

King Fahd University of Petroleum & Minerals
CIVIL ENGINEERING DEPARTMENT
CE 201 STATICS (Sections 4 & 5)
First Semester 1428-29 / 2007-08 (071)

H.W. # 5

Due on Wednesday 19-10-1428 / 31-10-2007 (any time)

Deadline for submission: **Saturday 22-10-1428 / 3-11-2007 (before you sit in class)**

- 1- A couple formed by two 975-N forces is applied to the pulley assembly shown in Fig. P1. Determine an equivalent couple which is formed by
- (a) vertical forces acting at *A* and *C*,
 - (b) the smallest possible forces acting at *B* and *D*,
 - (c) the smallest possible forces which can be attached to the assembly. [Sec. 4.6] (25 pts.)
- 2- In Fig. P2 shown,
- (a) determine the components of a single couple equivalent to the couples;
 - (b) check the result obtained in part (a) by adding the moments of the individual forces about the coordinate axes. [Sec. 4.6] (25 pts.)
- 3- A 50-lb force is applied to a corner plate as shown in Fig. P3. Determine
- (a) an equivalent force-couple system at *B*,
 - (b) two horizontal forces at *A* and *B* which form a couple equivalent to the couple found in part (a). [Secs. 4.7 , 4.8] (20 pts.)
- 4- Determine the magnitude and location of the resultant of the distributed load shown in Fig. P4. [Sec. 4.10] (15 pts.)
- 5- Determine the magnitude and location of the resultant of the distributed load shown in Fig. P5. [Sec. 4.10] (15 pts.)
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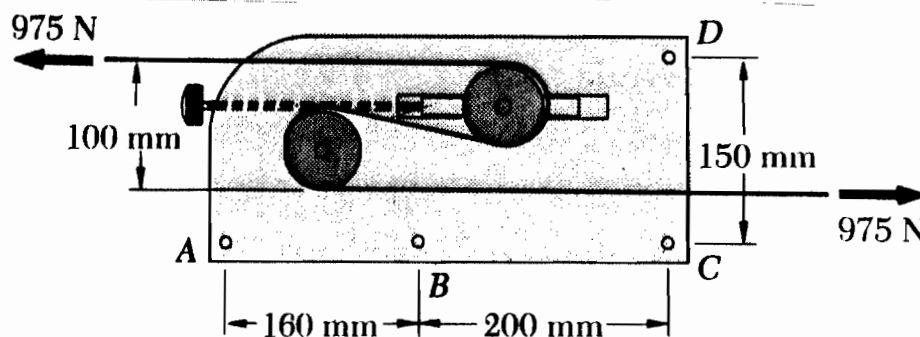


Fig. P1

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 THESE GUIDELINES. Cheating, copying, etc. is

Fig. P2

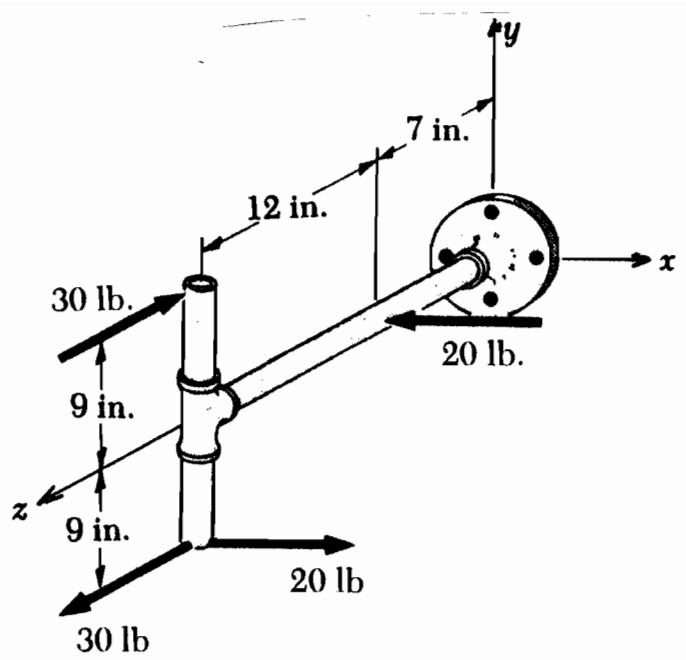


Fig. P3

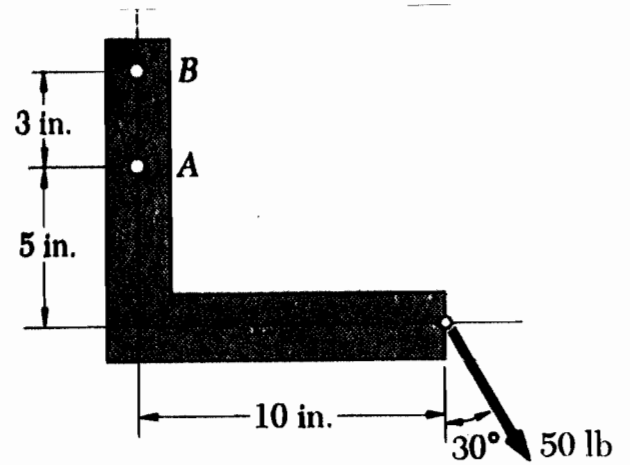


Fig. P4

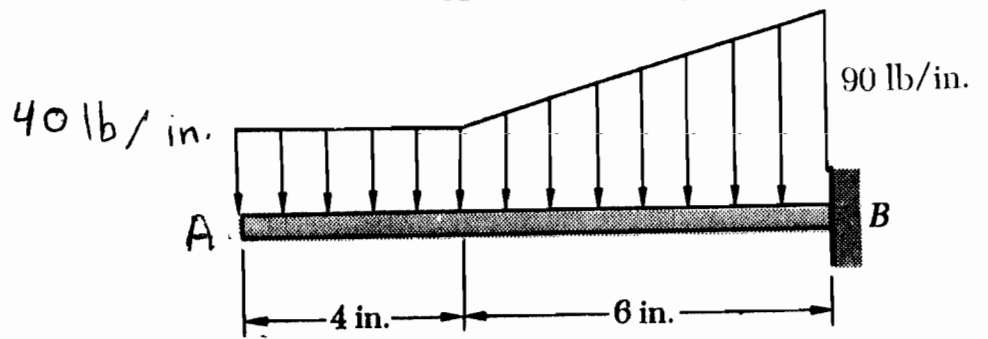


Fig. P5

