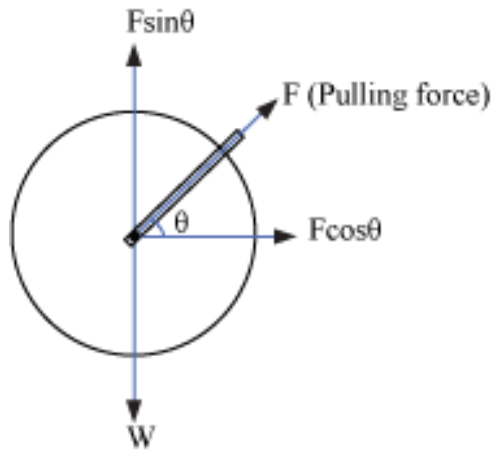


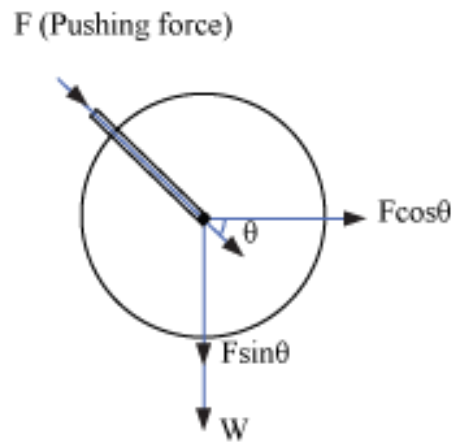
Answer on Question #43234 – Physics - Mechanics | Kinematics | Dynamics

why it is easier to pull than push a roller

Solution:



$$\text{Effective weight} = W - F\sin\theta$$



$$\text{Effective weight} = W + F\sin\theta$$

In case of pushing a roller, if you resolve the applied force into horizontal and vertical directions, effective weight of the roller increases.

On the other hand in case of pulling force, if you resolve the applied force into horizontal and vertical directions, effective weight of the roller decreases.
Thus, we conclude that it is easier to pull a lawn roller as compared to push it.