

CE 203 STRUCTURAL MECHANICS I (Section 3)

Second Semester 1429 / 2008 (072)

H.W. # 8

Due on Sunday 21-4-1429 / 27-4-2008 (any time)

Deadline for submission: **Monday 22-4-1429 / 28-4-2008 (before you sit in class)**

- 1) Using the "Statics" method (*FBD's & Equations*), draw the shear force diagram (SFD) and the bending moment diagram (BMD) for the beam shown in Fig. P1. [Secs. 6.1 & 6.2] (30 pts.)
- 2) Rework problem 1 above but using the summation (area) method. Compare and discuss. [Secs. 6.1 & 6.2] (10 pts.)
- 3) Use the summation method to draw the SFD and BMD for the beam shown in Fig. P3 below. [Secs. 6.1 & 6.2] (25 pts.)
- 4) The shear force diagram for a cantilever beam is shown in Fig. P4 below. Sketch the loads on the beam, and draw the bending moment diagram. (How many possibilities?!) [Secs. 6.1 & 6.2] (15 pts.)
- 5) A simply supported beam has the bending moment diagram drawn in Fig. P5 below. Draw the shear force diagram and then draw the beam with the loading. [Secs. 6.1 & 6.2] (20 pts.)

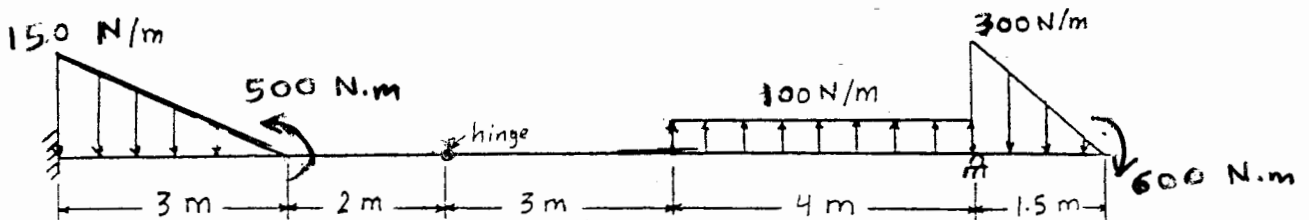


Fig. P1

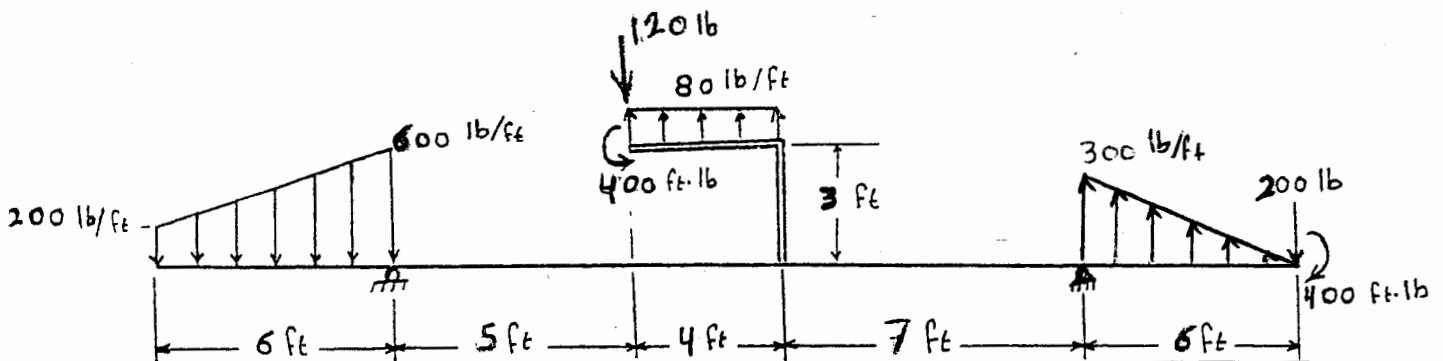


Fig. P3

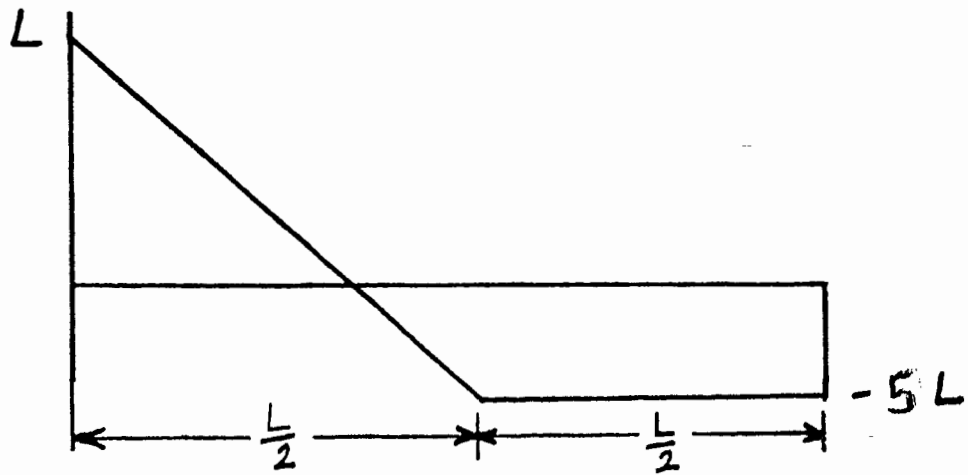


FIG. P4

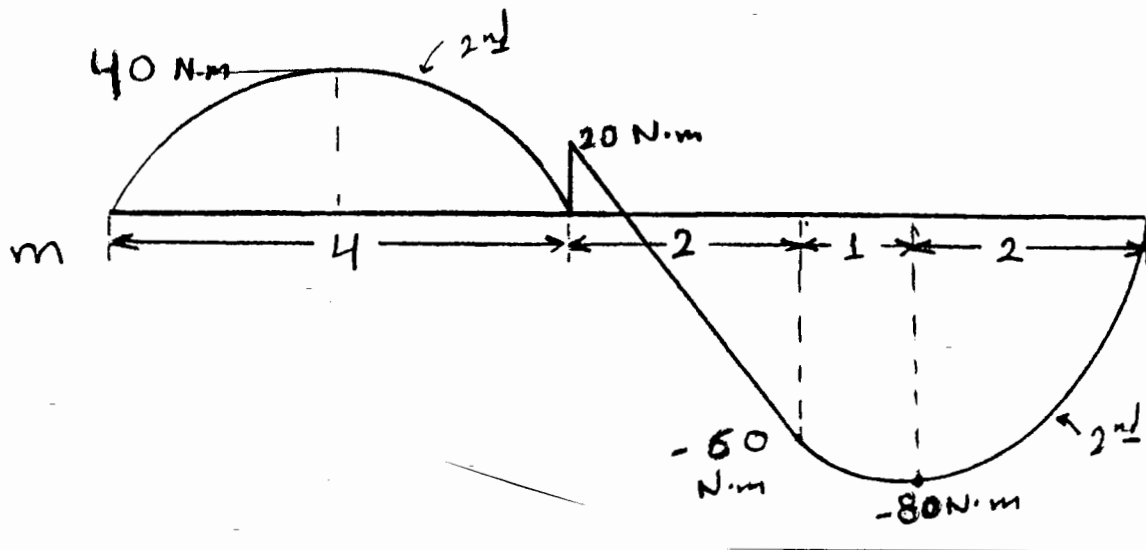


FIG. P5

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. **FOLLOW ALL THESE GUIDELINES.** Cheating, copying, etc. is!!!!!!