

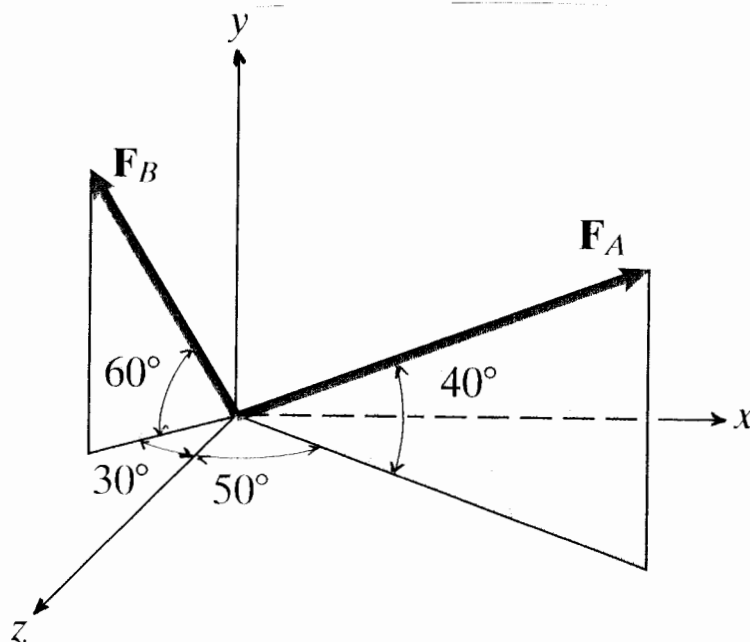
H.W. # 2

Due on Sunday 26-10-1429 / 26-10-2008 (any time)

Deadline for submission: **Monday 27-10-1429 / 27-10-2008 (before you sit in class)**

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- 1- Determine the value and direction of the resultant of the two forces shown in Fig. P1.
 $F_A = 140$ N and $F_B = 100$ N. [Secs. 2.5, 2.6] (25 pts.)
- 2- In Fig. P2 shown, $F_{AB} = 200$ N and $F_{AC} = 100$ N. Determine the value and direction of the resultant of the two forces. [Secs. 2.7, 2.8] (25 pts.)
- 3- Determine the angle θ between the lines AB and AC shown in Fig. P3 by using
a) the law of cosine,
b) the dot product. [Sec. 2.9] (20 pts.)
- 4- In Fig. P4 shown, the magnitude of the tension \mathbf{T} in the rope AB is 50 N. Determine
a) the angle between AB and AD ,
b) the component of \mathbf{T} normal to the bar CD by
(i) utilizing the result of part (a) above,
(ii) the general method (i.e., assuming the angle in (a) is not known/found). [Sec. 2.9] (30 pts.)
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Fig. P1



Do your work yourself!! Remember that the homework carries about 15% 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. FOLLOW ALL THESE GUIDELINES. Cheating, copying, etc. is!!!!!!

Fig. P2

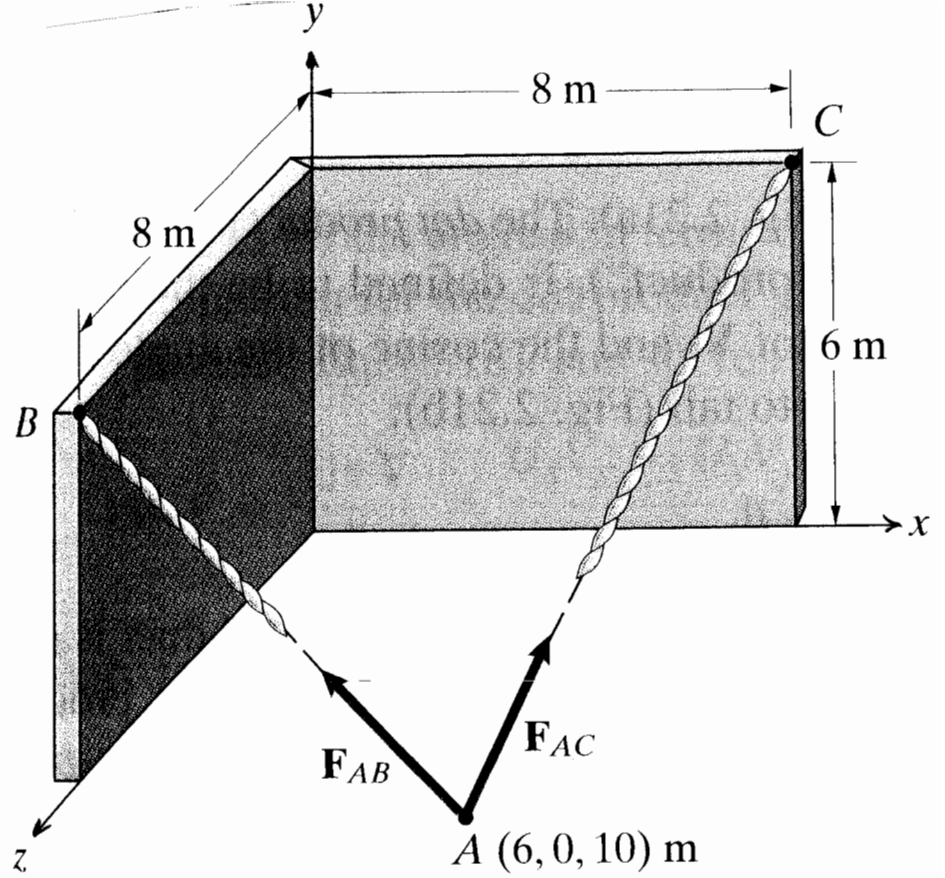


Fig. P3

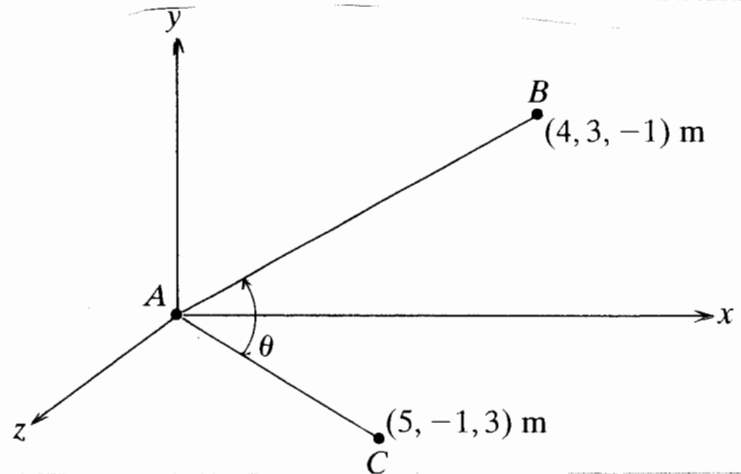


Fig. P4

