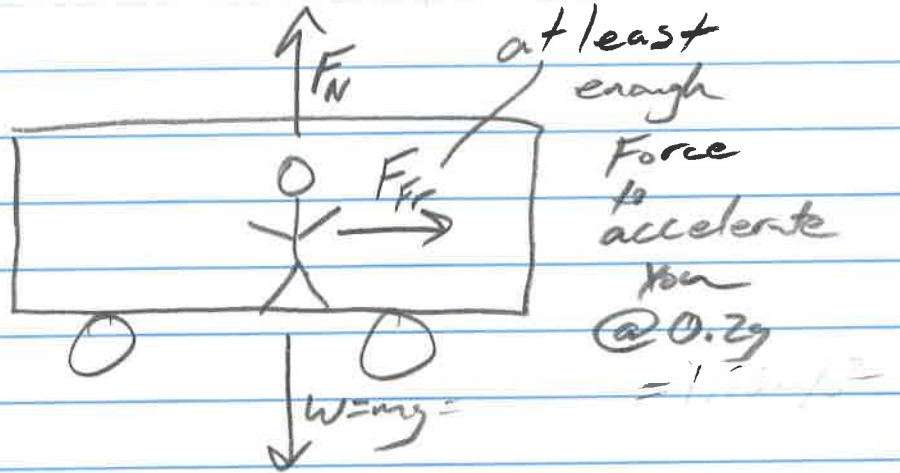


38.



Sum of forces

$$\sum F = F_{fr} = F_N(\mu) = mg\mu =$$

$$\sum F = ma$$

2nd Law

$$mg\mu = ma \quad \downarrow 0.2g$$

$$mg\mu = 0.2g(m)$$

$$\mu = 0.2$$

44.



Sum of forces

$$\sum F = F_{fr} = \mu_s(mg)$$

2nd Law

$$\sum F = Ma$$

$$\mu_s(mg) = ma$$

$$\Delta x = v_{0x}t + \frac{1}{2}at^2$$

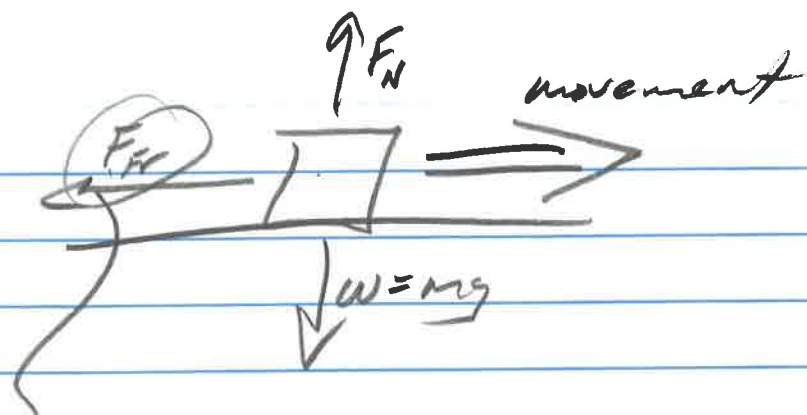
$$1000m = 0 + \frac{1}{2}a(12s)^2$$

$$a = 13.9m/s^2$$

$$\mu_s = \frac{a}{g}$$

$$\mu_s = \frac{13.9m/s^2}{9.8m/s^2} = 1.42$$

47.



$$F_f = -\mu_k(mg) = -0.2(mg)$$

Sum of Forces

$$\Sigma F = F_f = -0.2mg$$

2nd Law

$$\Sigma F = ma$$

$$\Rightarrow -0.2mg = ma$$

$$-0.2g = a$$

$$V_x^2 = V_{ox}^2 + 2a \Delta x$$

Find Displacement.

$$-1.96 \text{ m/s}^2 = a$$

$$0 = (4 \text{ m/s})^2 + 2(-1.96 \text{ m/s}^2) \Delta x$$

$$-16 \text{ m}^2/\text{s}^2 = -3.92 \text{ m/s}^2 \Delta x$$

$$\Delta x = 4.08 \text{ m}$$