



Coefficient of Friction

Quizz and FAQ

- 1) What is Friction ?
 - The resistance that one surface or object encounters when moving over another
- 2) What does friction depend on?
 - roughness of the surface and the roughness of the object.
- 3) Which quantities does Newtons' second law of motion connect?
 - strength, mass and acceleration
- 4) What are the two main types of friction?
 - Static friction and kinetic friction
- 5) A box with a mass of 12 kg slides along a rough floor with a speed of 5 m/s. If the coefficient of kinetic friction between the box and the floor is 0.23, what is the magnitude of kinetic friction acting on the box?
 - **$F_k = \mu_k F_N = 0.23(117.6 \text{ N}) \approx 27 \text{ N}$**
 - **Explanation :** $m = 12 \text{ kg}$, $v = 5 \text{ m/s}$, $\mu_k = 0.23$

$$F_N = F_g = mg = (12 \text{ kg})(9.8 \text{ m/s}^2) = 117.6 \text{ N}$$

$$F_k = \mu_k F_N = 0.23(117.6 \text{ N}) \approx 27 \text{ N}$$

- 6) Static coefficient of friction greater than the kinetic coefficient of friction? **True**