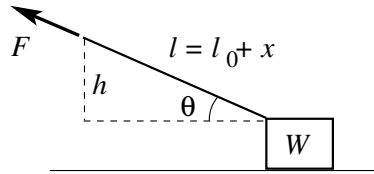


[mex227] Dragging block by elastic cord

A block of weight $W = 5\text{N}$ is being dragged along a horizontal surface against kinetic friction with coefficient $\mu = 0.2$. Find the force F (in SI unit) needed to keep the block moving at constant speed if the upper end of the elastic cord is held at constant height $h = 1\text{m}$. The length of the cord is $l = l_0 + x$, where $l_0 = 1\text{m}$ and $F = kx$ with $k = 1\text{N/m}$.



Solution: