

A crate is pulled up a slope at a constant velocity by a tow bar. The slope is inclined at 35° with respect to the horizontal. The force applied to the crate by the tow bar is parallel to the slope. The crate's mass is 75.0 kg, and the coefficient of kinetic friction between the crate and the snow is 0.320. Find the magnitude of the force that the tow bar exerts on the box.

A rollerblader is blading down a ramp that is 6.0 m long and inclined at 25° with respect to the horizontal. The initial speed of the rollerblader at the beginning of the ramp is 3.4 m/s. Neglect friction and find the speed as he gets to the end of the ramp.