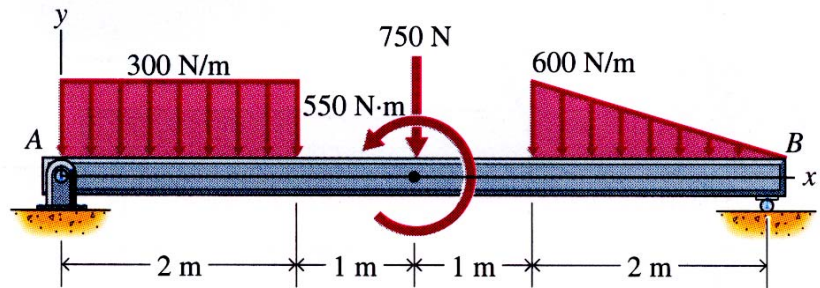
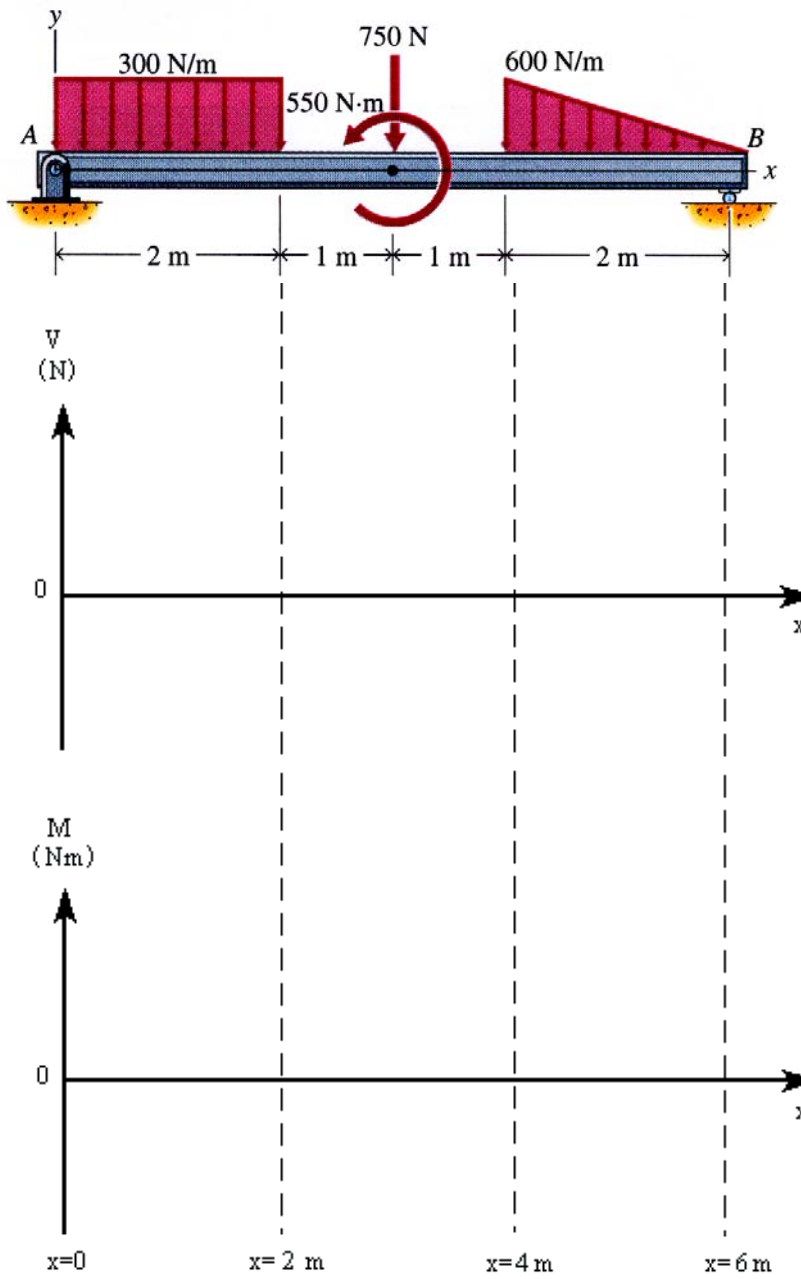


1. Using the coordinate axes shown, write **equations** for the shear force $V(x)$ and bending moment $M(x)$ for the portion of the beam in the interval $4 < x < 6$ m.

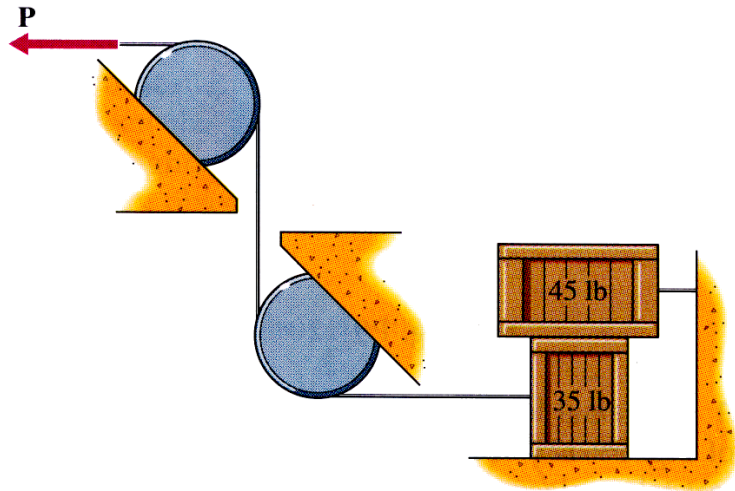
(Look at Problem 2 before proceeding.)



2. Draw **complete** shear and moment diagrams for the beam in Problem 1.



3. A rope is attached to a 35-lb crate and passes around two fixed pegs. The 45-lb crate is attached to a wall by a second cord. The coefficient of friction between the two crates is 0.25; between the crate and the floor, 0.25; and between the rope and the pegs, 0.20. Determine the minimum force P that must be used to cause motion.



4. Locate the centroid of the volume shown if $R = 10$ in. and $h = 32$ in.

