

ENGR 111

Class 1.2c

Sketching, Lettering, and
Estimation

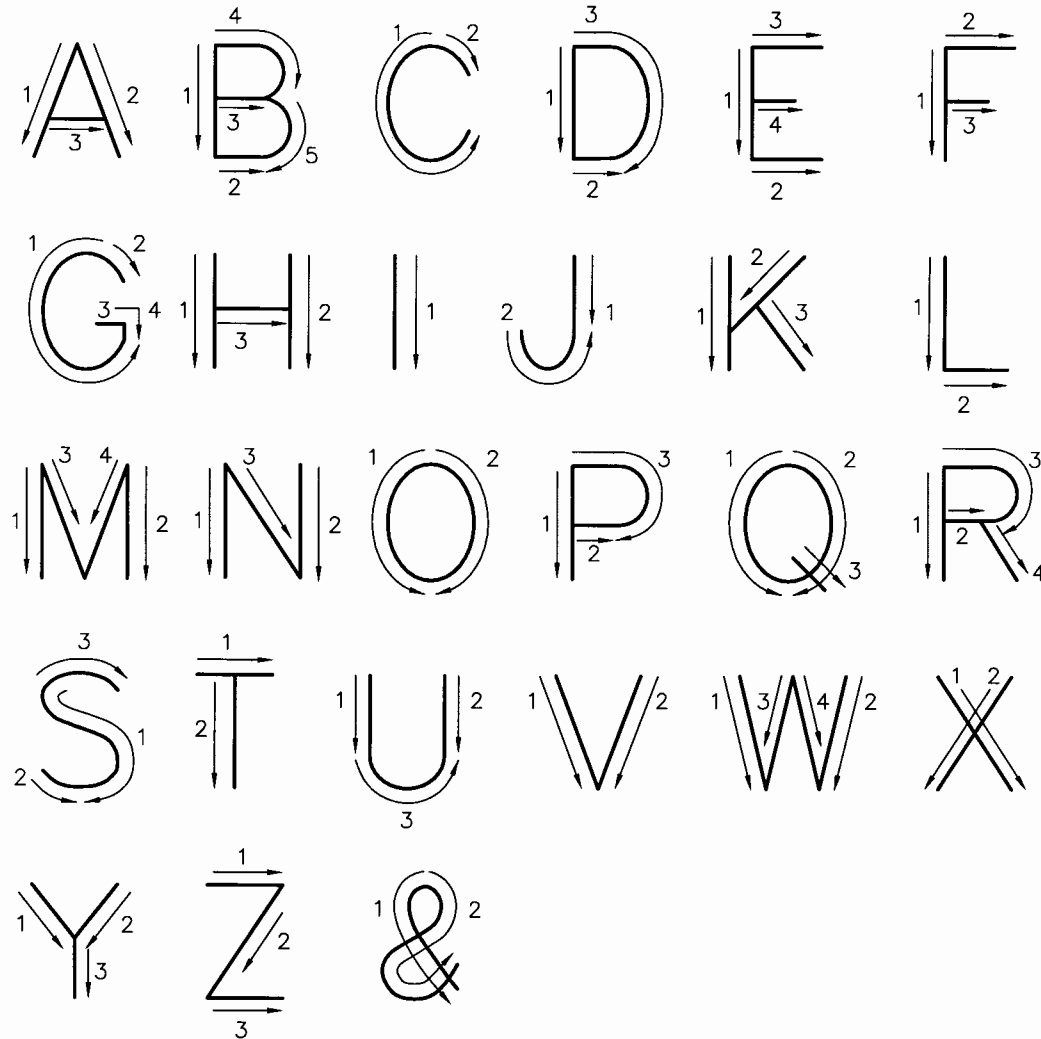
Lettering

- ◆ The style of engineering lettering we will use in this course is **Single Stroke Gothic Lettering**
- ◆ An example of the characters is shown in Figures 1.4, 1.6, and 1.7.
- ◆ Notice that only capital letters are demonstrated, since we will use only capital letters on drawings

Pencil Techniques

- ◆ The best pencil for lettering on most surfaces are the H, F, and HB grades.
- ◆ Mechanical pencils will give more consistent results than traditional wooden ones.
- ◆ If you use a wooden pencil, rotate it as you draw to keep the wear even on the point.

Single Stroke Gothic Lettering



Question

- ◆ Take 2 minutes and discuss as a team why it is called **Single Stroke Gothic Lettering**
- ◆ An alternative to Single Stroke is:

This is Fancy Lettering

Gothic

Goth-ic (g¹/₄th“¹k) *adj.* *Abbr.* **Goth.** **1.a.** Of or relating to the Goths or their language. **b.** Germanic; Teutonic. **2.** Of or relating to the Middle Ages; medieval. **3.a.** Of or relating to an architectural style prevalent in western Europe from the 12th through the 15th century and characterized by pointed arches, rib vaulting, and flying buttresses. **b.** Of or relating to an architectural style derived from medieval Gothic. **4.** Of or relating to painting, sculpture, or other art forms prevalent in northern Europe from the 12th through the 15th century. **5.** Often **gothic**. Of or relating to a style of fiction that emphasizes the grotesque, mysterious, and desolate. **6. gothic.** Barbarous; crude. --**Goth-ic** *n.* **1.** The extinct East Germanic language of the Goths. **2.** Gothic art or architecture. **3.** Often **gothic**.

Printing. **a.** See **black letter**.

b. See **sans serif**. **4.** A novel in a style emphasizing the grotesque, mysterious, and desolate. --**Goth“i-cal-ly** *adv.*

Single Stroke Gothic Lettering

- ◆ Created by Mr. C.W. Reinhardt
- ◆ First published in 1893 "Engineering News"
- ◆ Adopted as the ANSI Letter Form in 1935
- ◆ ANSI/ASME Standard Y14-1992 continued using Mr. Reinhardt's style as the modern day standard that we use in this course

Exercise 2.1.2

- ◆ Individually respond to the following question. You will be given 1 minute:

Define SKETCHING

- ◆ As a team prepare a one sentence definition of SKETCHING. You will be given 3 minutes to complete this assignment.

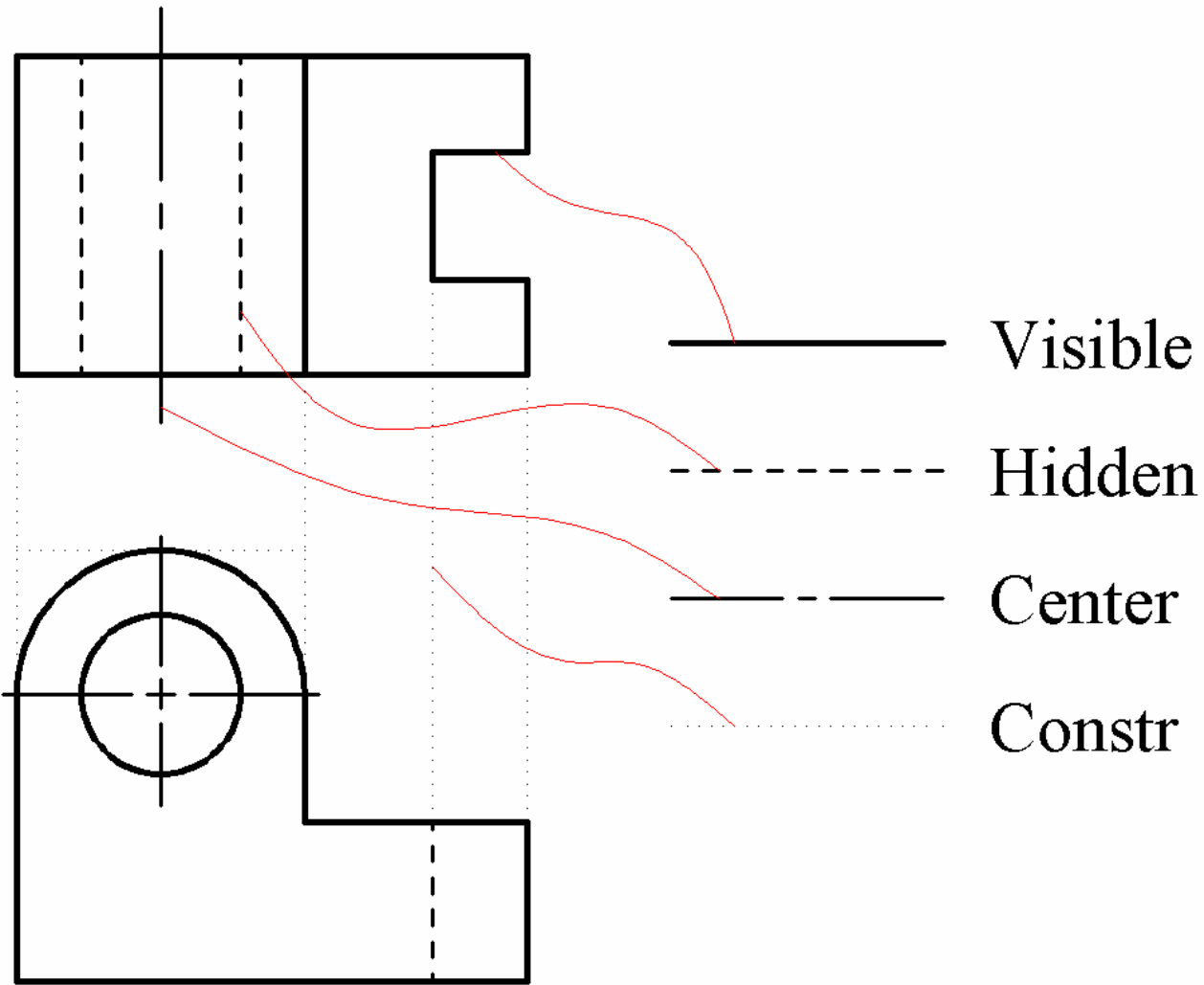
Sketching

- ◆ Sketching is a rapid, freehand method of drawing without the use of drawing instruments. Sketching is also a thinking process and a method of communication.

Sketching

- ◆ This is not artistic sketching, but technical sketching
- ◆ Emphasis will be on sketching geometric figures to represent features of objects
- ◆ Medium grade pencils work best for sketching
- ◆ All lines should be dark enough to stand out from the page

Alphabet of Lines

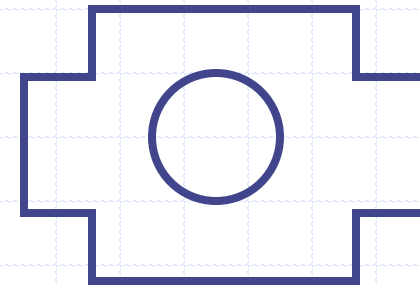
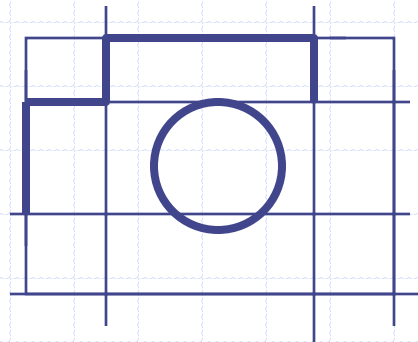
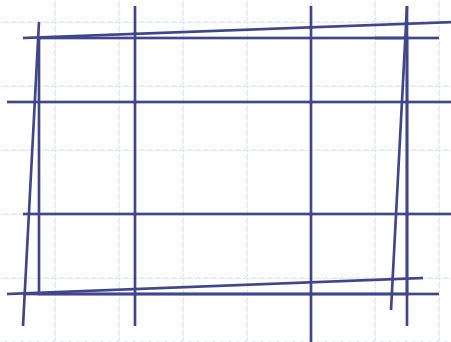


Sketching Techniques

- ◆ When sketching lines, keep your eye on the endpoint
- ◆ Make quick light strokes initially
- ◆ Darken only the lines you want

Sketching techniques

- ◆ Use very light construction lines
- ◆ “Box in” the rough outline of the object
- ◆ Darken only the lines you wish to keep
- ◆ Clean up the edges and rough spots



Estimations

- ◆ Even though engineers usually try for a high level of accuracy, there are times when only a close approximation is needed.
- ◆ Engineers are often expected to be able to make rough estimates of figures and use these for tentative decisions.
- ◆ These estimates may be in error by 10 to 20%.

Accuracy of Estimations

- ◆ The accuracy of these estimates depends on:
 - Available reference materials,
 - Time allotted for estimate,
 - Experience with similar problems.

Estimation Exercise

- ◆ Individually spend 2 minutes on the following:
 - Determine the annual revenue generated by PTTS from the fines paid by students that illegally park on the Texas A & M campus.
- ◆ Spend 3 minutes discussing the solution as a team

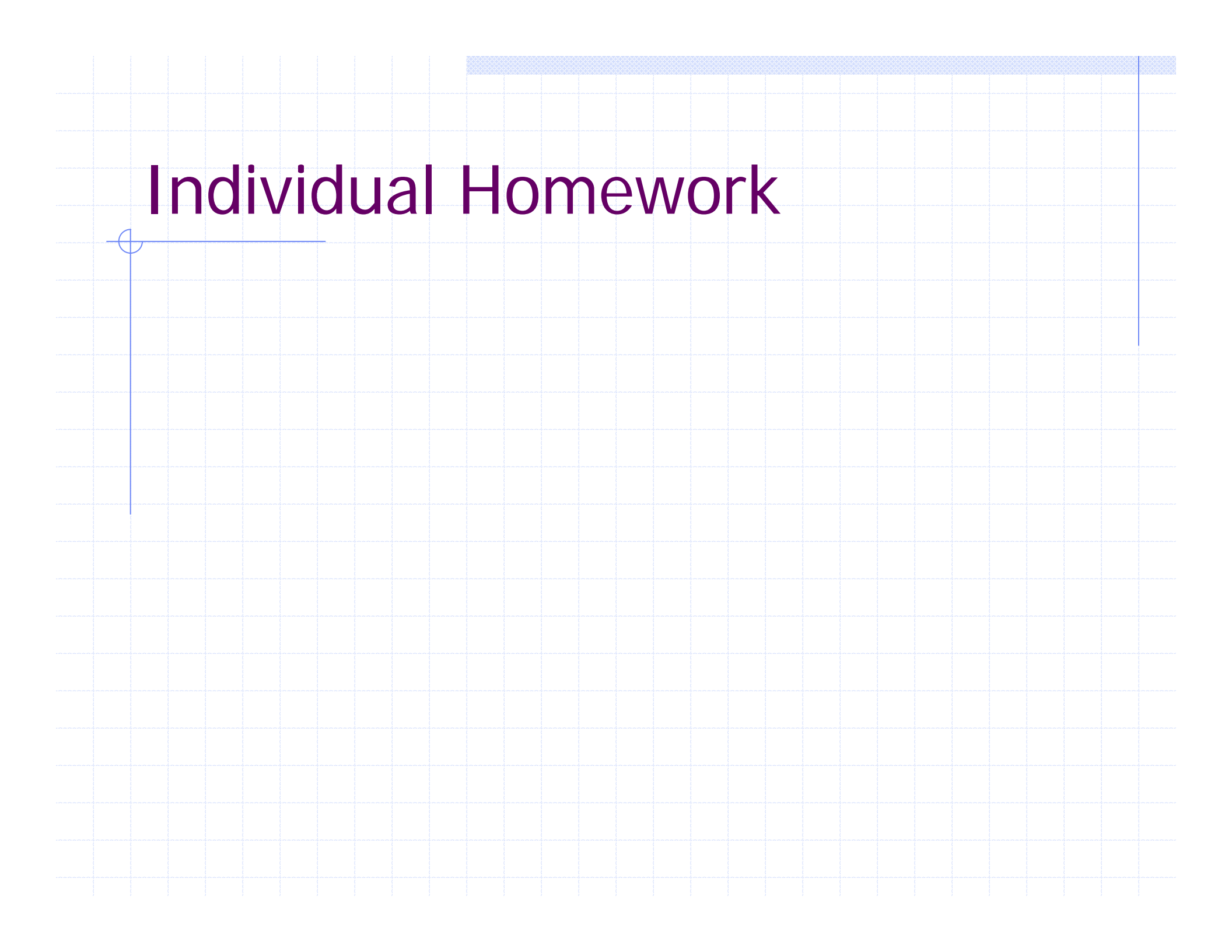
Pairs Exercise

◆ In your team, Front pair:

- Determine the maximum number of ping pong balls (not crushed) that could be stored in this classroom.

◆ In your team, Back Pair:

- Determine the volume of paint (gallons or liters) to apply one coat to all the painted walls in this classroom.



Individual Homework

