**Fundamentals of Engineering Drawing**

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**Parts & Assemblies**

- Base Plate
- Roller
- Clamp
- Support Bar
- Assembly of Parts in Various Views

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**Computer Aided Design & Drafting (CADD)**

SolidWorks software and an example part.
The 3-axes appear equally foreshortened and the angle between any two of them is 120 degrees.

One axis has a different scale than the other two axes in the drawing.

The 3-axes are at arbitrary angles.
Parts for Lathe and Mill Exercise...

Aluminum Part Made on Lathe

Steel Miter-Tea Clamp Made on Mill

Lathe Part Drawing...

Mill Part Drawing...
Drawing Concepts – Line Types...

Example of Drawing Lines...

Dimension Arrowhead Styles...
Example...

Angles and Triangles

Parallelograms...
Example...

Part Features

Chamfer, Fillets and Round...
Dimensioning

Correct Dimensioning Methods...

Dimensioning Nomenclature...
Holes

Plate Drill & Tap Exercise...

Hole Patterns...
For the shaft, maximum material is the largest diameter allowed.

For the hole, maximum material is the smallest hole allowed.
Summary

- Computer Aided Design and Drafting (CADD)
- Parts & assemblies
- Drawing projections, views, sections and details.
- Geometry:
  - Angles and triangle; parallelograms; arcs, radius and diameter; and tangents
- Part features:
  - Chamfers, rounds, fillets and grooves
- Tolerances