Draw projection of lines

1. Draw projection of a line AB of 200 mm length which makes 45\* to Horizontal plane. Point A is 40 mm above HP and 30 mm in front of VP
2. Draw projection of a line AB of 200 mm length which makes 30\* to vertical plane. Point A is 40 mm above HP and 30 mm in front of VP
3. Draw projection of a line AB of 200 mm length which makes 45\* to Horizontal plane and 30\* to vertical plane. Point A is 40 mm above HP and 30 mm in front of VP

Step 1

Set the screen in mm with 420,297 as upper right corner measurement. Zoom -Auto should be ON along with ORTHO and OSNAP.

Step 2

Set the Dimensioning style.

Choose Dimstyle, go to Modify and click. Choose Symbol and Arrow. Because we are in mm, increase the Arrow size to 7. Go to Text and change the Text height to 7, Text Placement in Vertical as above, Offset from dim line to 3.0, and then Text alignment as Aligned with dimension line (in line with IS specification).

Step 3

Drawing 1

Draw XY line.

Point a’ is 40 mm above XY line. Use Line command and draw a’b’ of 200 mm length at an angle of 45\* as Front view.

Draw projector lines from a’ and b’ to get ab as Top view of ab.

Step 4

Drawing 2

Draw XY line.

Point a is 30 mm below XY line. Use Line command and draw ab of 200 mm length at an angle of 30\* as Top view.

Draw projector lines from a and b’ to get ab as Top view of a’b’.

Step 5

Drawing 3

Draw XY line.

Point a’ is 40 mm above XY line. Use Line command and draw a’b1’ of 200 mm length at an angle of 45\* as Front view.

Draw projector lines from a’ and b1’ to get ab1 as Top view of a’b1’.

Point a is 30 mm below XY line. Use Line command and draw ab2 of 200 mm length at an angle of 30\* as Top view.

Draw projector lines from a and b2 to get a’b2’ as Top view of ab2.

Draw Locus lines OP through b1’ and another Locus lines QR through b.

Draw an arc with center as a’ and a’b2’ as radius to cut the arc with Locus line OP at b’.

Draw another arc with center as a and ab1 as radius to cut the arc with Locus line QR at b.

Join a’b’ and ab to get the Front view and Top view of the line AB.

Line a’b’ and ab make an apparent angle of 55\* and 45\*.