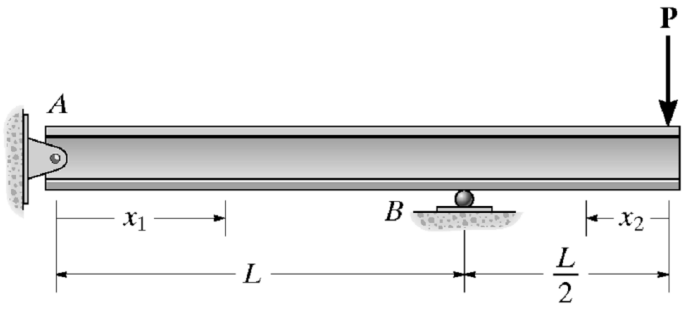
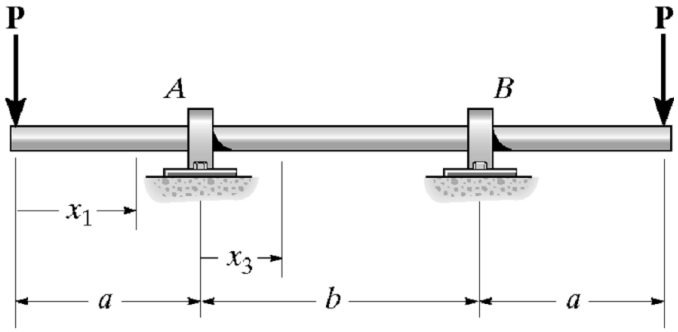
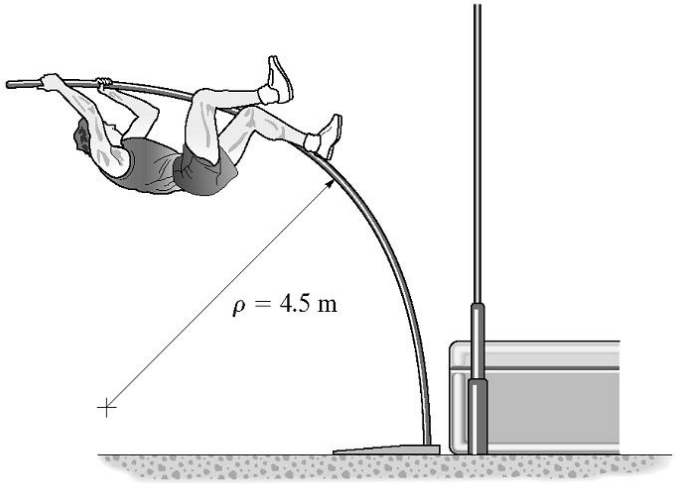
1. Determine the equations of the elastic curve for the beam using the x_1 *and* x_2 coordinates. Specify the beam's maximum deflection. *EI* is constant.



2. Determine the equations of the elastic curve for the shaft using the x_1 *and* x_3 coordinates. Specify the slope at *A* and the deflection at the center of the shaft. *EI* is constant.



3. A picture is taken of a man performing a pole vault, and the minimum radius of curvature of the pole is estimated by measurement to be 4.5 m. If the pole is 40 mm in diameter and it is made of a glass-reinforced plastic for which E_g = 131 GPa, determine the maximum bending stress in the pole.



4. The two wooden meter sticks are separated at their centers by a smooth rigid cylinder having a diameter of 50 mm. Determine the force F that must be applied at each end in order to just make their ends touch. Each stick has a width of 20 mm and thickness of 5 mm. E_w = 11 GPa.