24-261 Statics November 13, 2001
Problem Set #12 Due: November 20, 2001

1. Problem 4.3-2 (Gere, Mechanics of Materials). Do this problem as follows. Find the reactions at A first. Then, isolate the segment of the beam from A to the point 0.5 m from A.

2. Problem 4.3-5 (Gere, Mechanics of Materials). You should do the problem as stated to check yourself and that you have found the reactions correctly, but you are to hand in the following drawings and calculations for finding V and M at the point 8 ft from A.

   (i) Using the support reactions which you have found, draw the segment from A to x = 8 ft, and draw on it the distributed load, the reaction at A, and the unknown V and M. This is the full FBD.

   (ii) Redraw the FBD, but replace the distribution with a statically equivalent force acting in the middle of the segment.

   (iii) Sum forces and moments to find V and M at x = 8 ft.

3. Problem 4.5-5 (Gere, Mechanics of Materials)

4. Problem 4.5-15 (Gere, Mechanics of Materials)

Assignment to Evaluate Educational Software (Courseware)

The class is using and evaluating educational software that is currently under development. Half of the class – those with last names beginning with the letters L through Z – will use one module dealing with bending during the coming two weeks.

The software can be downloaded from the class b-board: academic.mech-e.24-261.announce@andrew.cmu.edu. THIS SOFTWARE RUNS ONLY ON WINDOWS PC'S. You are to do problems 1 through 14 by November 20; the remaining problems are due on November 29. **Instructions will be on the b-board for emailing it to Jesse Olson.**

Do not try to download the software at the last minute before the homework is due. Download it right away, unzip it, and follow instructions to get started. If you have any problems, contact Prof. Steif right away.