



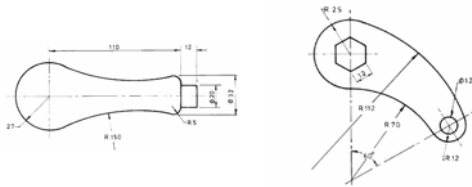
ME111 ENGINEERING GRAPHICS

SESSION 2: GEOMETRIC CONSTRUCTION

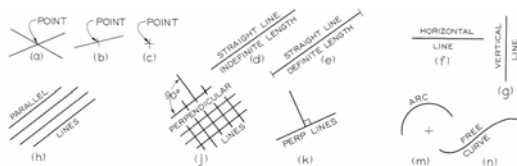
Dr.-Ing. Thira Jearsiripongkul
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Aims

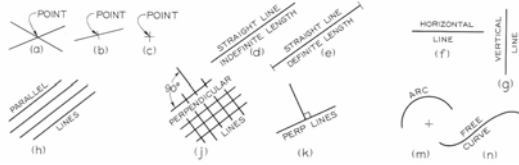
- Know geometry
- Draw lines and arcs
- Draw polygons
- Draw tangential arcs



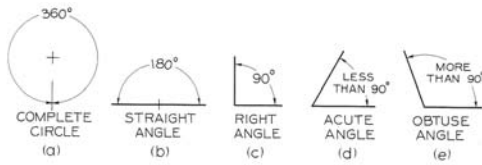
Glossary



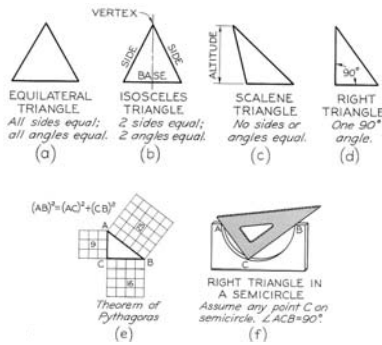
Glossary



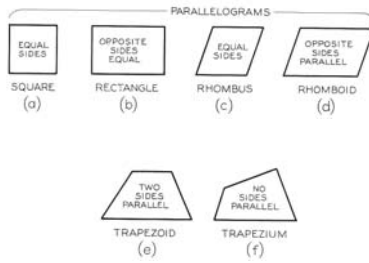
Angle



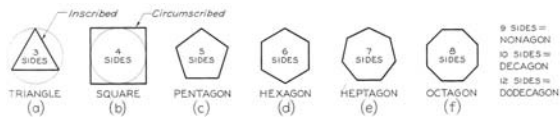
Triangles



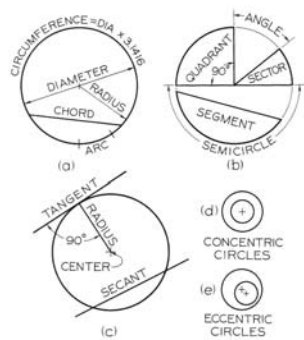
Quadrilaterals



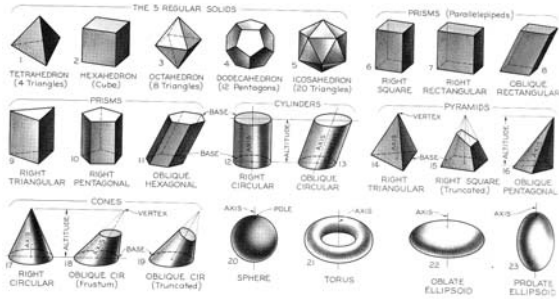
Polygons



Circle

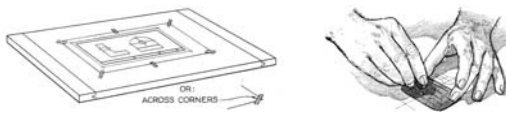


Solids



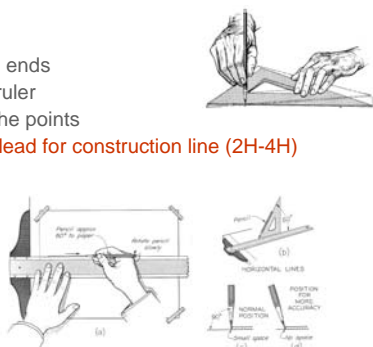
Preparation

- HB and 2H pencils (and sharpener)
- Eraser (and erasing shield)
- Protractor, 45deg and 30X60deg-squares
- Compass
- Masking tape
- Calculator



Draw a line

- Mark both ends
- Align the ruler
- Connect the points
- Use hard lead for construction line (2H-4H)



Draw an arc

- Mark the center, the beginning and end points
- Set the compass to the required radius
- Connect the points
- Use hard lead for construction line (2H-4H)
- Compass lead should be softer than the pencil. (B or 2B)



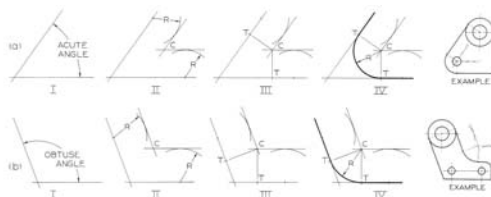
Draw tangential arcs

- Locate the center
- Set the compass to the required radius
- Draw the arc
- Use hard lead for construction line (2H-4H)
- Compass lead should be softer than the pencil. (B or 2B)



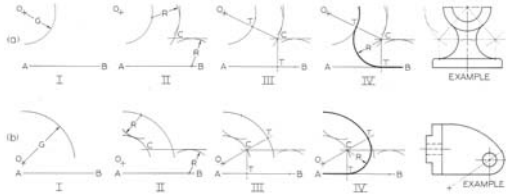
Locate the center

- To draw arc of radius **R** joining two line
- The center is at the distance **R** from both lines



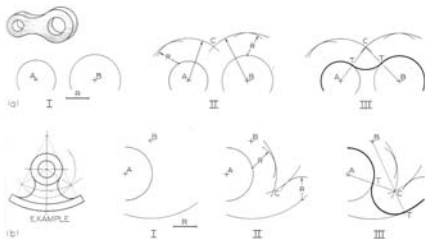
Locate the center

- To draw arc of radius **R** joining an arc and a line
- The center is at the distance **R** from both objects



Locate the center

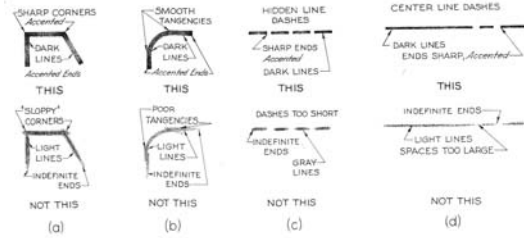
- To draw arc of radius **R** joining two arcs
- The center is at the distance **R** from both arcs



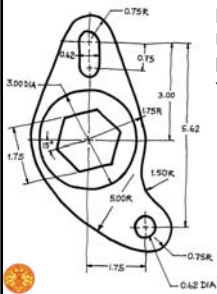
Other topics...

- Bisect a line
- Bisect an angle
- Divide a line
- Draw a polygon
- And more..
- Read [lec02.pdf](#)

This, not this



Tomorrow (28/06/06)



Draw frame and title block with HB pencil.
 Draft the construction lines with 2H pencil.
 Do not erase the construction line.
 Use HB pencil for the actual lines.
 Keep it clean and accurate.
 You may need a calculator.
