

Due on Sunday 4-1-1429 / 13-1-2008 (any time)

Deadline for submission: **Monday 5-1-1429 / 14-1-2008 (before you sit in class)**

- 1- The homogenous wire ABC , shown in Fig. P1, is bent and is attached to a hinge at C . Determine the required length L for which portion BC of the wire becomes **horizontal**. [Secs. 9.1- 9.3] (15 pts.)
- 2- Locate the **centroid** of the shaded area shown in Fig. P2. [Secs. 9.1- 9.3] (15 pts.)
- 3- Locate the **center of gravity** of the homogenous plate, with constant thickness t , shown in Fig. P3.
Hint: You can redraw the figure in a 2-D (x-y) view. [Secs. 9.1- 9.3] (20 pts.)
- 4- Locate the **center of gravity** of the homogenous sheet-metal shown in Fig.P4. [Secs. 9.1- 9.3] (20 pts.)
- 5- Locate the **centroid** of the shaded volume shown in Fig. P5. [Secs. 9.1- 9.3] (30 pts.)

Fig. P1

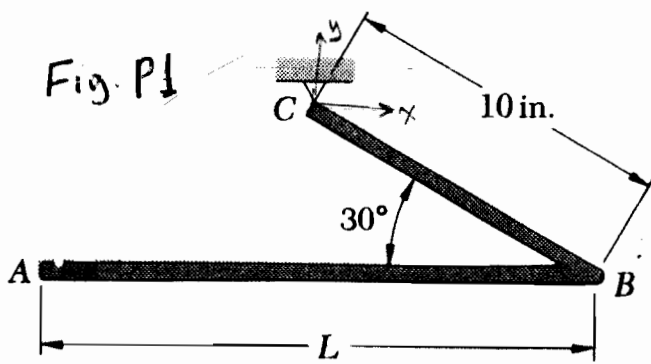


Fig. P2

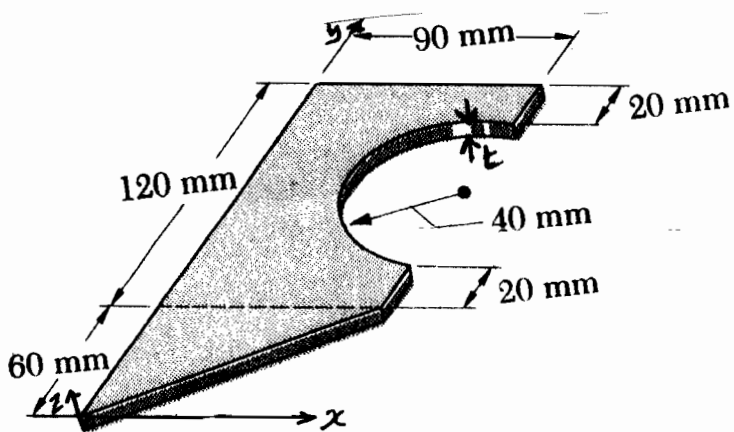
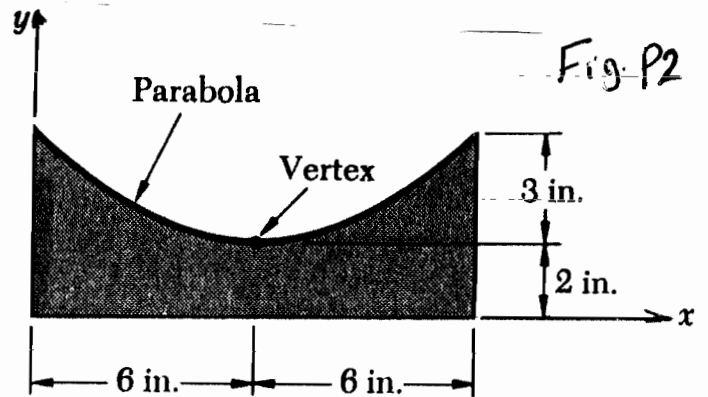


Fig. P3

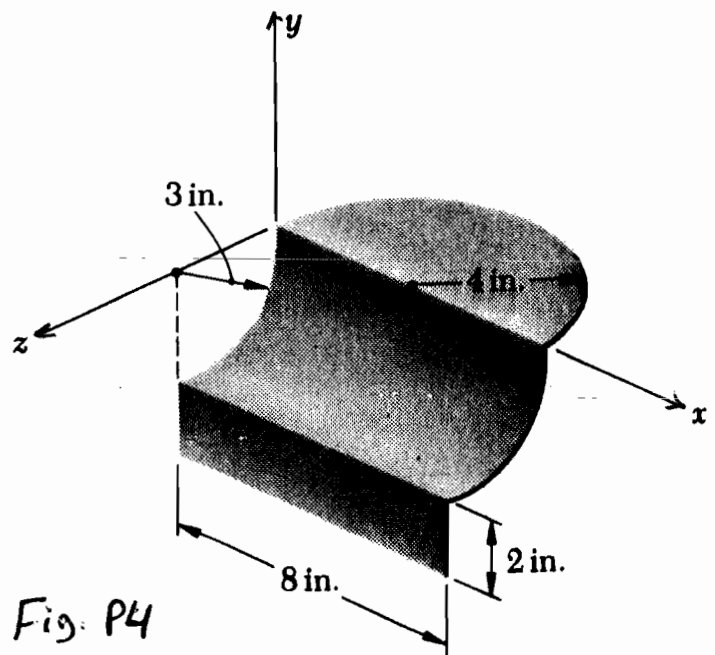


Fig. P4

Do your work yourself!! Remember that the homework carries 20% of the course grade; in addition, *solving it is the best way to understand the subject.* Of course, you can seek my help anytime in the homework as well as in anything else.

As an engineer, review the guidelines for submitting homework assignments given to you in class BEFORE you start solving and writing the homework. **DO NOT SUBMIT THE HOMEWORK IF YOU DO NOT FOLLOW ALL THESE GUIDELINES. Cheating, copying, etc. is**!!!!!!

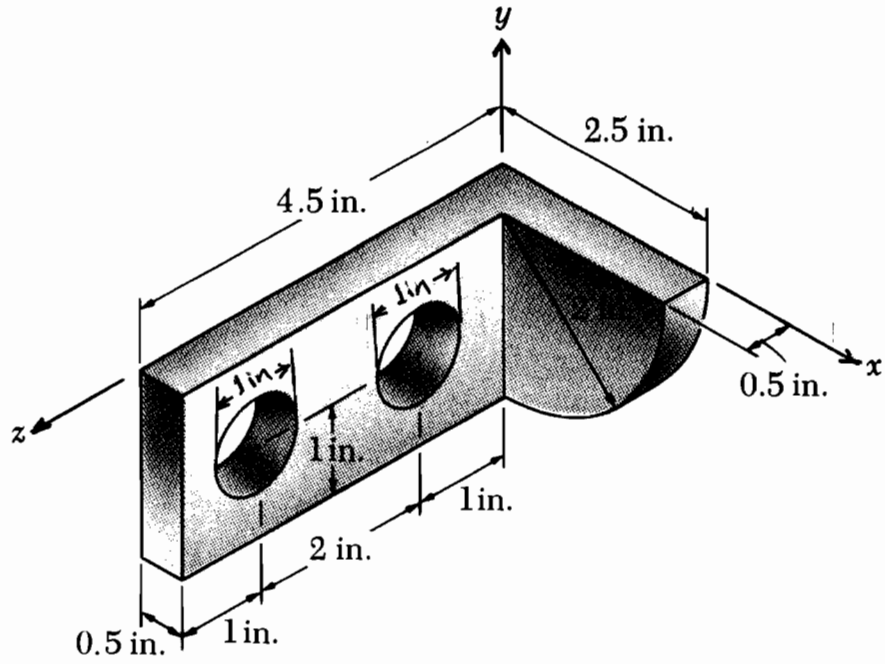


Fig. P5