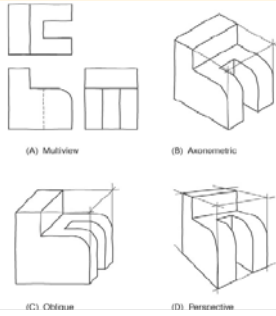


SESSION 4 FREEHAND SKETCHING

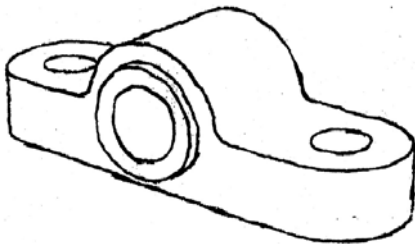


- ✳ To express the original ideas/designs on a clear sketch
- ✳ To clarify and record the verbal expression in form of sketch


Types of projections





Sketch of bearing support




Sketching of a horizontal line

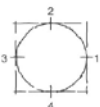

Yes


No!


No!


No!


Methods of sketching a circle



(A)


- Sketch lightly enclosing square
- Mark the mid-point on each side
- Draw arcs tangent to the sides, and heavy in the final circle

$\frac{1}{\sqrt{2}} = 0.7$ $\frac{2}{3} = 0.67$



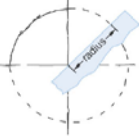
(B)

- Sketch lightly enclosing square
- Mark the mid-point on each side and draw diagonals
- Sketch light arcs and heavy in the final circle



(C)

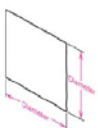
- Sketch two center lines & 45° radial lines
- Sketch light arcs at the estimated radius from center
- Sketch the circle heavily



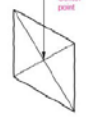
(D)

- Prepare a trammel on a paper
- Move it to different positions and mark points
- Sketch the circle heavily

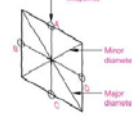
How to draw an isometric ellipse



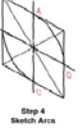
Step 1
Isometric Square



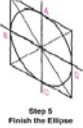
Step 2
Sketch Diagonals



Step 3
Locate Midpoints

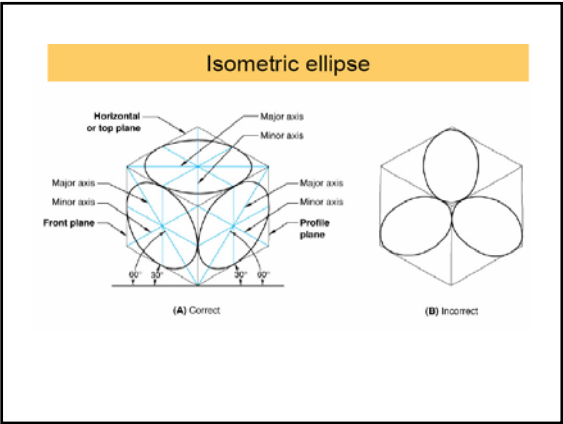


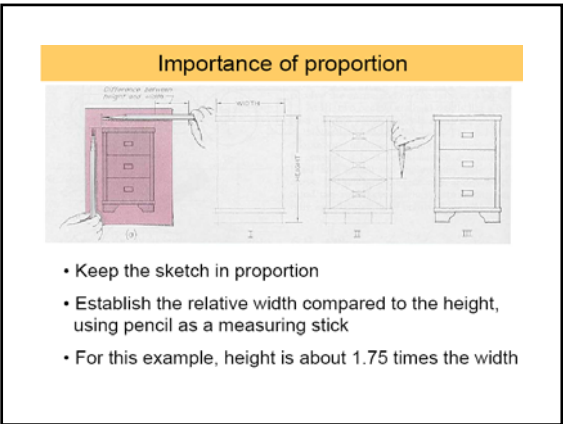
Step 4
Sketch Arcs

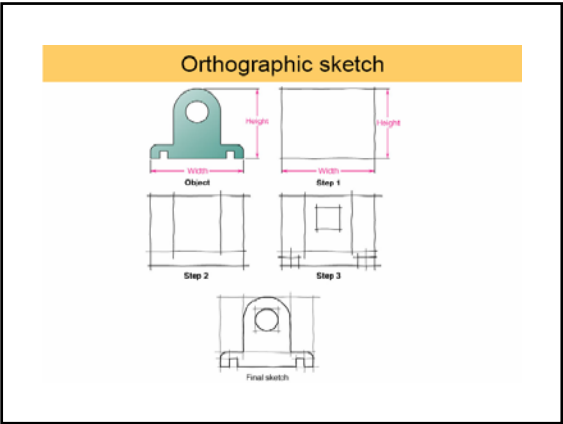


Step 5
Finish the Ellipse

Ellipse is oriented along the major axis (longer diagonal).







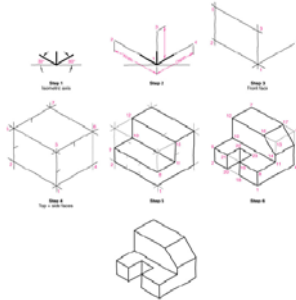
Isometric Sketch

Isometric axes:

1 vertical +
2 inclined axes
oriented at 30°
with the
horizontal line



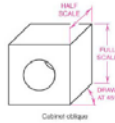
ISOMETRIC
Angles X, Y, and Z are equal
Corners 90°, 120°, and 120° are equal
in length



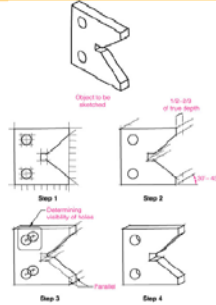
Oblique Sketch

Oblique axes:

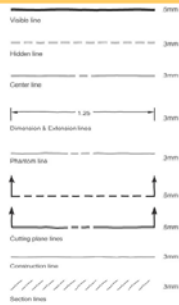
1 vertical +
1 horizontal +
1 inclined axes
oriented at
 30° , 45° , or 60°
with the
horizontal line



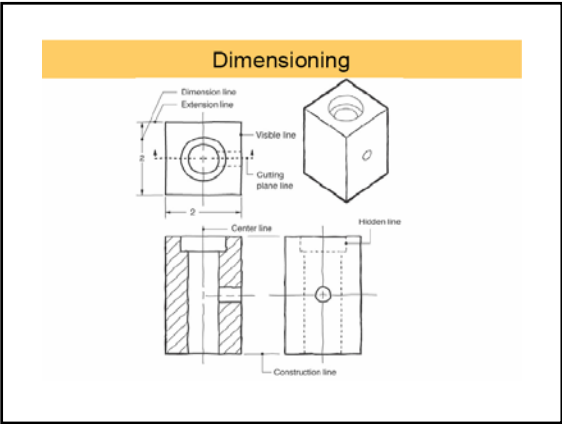
Current ellipses



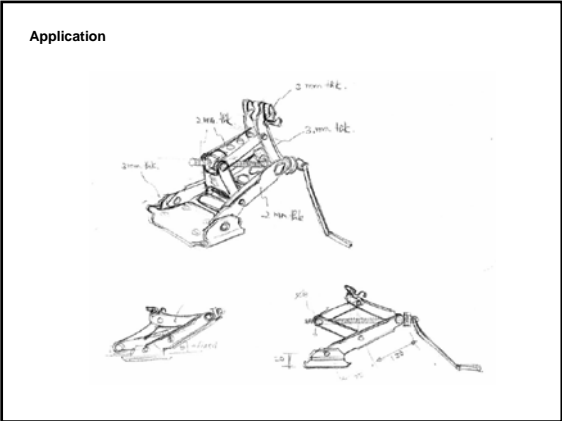
Sketch of lines

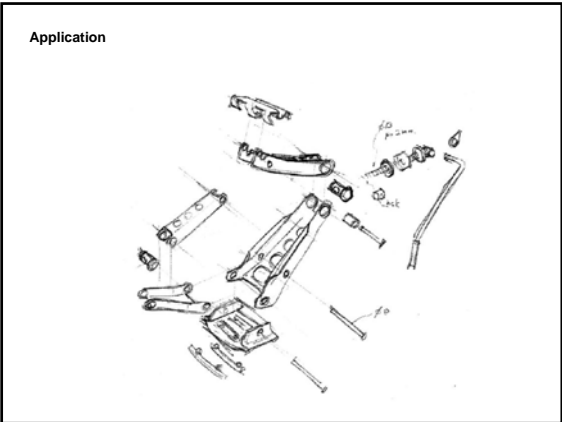


Dimensioning

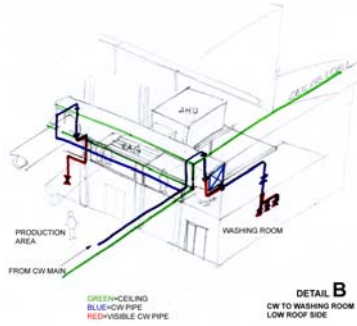
[illegible]

Application

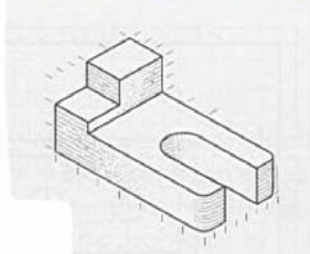


[illegible]

Application



Exercise 1: Draw multiview sketch (Front, Top, Right side views)



Exercise 2: Draw an isometric sketch

