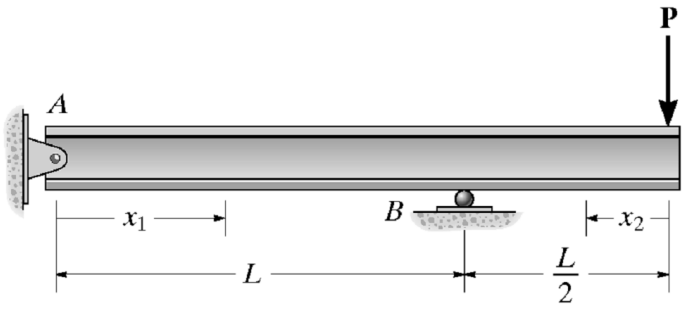
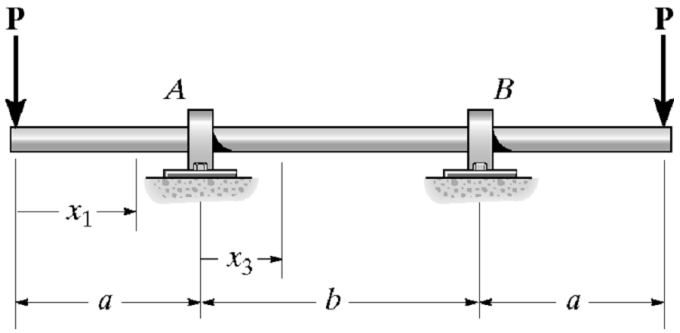
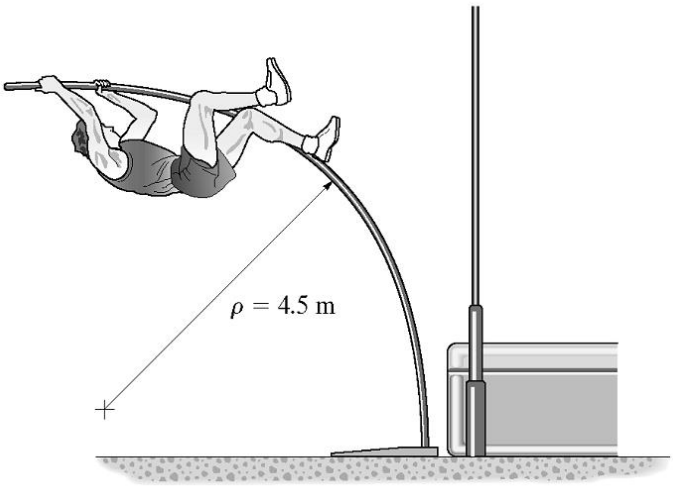
1. Determine the equations of the elastic curve for the beam using the x_1 *and* x_2 coordinates. Specify the beam's maximum deflection. *EI* is constant.【运用坐标 x_1 和 x_2 求图示梁的挠曲线，并求梁中最大挠度。设弯曲刚度 *EI* 为常数。】



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.【运用坐标 x_1 和 x_3 求图示梁的挠曲线，并求截面 *A* 的转角和梁中点处的挠度。设弯曲刚度 *EI* 为常数。】



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.【图示为一运动员正在做撑杆跳运动，经测量在跳跃过程中杆达到的最小曲率半径为 4.5 m，若杆的直径为 40 mm，弹性模量为 E_g = 131 GPa，试求杆中的最大弯曲正应力。】



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.【图示两根木条在中点处由一直径为 50 mm 的圆柱体隔开，试求作用于杆两端的能够使两杆恰好接触的横向力 F。设每根木条宽 20 mm 厚 5 mm，木条弹性模量 E_w = 11 GPa。】