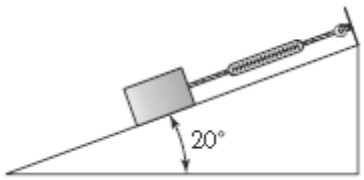
1. A 250-lb_m box is held in place by a cord with a spring scale on an inclined plane as shown. Assume the surface between the ramp and the box is frictionless. Determine:



a. The free body diagram for the box
b. The weight of the box in pound-force given that it is on the moon with acceleration due to gravity of approximately 5.37 ft/s^2
c. The force reading on the scale when the ramp is inclined 20° as shown.

2. A construction worker holds a 200 kg crate in the position shown. The crane is on Earth where the acceleration due to gravity is 9.81 m/s^2. Determine:

a. The free body diagram for point A
b. What force must the worker exert on the cable to keep the crate in equilibrium?