

Technical Graphics

Perspective / Oblique / Isometric
Sketching

3D Sketching

- Artistic
- Technical (Details / Lines)
- Pictorial
 - Primitives (Cylinders, Cones, Prisms, etc)
- Equipment

Practice

2D:

- Parallel / Perpendicular / Circle / Ellipse

3D:

- Cube / Angles / Cylinders / Cones / etc.

Combinations:

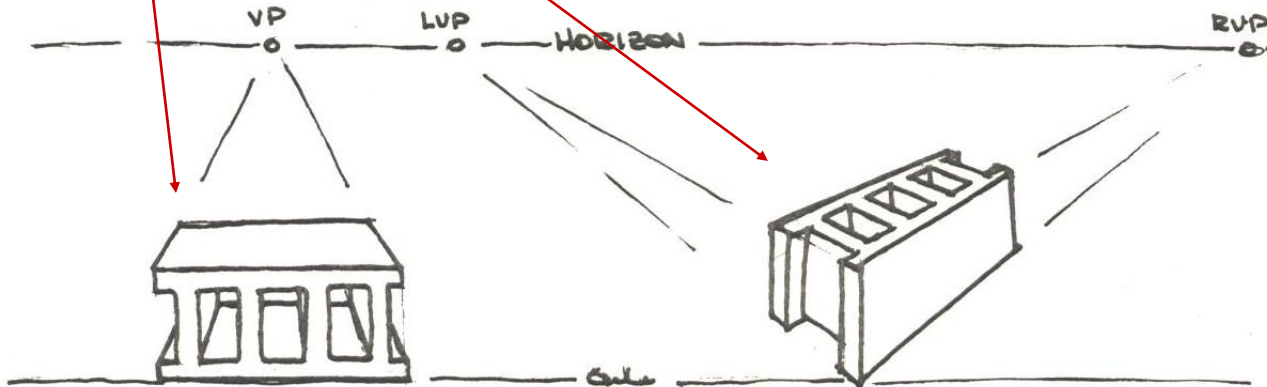
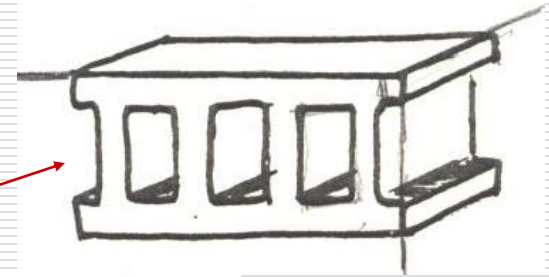
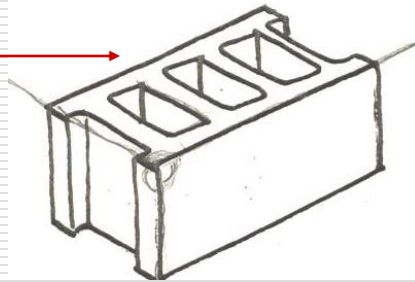
- 2D / 3D / Approximations

Evaluation Guidelines

- Procedure (construction)
- Proportions
- Detail
- Line Contrast and quality
 - light construction / dark object
 - single stroke / uniform
- Margins (use of paper)
- Appropriate Size and Balance

Typical 3D Drawings

- Isometric (170)
- Oblique
- Perspective



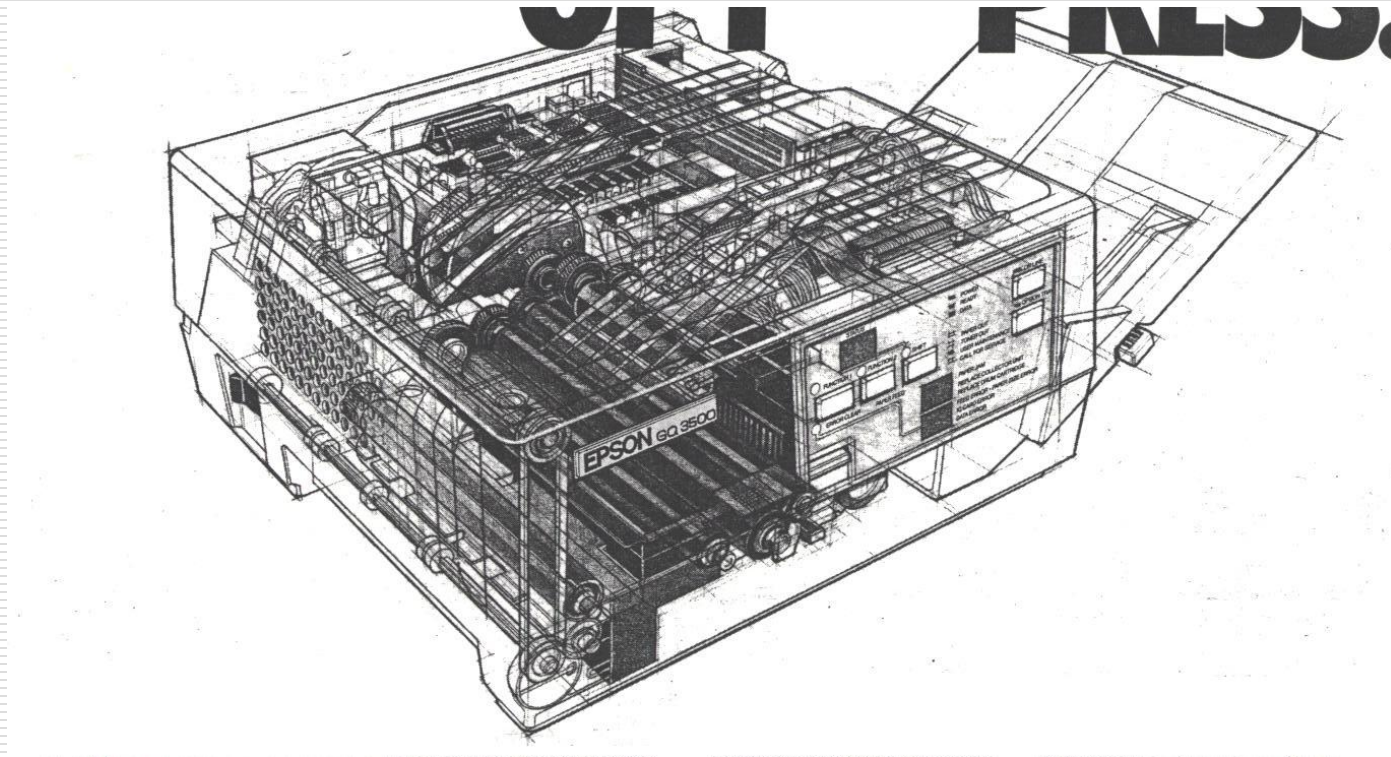
(c) ONE POINT PERSPECTIVE

(d) TWO POINT PERSPECTIVE

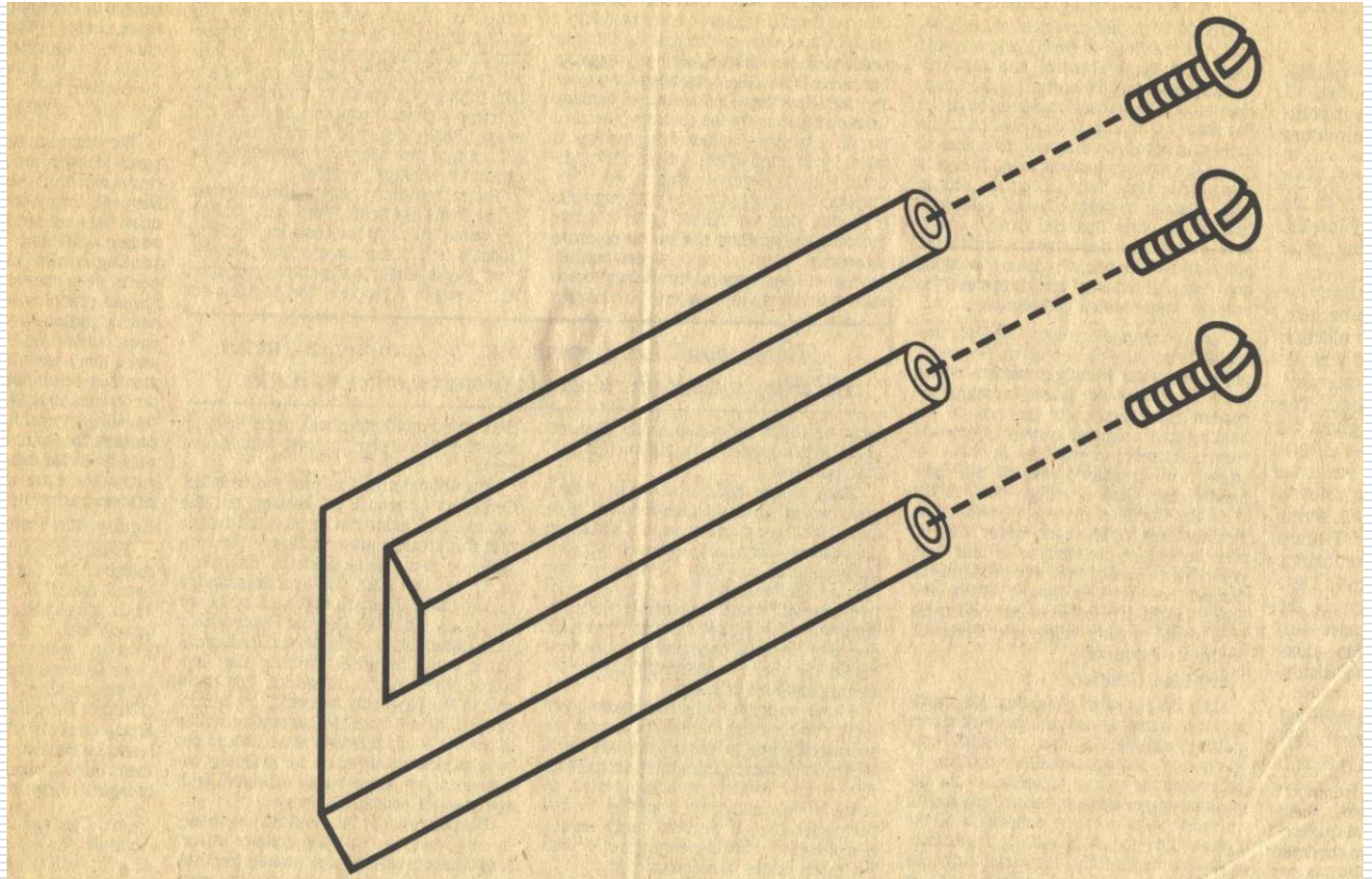
Example: Perspective



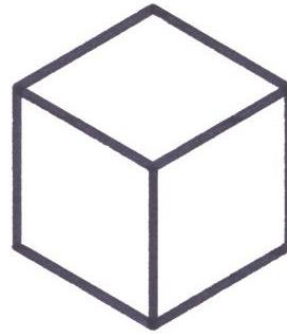
Example: Perspective



Example: ?

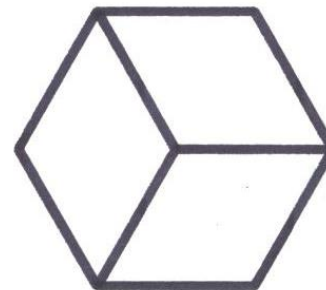
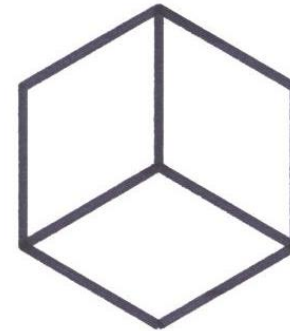


Isometric Axes



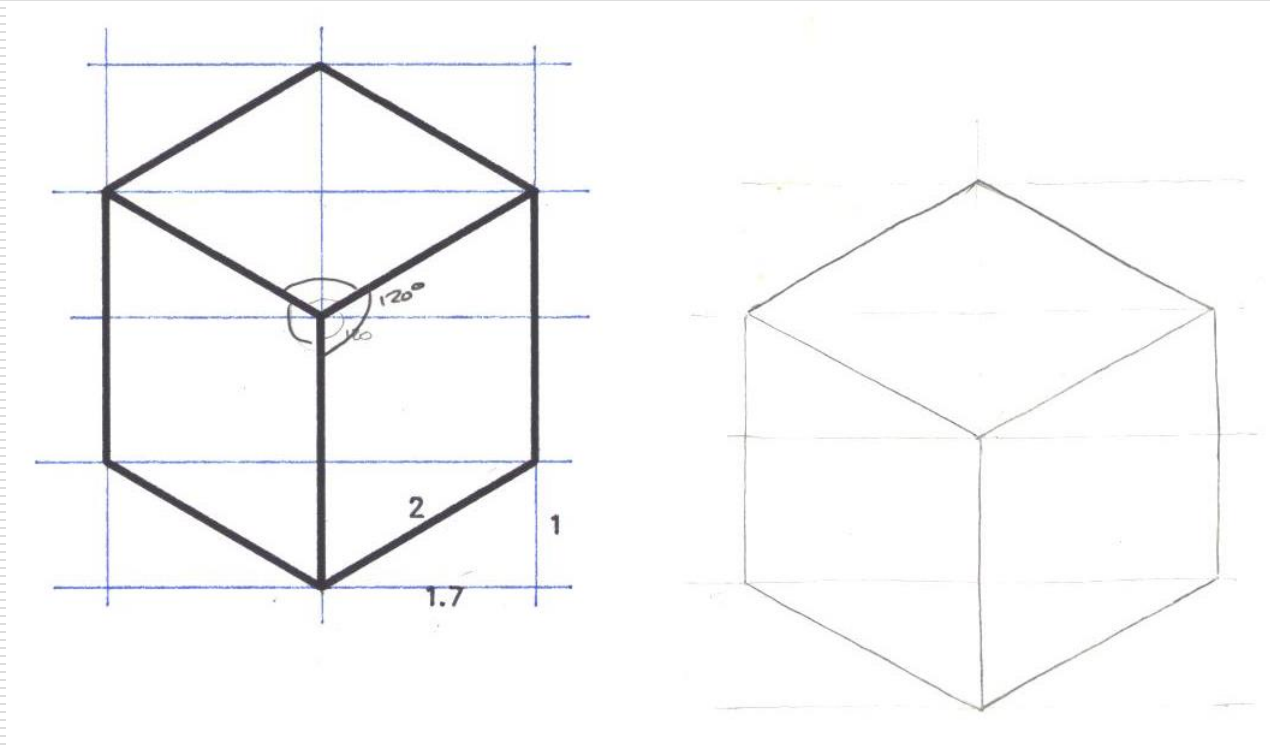
NORMAL POSITION

REVERSED POSITION

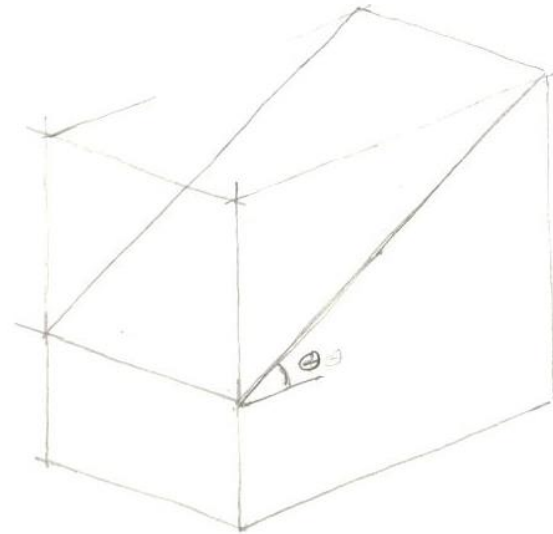
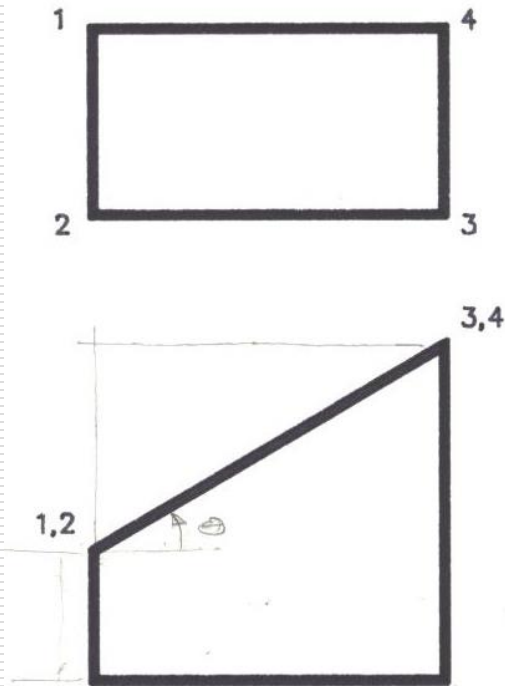


HORIZONTAL POSITION

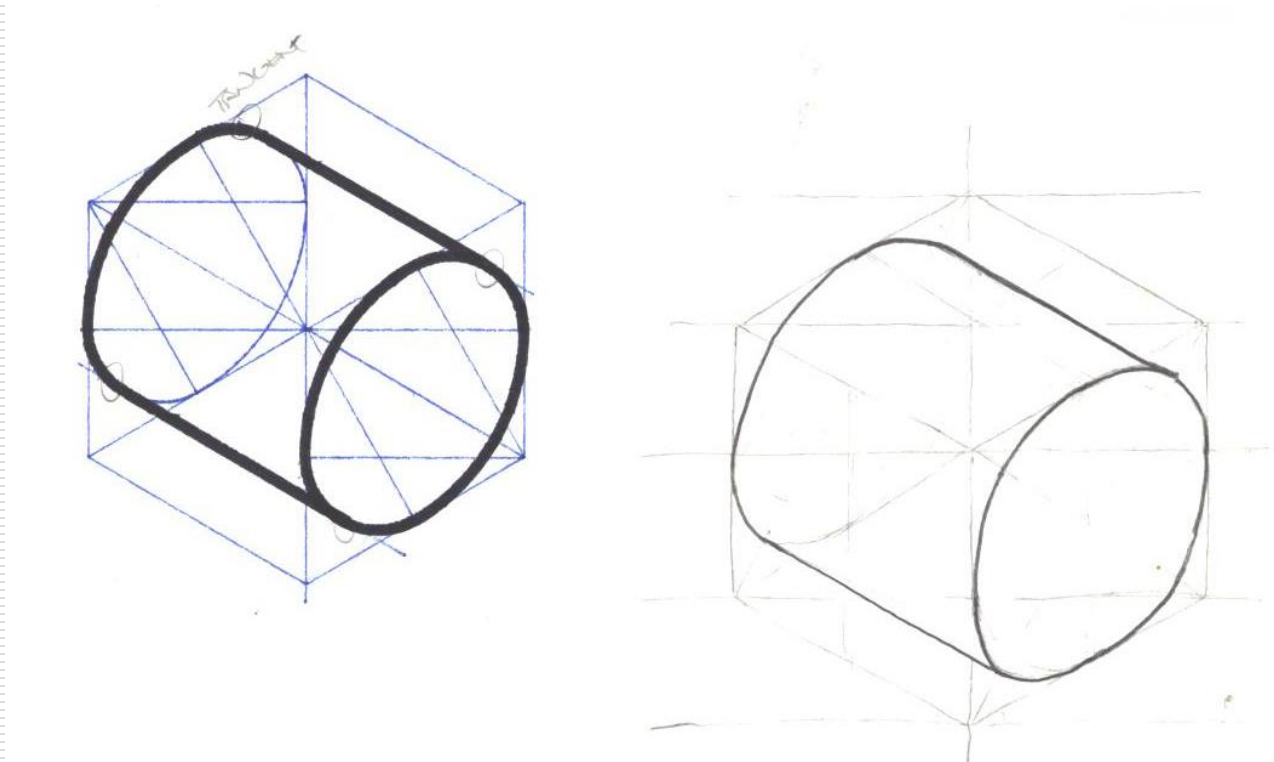
Isometric Cube Construction



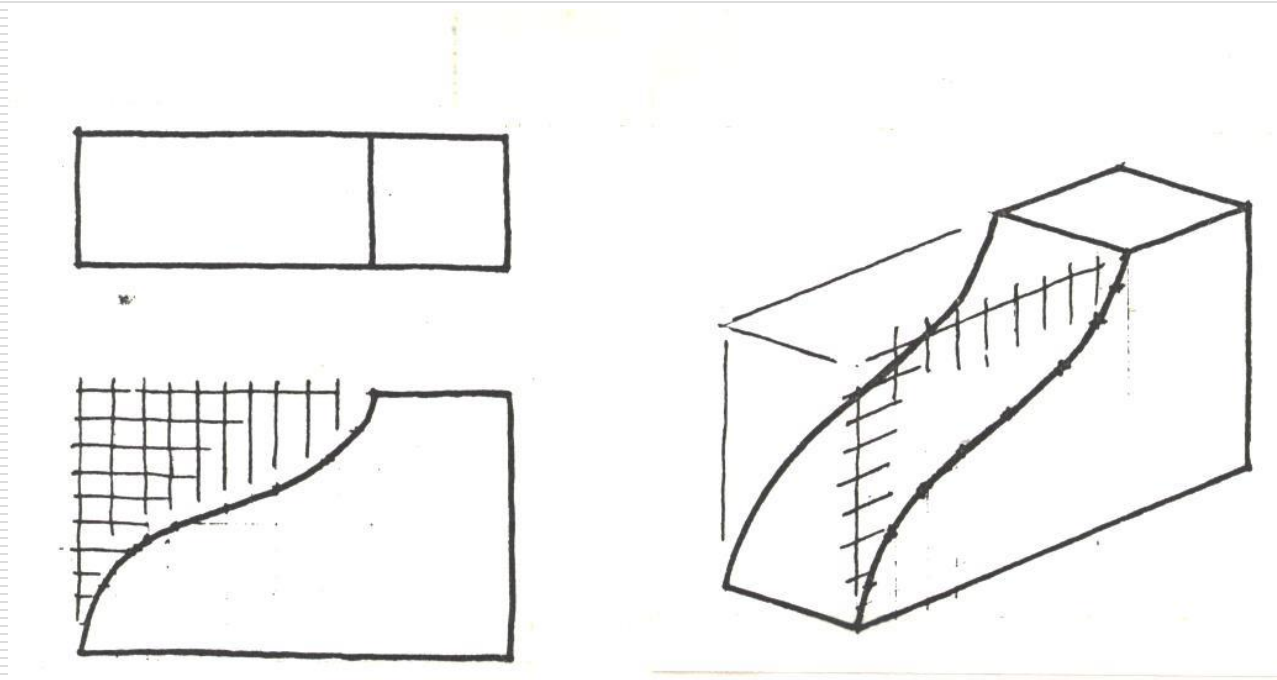
Isometric Angle Construction



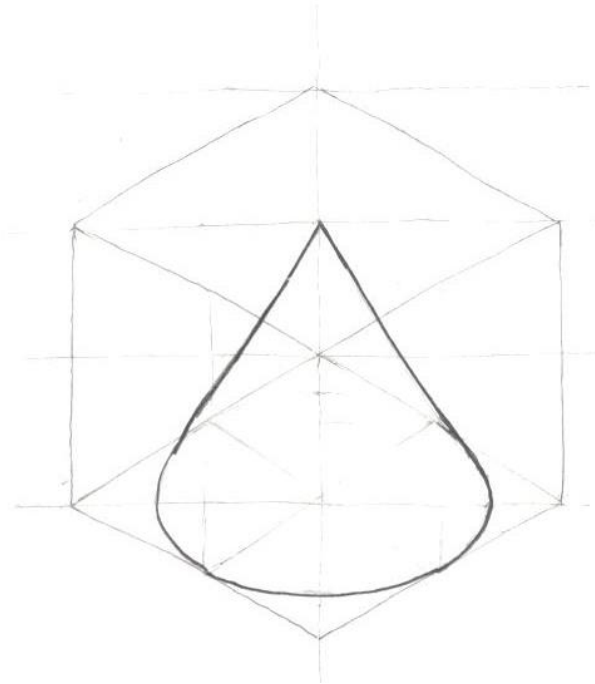
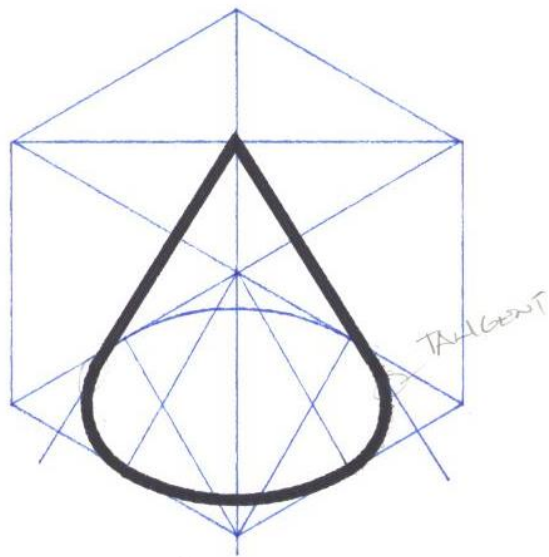
Isometric Cylinder Construction



Isometric: Irregular Construction

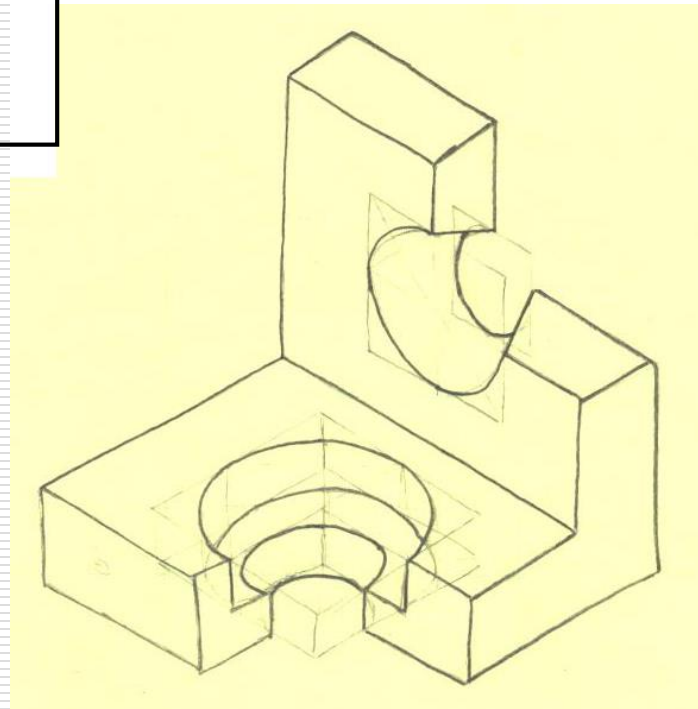


Isometric Cone Construction



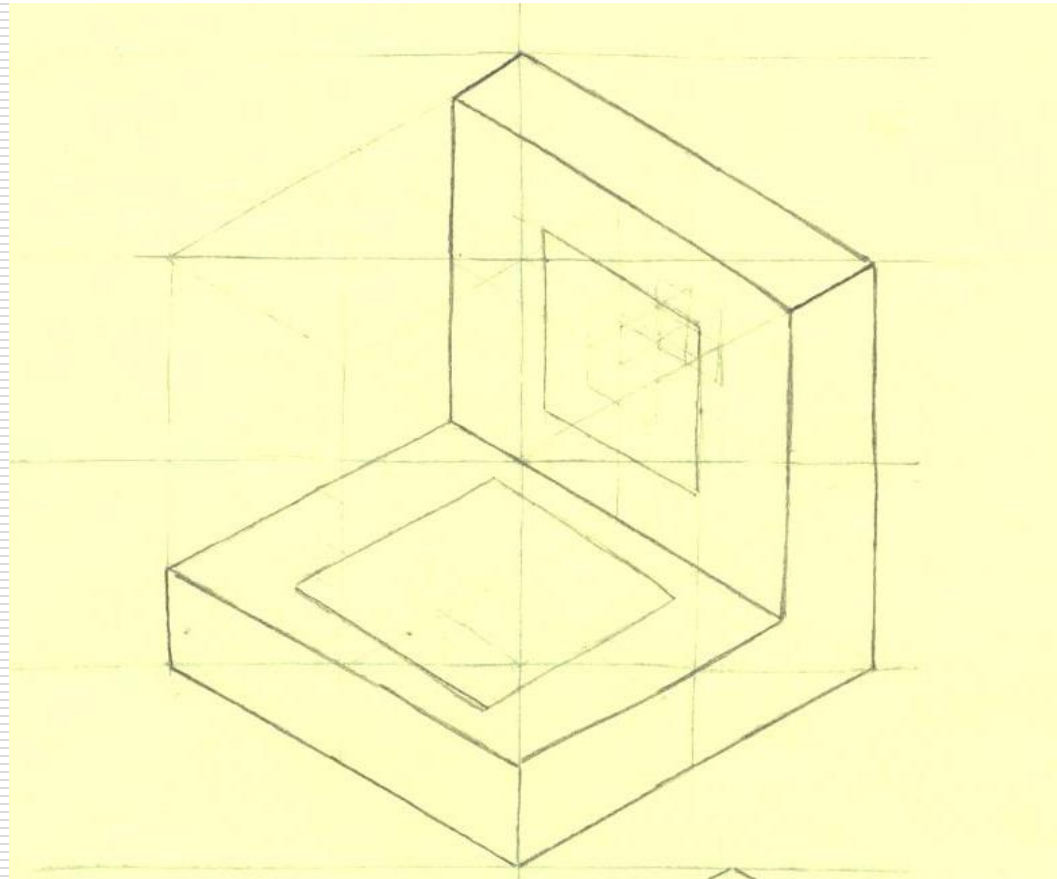
Isometric Sketch - Step 1

- Plan
- Orientation
- Size (Paper, etc)



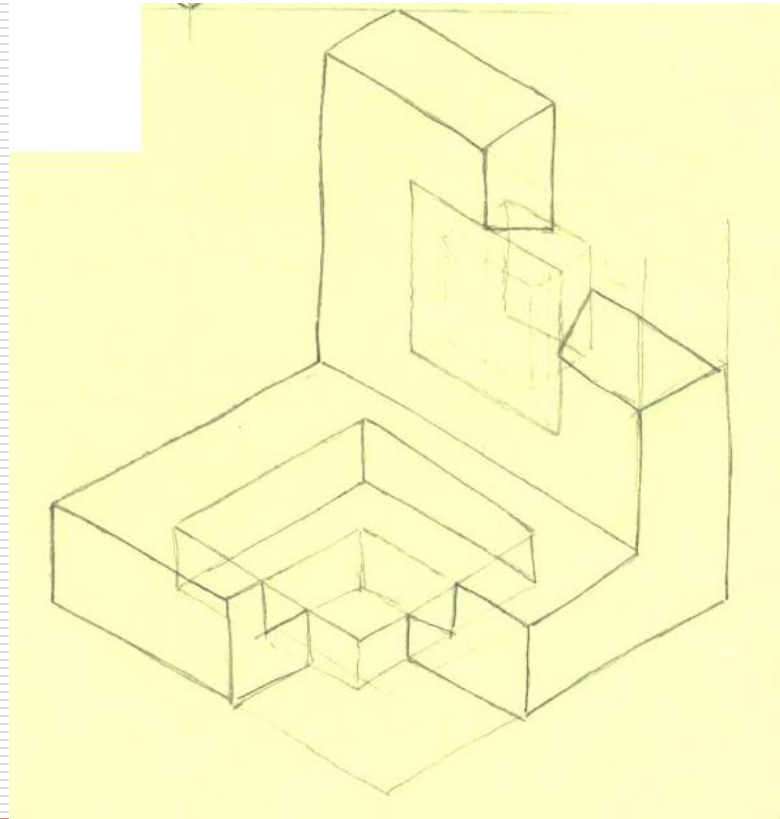
Isometric Sketch - Step 2

□ Outline



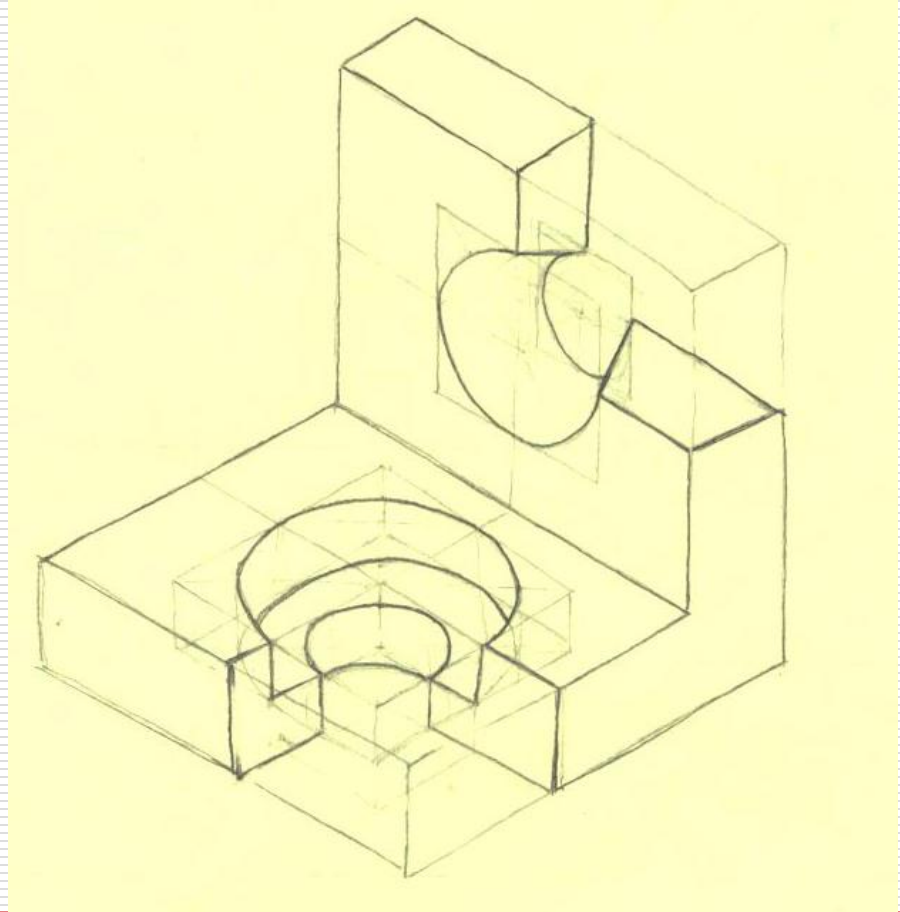
Isometric Sketch - Step 3

□ Develop



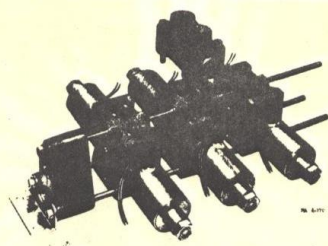
Isometric Sketch – Step 4

Complete

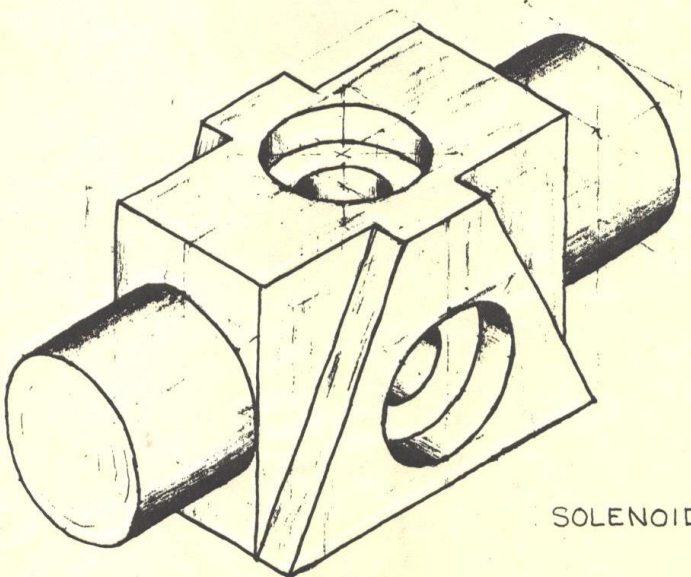
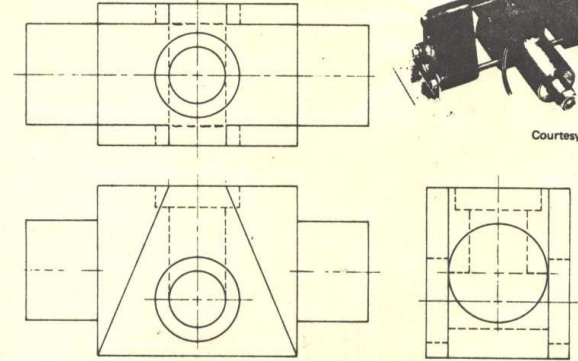


Isometric - Example

A. Make an isometric drawing (instruments) of the solenoid valve housing shown.
B. Make an isometric sketch of the solenoid valve housing shown.



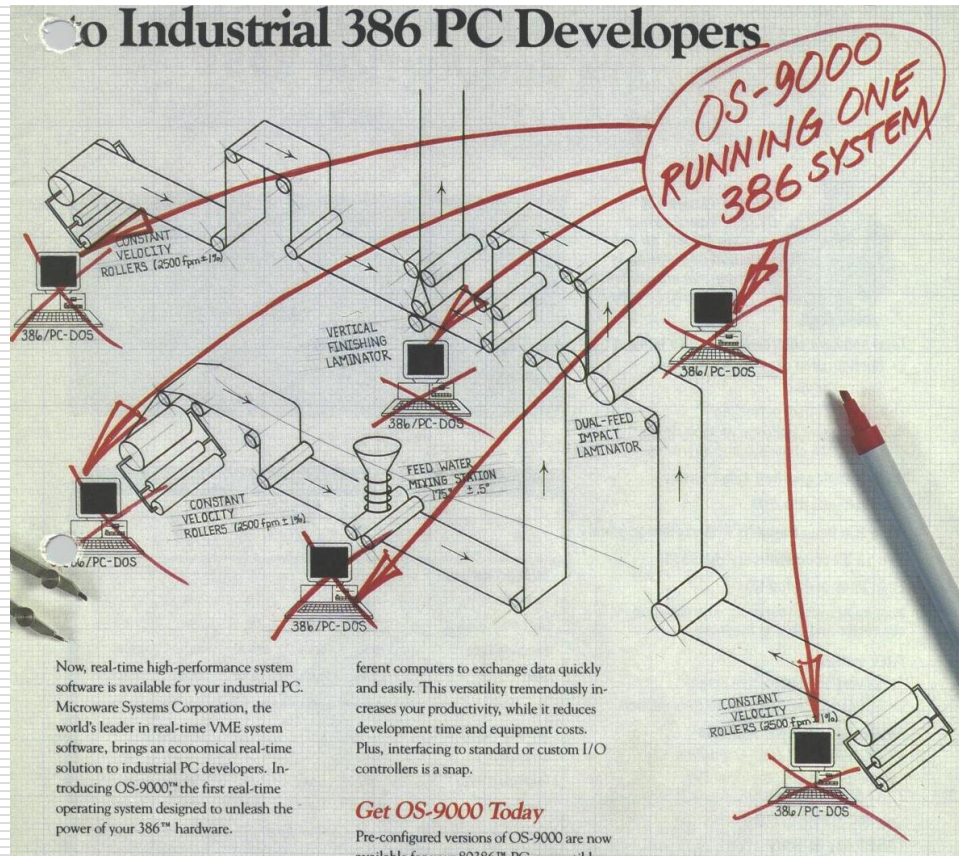
Courtesy of Fluid Power System



SOLENOID

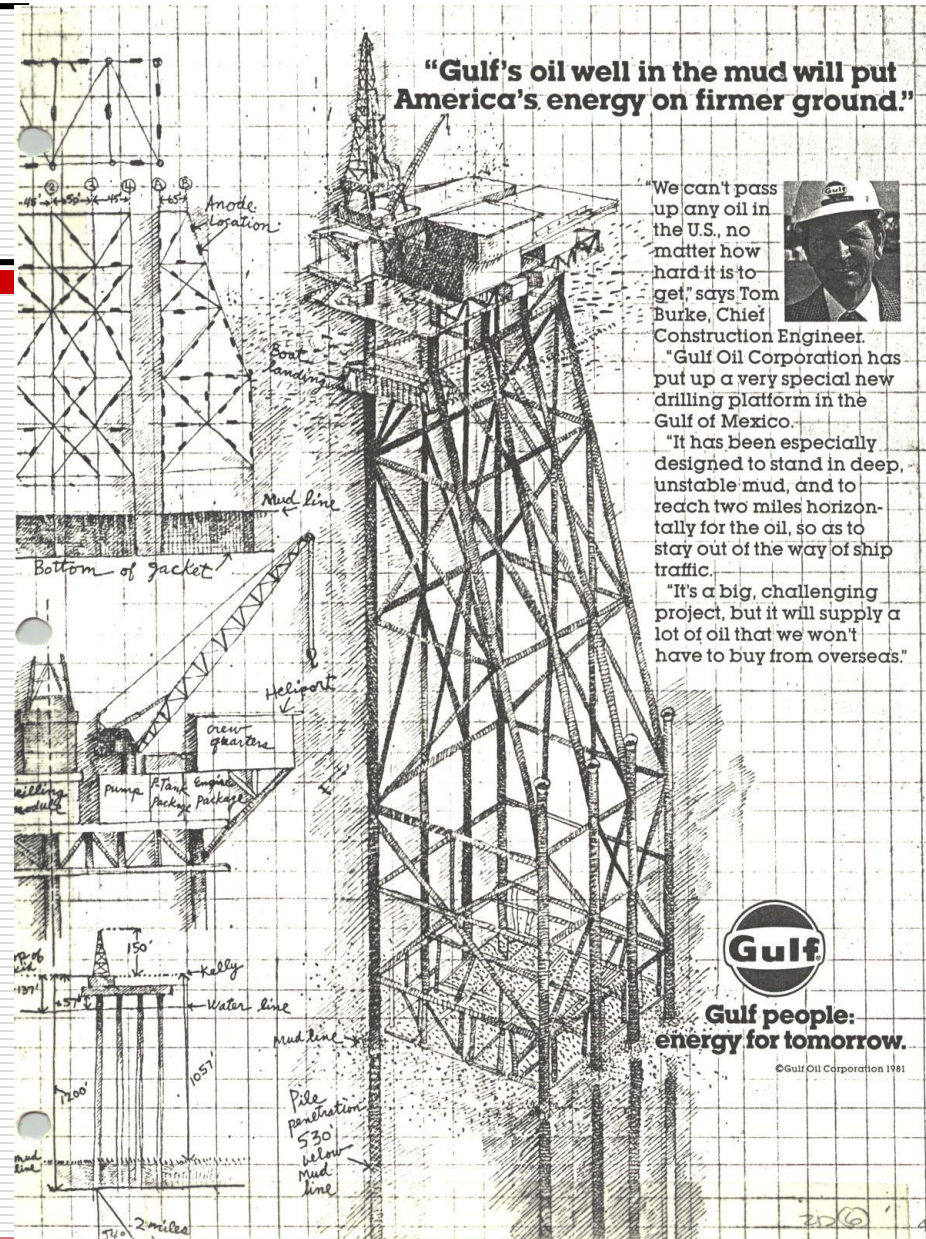
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DR. NO.:
GRADE:
DR. BY:
INSTRUCTOR:
DATE:
TABLE:
COURSE:
SECTION:

Isometric - Example



Isometric - Example

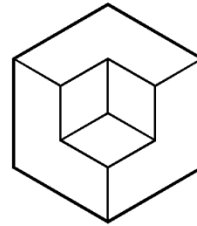
- Engineer?
- Draftsman?



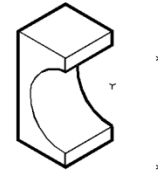
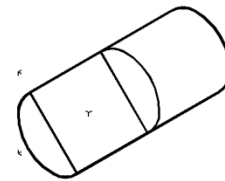
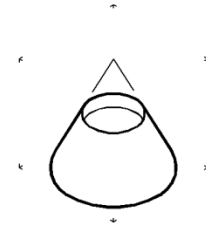
Gr1.9a

CONSTRUCT FREEHAND ISOMETRIC DRAWINGS AS INDICATED BY THE GIVEN PICTORIALS. CAREFULLY CONSTRUCT DETAIL.

1.



2.

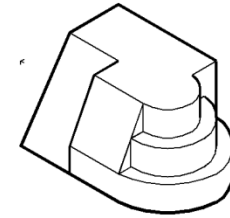
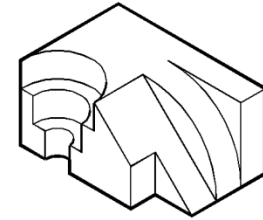


NOTES:

DATE:	SEC.:	TITLE: Isometric Sketching	PROB. 1.9a	GRADE
NO.:		INSTR.: jcs	DR. BY:	REV. NO.: 01-0818

Gr1.9b

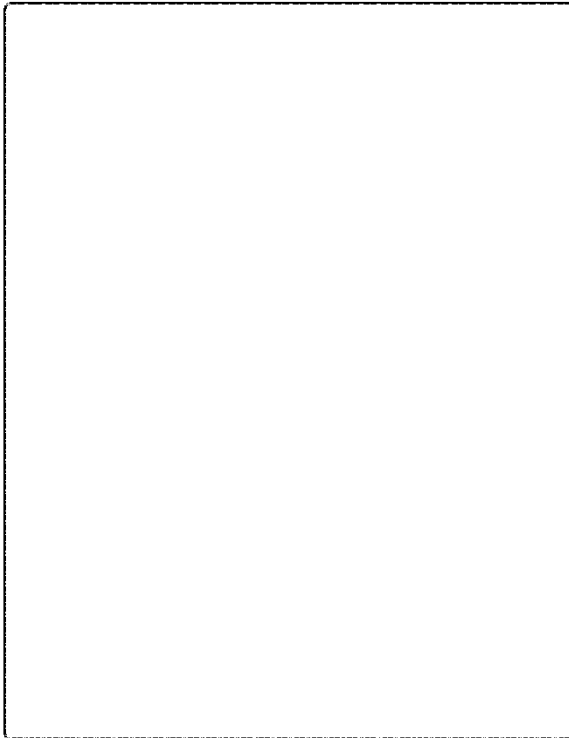
SKETCH ISOMETRIC DRAWINGS OF THE GIVEN OBJECTS.
CAREFULLY CONSTRUCT DETAIL. MAKE GOOD USE OF SPACE AVAILABLE.



NOTES:

DATE:	TITLE: Isometric Sketching	PROB. GRADE
NO.:	INSTR.: jcs	1.9b
SEC.:	DR. BY:	REV. NO.: 09-2010

ISOMETRIC GRID



NOTES:			
DATE:	TITLE: Sketch Layout	PROR:	GRADE
NO.:	SEC.:	INSTR.: jcs	DR. B#:
		REV. NO.:	REV. DATE:

COMBO GRID

NOTES:			
DATE:	TITLE: Sketch Layout	PROB.	GRADE
NO.:	INSTR.: jcs	DR. BY:	REV. NO.: 04885