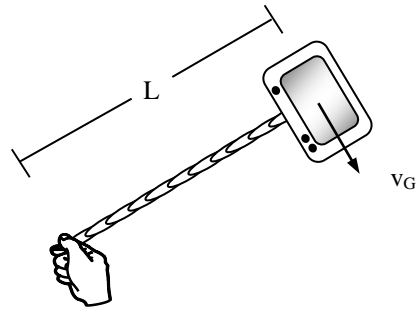

Example

An over-worked Rose-Hulman student has decided to release some frustration by swinging an old 50-lb computer monitor around his head by a rope. Suddenly the rope unravels and its length increases from 3 feet to 10 feet. If the monitor was originally traveling at a (tangential) velocity of 18 ft/s, calculate the velocity after the rope has unraveled.



Example

A stream of water ($\rho = 1000 \text{ kg/m}^3$) enters a constant cross-sectional area flow channel as shown in the figure. The channel area is 600 mm^2 and the water enters at A at a velocity of 20 m/s . The flow channel is welded to a vertical plate. The combined mass of the channel and the plate is 5 kg . Find the reactions at the pin-in-slot support C and the pin support D .

