \mathrm{~mm}$ above the HP and 15 mm in front of the VP. It is inclined at $55^{\circ}$ to the VP. Draw its projections.
(6) A line CD 60 mm long has its end ' C ' in both H.P and V.P. It is inclined at $30^{\circ}$ to H.P and $45^{\circ}$ to V.P. Draw the projections.
(7) A point C is 40 mm below H.P and 20 mm behind V.P, another points D and E are 60 mm above H.P and in front of V.P, 90 mm below H.P and 45 mm in front of V.P respectively. Draw the projections of all points on same reference line.
(8) The end $P$ of a straight line $P Q$ is 20 mm above the H.P. and 30 mm in front of V.P. The end Q is 15 mm below the H.P. and 45 mm behind the V.P. If the end projectors are 50 mm apart, Draw the projection of PQ and determine the true length, traces and inclination with the reference planes.
(9) The front view of line inclined at $30^{\circ}$ to V.P is 65 mm long. Draw the projections of a line, when it is parallel to and 40 mm above H.P. and one end being 20 mm in front of V.P.
(10) A line PQ, 64 mm long has one of its extremities 20 mm in front VP and the other 50 mm above HP . The line is inclined at $40^{\circ}$ to HP and $25^{\circ}$ to VP. Draw its top and front view.
(11) The projection of a line AB has $35^{\circ}$ inclinations in top view and $40^{\circ}$ inclinations in the front view with an elevation length of 60 mm . If the end $A$ is 10 mm below HP and $B$ is 12 mm behind VP, Draw the projections and locate the traces keeping the line in the third quadrant.
(12) Line $P Q$ has 72 mm length in the front view and 66 mm length in the top view. The end P is 48 mm below HP and 40 mm behind VP, while the end Q is 12 mm below HP. Draw the projection of the line, locate the traces and determine the true length and inclinations of the line with the reference planes.
(13) A Line $A B 25 \mathrm{~mm}$ is parallel to the VP and perpendicular to the HP. Point $A$ is 35 mm above the HP and 20 mm in front of the VP. B is 10 mm above the HP. draw its projections.
(14) A line PQ of length 40 mm is parallel to the HP and inclined at an angle of $35^{\circ}$ to the VP. The end P is 20 mm above the HP and 15 mm in front of the VP. Draw its projections.
(15) A line PQ of length 40 mm is parallel to the VP and inclined at an angle of $30^{\circ}$ to the HP . The end P is 15 mm above the HP and 20 mm in front of the VP. Draw its projections.
(16) A line PQ of length 40 mm is inclined to both the VP and the HP . The Line is inclined at $30^{\circ}$ to HP and $45^{\circ}$ to VP. The Point $P$ is 20 mm above HP and 30 mm in front of VP. Draw its projections.
(17) A line AB 100 mm has its mid-point ' m ' 45 mm above the HP and 55 mm in front of the VP. It is inclined at $35^{\circ}$ to the HP and $45^{\circ}$ to the VP. Draw its projections.
(18)Line AB 75 mm long makes $45^{0}$ inclinations with VP while its FV makes $55^{\circ}$. End A is 10 mm above HP and 15 mm in front of VP. If line is in 1st quadrant draw its projections and find it's inclination with Hp.
(19) FV of line AB is $50^{\circ}$ inclined to xy and measures 55 mm long while its TV is $60^{\circ}$ inclined to xy line. If end A is 10 mm above HP and 15 mm in front of VP, draw its projections, find TL, inclinations of line with HP \& VP.
(20) Line AB is 75 mm long .It's FV and TV measure $50 \mathrm{~mm} \& 60 \mathrm{~mm}$ long respectively. End A is 10 mm above HP and 15 mm in front of VP. Draw projections of line $A B$ if end $B$ is in first quadrant. Find angle with HP and VP.
(21) T.V. of a 75 mm long Line CD, measures 50 mm . End C is in HP and 50 mm in front of VP. End D is 15 mm in front of VP and it is above Hp. Draw projections of CD and finds angles with HP and VP
(22) A line AB 75 mm has its end a 10 mm above the HP and 15 mm in front of the VP. It is inclined at $35^{\circ}$ to the HP and $45^{\circ}$ to the VP. Draw its PP projections.
(23) A line CD , inclined at $25^{\circ}$ to the HP , measures 80 mm in top view. The end C is in the first quadrant and 25 mm and 15 mm from the HP and the VP respectively. The end D is at equal distance from the both the reference planes. Draw the PP projections, fine true length and true inclination with the VP.
(24) A line PQ has its end $\mathrm{P}, 10 \mathrm{~mm}$ above the HP and 20 mm in front of the VP. The end Q is 85 mm in front of the VP. The front view of the line measures 75 mm . the distance between the end projectors is 50 mm . Draw the projections of the line and find its true length and its true inclinations with the VP and HP.
(25) A line PF, 65 mm has its end $\mathrm{P}, 15 \mathrm{~mm}$ above the HP and 15 mm in front of the VP. It is inclined at $55^{0}$ to the VP. Draw its PP projections.
(26) The front view of line inclined at $30^{\circ}$ to V.P is 65 mm long. Draw the PP projections of a line, when it is parallel to and 40 mm above H.P. and one end being 20 mm in front of V.P.
(27) A Line AB 25 mm is parallel to the VP and perpendicular to the HP. Point $A$ is 35 mm above the HP and 20 mm in front of the VP. B is 10 mm above the HP. draw its PP projections.
(28) A line PQ of length 40 mm is parallel to the HP and inclined at an angle of $35^{\circ}$ to the VP. The end P is 20 mm above the HP and 15 mm in front of the VP. Draw its PP projections.
(29) A line PQ of length 40 mm is parallel to the HP and inclined at an angle of $35^{\circ}$ to the VP. The end P is 20 mm above the HP and 15 mm in front of the VP. Draw its PP projections.
(30) ) Line AB is 75 mm long . It's FV and TV measure $50 \mathrm{~mm} \& 60 \mathrm{~mm}$ long respectively. End A is 10 mm above HP and 15 mm in front of VP. Draw PP projections of line $A B$ if end $B$ is in first quadrant. Find angle with HP and VP.
(31) T.V. of a 75 mm long Line CD, measures 50 mm . End C is in HP and 50 mm in front of VP. End D is 15 mm in front of VP and it is above Hp. Draw PP projections of CD and finds angles with HP and VP.
(32) A line CD , inclined at $25^{\circ}$ to the HP , measures 80 mm in top view. The end C is in the first quadrant and 25 mm and 15 mm from the HP and the VP respectively. The end D is at equal distance from the both the reference planes. Draw the PP projections, fine true length and true inclination with the VP.

