

King Fahd University of Petroleum & Minerals
CIVIL ENGINEERING DEPARTMENT

CE 201 STATICS (Section 8)
 Second Semester 1424-25 / 2004 (032)

H.W. # 13

Due on Sunday 4-4-1425 / 23-5-2004 (any time)

Deadline for submission: Monday 5-4-1425 / 24-5-2004 (**before you sit in class**)

- 1) For the area shown in Fig. P1 below, locate the centroid. [Sec. 9.3] (15 pts.)
- 2) Determine the centroid (\bar{x}, \bar{y}) for the shaded area shown in Fig. P.2. [Sec. 9.3] (15 pts.)
- 3) The airplane shown in Fig. P3 is parked with its landing gear resting on scales. The weights measured at A , B , and C are 30 kN, 140 kN, and 146 kN, respectively. After a crate is loaded onto the plane, the weights measured at A , B , and C are 31 kN, 142 kN, and 147 kN, respectively. Determine the weight and the x and y coordinates of the center of gravity of the crate. [Sec. 9.3] (20 pts.)
- 4) Locate the centroid (\bar{x}, \bar{y}) of the area shown in Fig. P4. [Sec. 9.3] (20 pts.)
- 5) In figure P5 below, the diameter of each hole is 25 mm. Locate the centroid $(\bar{x}, \bar{y}, \bar{z})$ of the volume. [Sec. 9.3] (30 pts.)

You have to do all problems by yourself only. *Of course you can seek my help anytime in the homework as well as in anything else.*

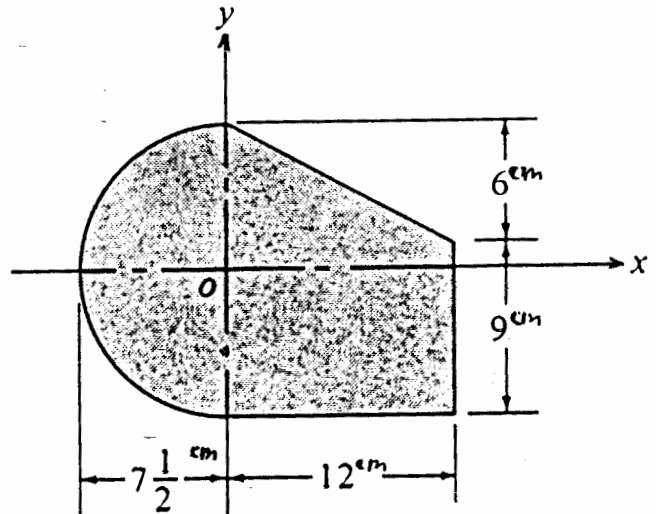
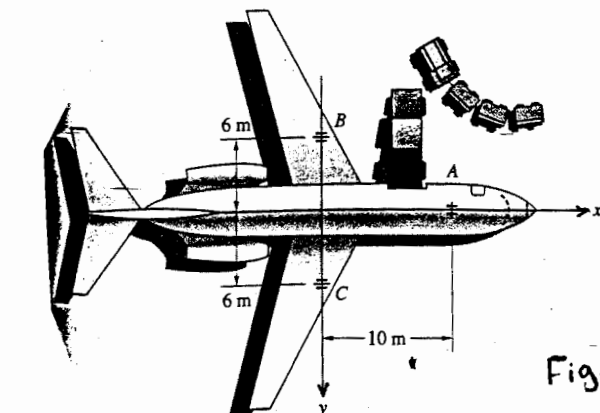
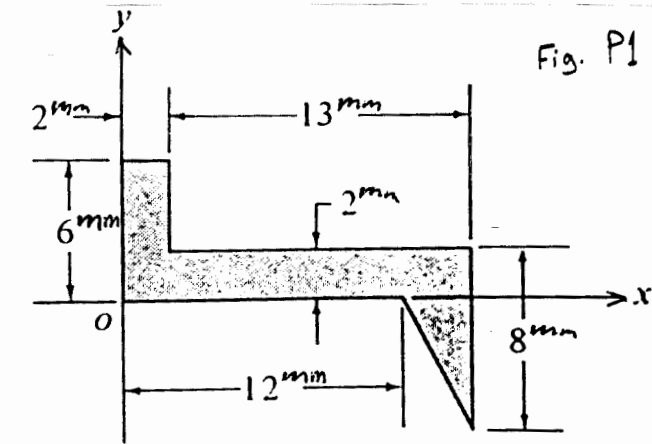


Fig. P2

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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 THESE GUIDELINES. Cheating, copying, etc. is!!!!!!

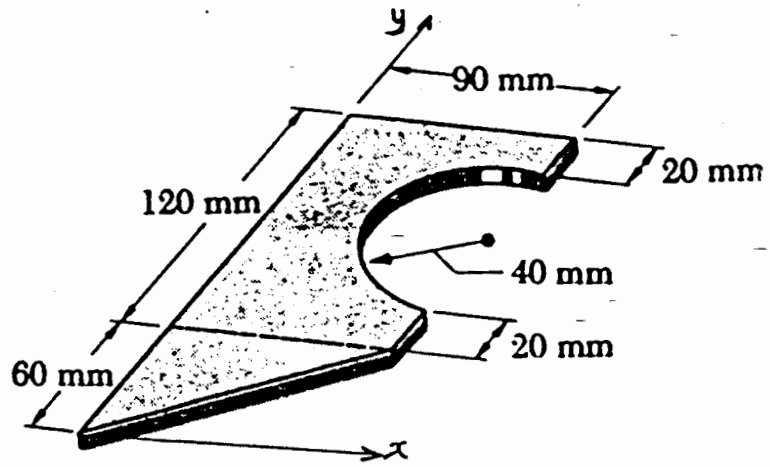


Fig. P4

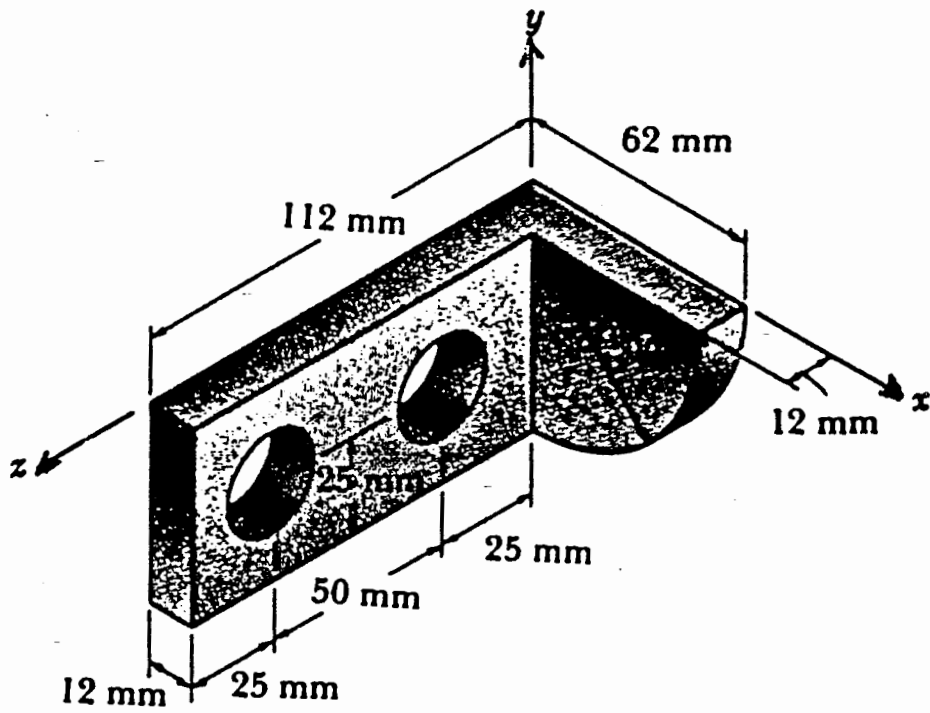


Fig. P5