Answer on Question #48096-Physics-Mechanics-Kinematics-Dynamics

Object being pulled with friction

An object of mass m is being pulled along a smooth surface generating a friction force resultant against the motion of the object. As the velocity of the object increases from an increasing in pulling, what is the effect on the friction force?

Answer

As the velocity of the object increases ($v \neq 0$) we talk about kinetic friction. The force of kinetic friction is

$$F_k = \mu_k N,$$

where μ_k is coefficient of kinetic friction, N is the normal force.

So, the friction force doesn't change.