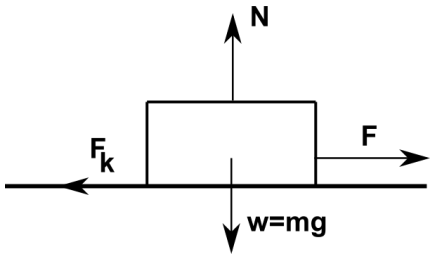
Answer on Question 48638, Physics, Mechanics | Kinematics | Dynamics

Question:

Coefficient of static friction is 0.36, coefficient of kinetic friction is 0.30, weight of box 400N. How much force is needed to keep the box moving?

Solution:



From conditions of the problem we have: $\mu_s = 0.36$ is the coefficient of static friction, $\mu_k = 0.30$ is the coefficient of kinetic friction and weight of box is $w = 400N$. Because we are asking about how much force is needed to keep the box moving, we need to find the force of kinetic friction:

$$F = F_k,$$
$$F_k = \mu_k w.$$

So, we obtain: $F = 0.30 \cdot 400N = 120N.$

Answer:

The force is needed to keep the box moving would be 120N.