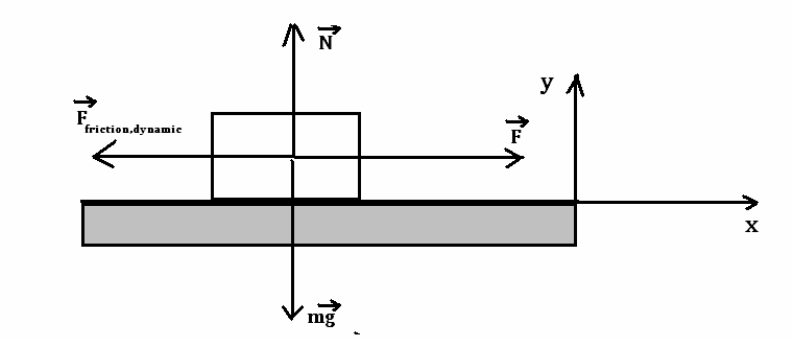
QUESTION:
A body of weight 64 N is pushed with just enough force to start it moving across a horizontal floor and the same force continue to act afterwards. If the coefficients of static and dynamic friction are 0.6 and 0.4 respectively, calculate the acceleration of the body.

SOLUTION:
Free-body diagram:



According to the Newton's third law, the force just enough to start the body moving must be equal to the force of static friction. And, according to the Amontons laws of friction

$$F = F_{friction,static}$$
$$F_{friction,static} = \mu_{static} N$$
$$N - mg = 0 \quad (y - projection)$$
$$N = mg$$
$$F_{friction,static} = \mu_{static} mg$$
$$F = \mu_{static} mg$$

According to the Newton's second law

$$F - F_{friction,dynamic} = ma \quad (x - axis \quad projection)$$
$$F_{friction,dynamic} = \mu_{dynamic} N$$
$$N - mg = 0 \quad (y - axis \quad projection)$$
$$N = mg$$
$$F_{friction,dynamic} = \mu_{dynamic} mg$$
$$F - \mu_{dynamic} mg = ma$$
$$F = \mu_{static} mg$$
$$\mu_{static} mg - \mu_{dynamic} mg = ma$$
$$a = \frac{\mu_{static} mg - \mu_{dynamic} mg}{m}$$
$$a = g(\mu_{static} - \mu_{dynamic})$$
$$a = 9.8 \cdot (0.6 - 0.4)$$
$$a = 1.96 \ m/s^2$$

ANSWER
$$a = 1.96 \ m/s^2$$