

King Fahd University of Petroleum & Minerals
CIVIL ENGINEERING DEPARTMENT

CE 201 STATICS (Section 9)
First Semester 1427-28 / 2006-07 (061)

H.W. # 3

Due on Sunday 8-9-1427 / 1-10-2006 (any time)

Deadline for submission: Monday 9-9-1427 / 2-10-2006 (**before you sit in class**)

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- 1- Two cables are tied together at C and loaded as shown in Fig. P1. Determine the tension in AC and BC. [Secs. 3.1 - 3.3] (15 pts.)
 - 2- A 300-kg crate is supported by several rope-and-pulley arrangements as shown in Fig. P2. Determine for each arrangement the tension in the rope. What conclusion can you make? [Secs. 3.1 - 3.3] (25 pts.)
 - 3- A body with a mass of 250 kg is supported by the flexible cable system shown in Fig. P3. Determine the tensions in cables A, B, C, and D. [Secs. 3.1 - 3.3] (20 pts.)
 - 4- In Fig. P4 shown, the unstretched length of the spring AB is 600 mm, and the spring constant $k = 1000$ N/m. What is the mass of the suspended object? [Secs. 3.1 - 3.3] (15 pts.)
 - 5- A crate is supported by three cables as shown in Fig. P5. Determine the weight W of the crate, knowing that the tension in cable AD is 924 lb. [Sec. 3.4] (25 pts.)

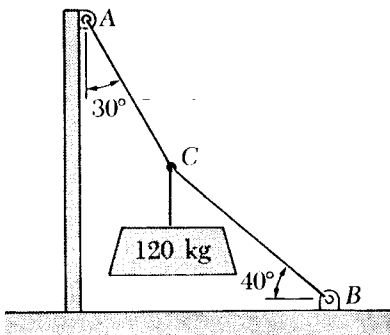


Fig. P1

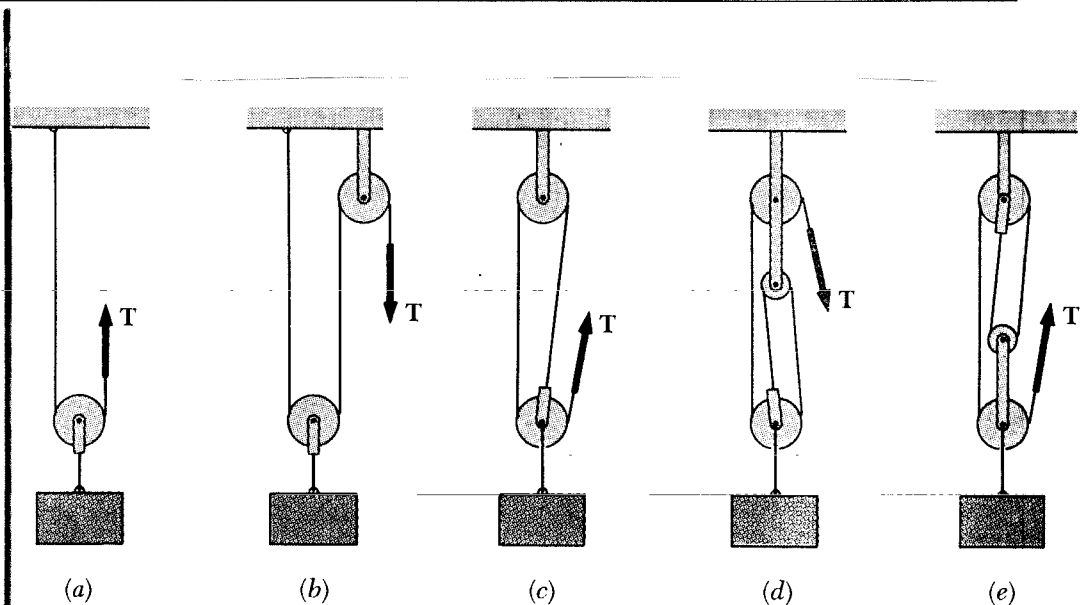


Fig. P2

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!!!!!!

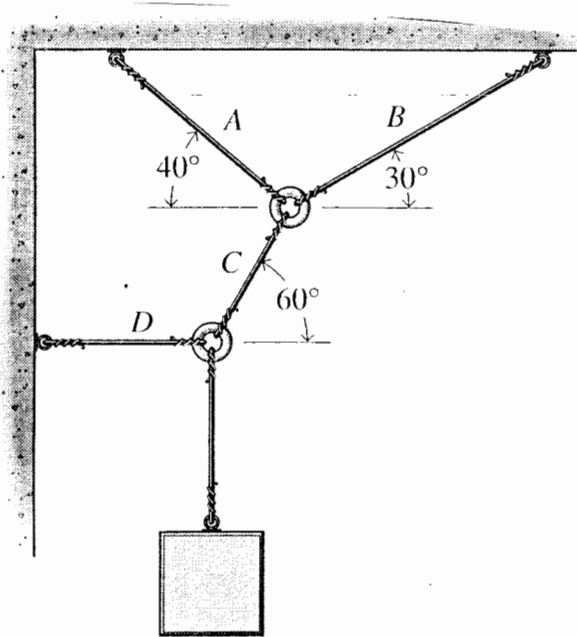


Fig. P3

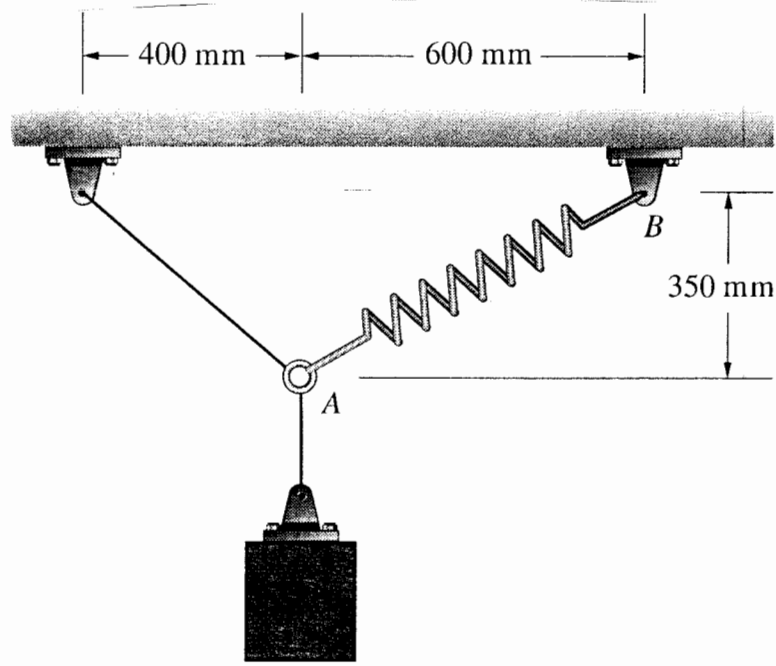


Fig. P4

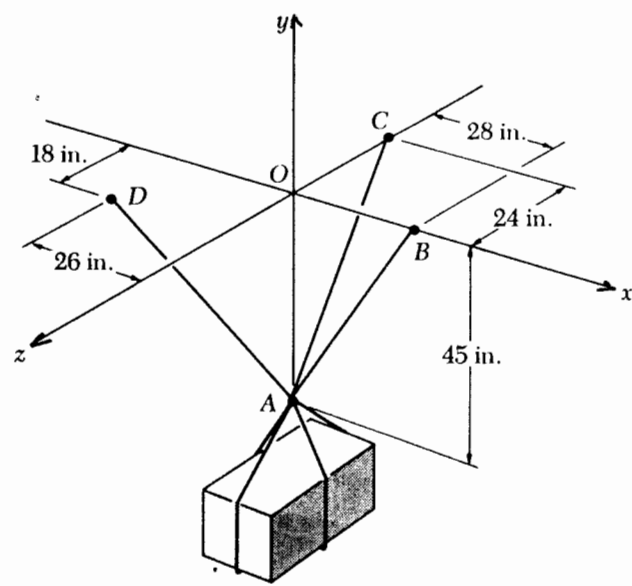


Fig. P5