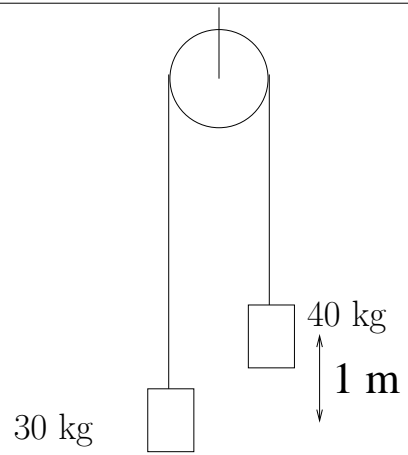
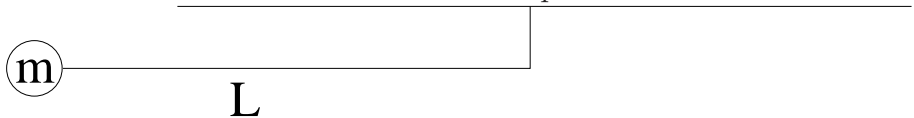


Consider the pulley system below: How much velocity does the 40 kg mass attain when it falls down 1 m and the 30 kg mass falls up 1 m.



Consider a rigid pendulum below where the pivot is frictionless and the rod is massless. What the the velocity of the mass when it reaches the lowest point?



A spring with a spring constant of 1000 N/m is attached to a 10 kg mass and is stretched 0.5 m past its equilibrium point. If the coefficient of kinetic friction is 0.3 , (a) what is the speed of the mass as the spring moves past its equilibrium point? (b) how much work is done by the force of friction?