

Bellwork 4/4

Draw an FBD for a box being dragged on the ground. Where do all the forces come from? Does the Box exert any force on its surroundings?

Quiz Review

Inertia is not a force
it's an object's resistance
to acceleration / or an
object's tendency to
maintain its state
of motion or rest.

m (kg)

weight = F_g (N)

$$F_g = mg$$



Bonus

$$\vec{V}_f^2 = \vec{V}_i^2 + 2\vec{a}\Delta\vec{x}$$

$$\vec{V}_i = 0$$

$$\Delta x = -80 \text{ m}$$

$$\vec{V}_f = ?$$

$$\vec{a} = -4.3 \frac{\text{m}}{\text{s}^2}$$

#2 problem solving
elevator is going up $v \oplus$
slowing down $a \ominus$

$$a = -1.5 \frac{\text{m}}{\text{s}^2}$$

$$F_g = \underline{685 \text{ N}} \quad \underline{F_g} = m \cdot g \quad \text{solve}$$

#4) $F_k = 3N$

$\mu_k = 0.034$

H/W
Review

#5) $F_g = 490N$

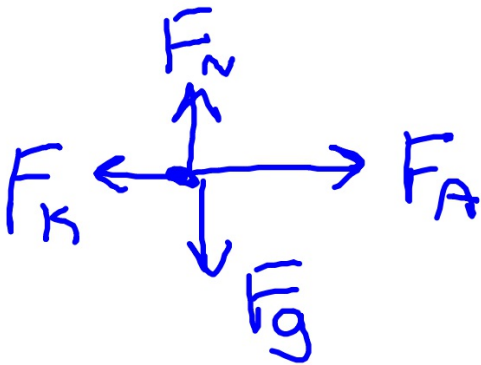
$F_A = 147N$

$F_A = 49N$

$F_A = 199N$

$$F_k = \boxed{\mu_k} \cdot F_N$$

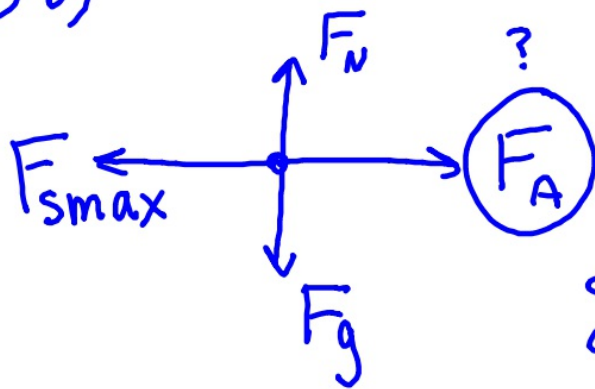
$$3\text{ N} = \underline{\mu_k} \cdot 88\text{ N}$$



$$a_y = 0$$

$$\therefore F_N = F_g = \underline{88\text{ N}}$$

5b)



$$a_y = 0$$

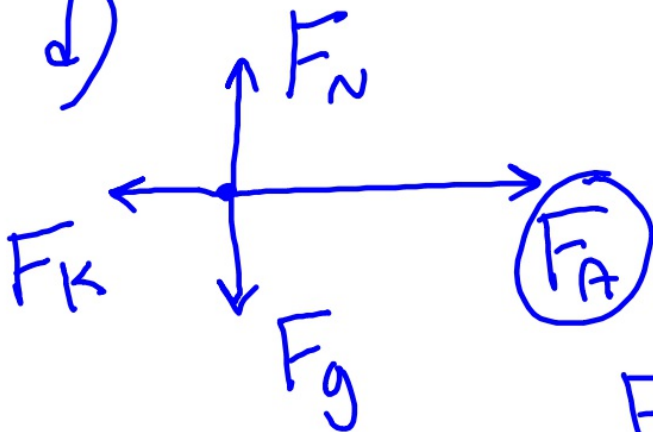
$$\therefore F_N = F_g$$

$$\Sigma F_x = m a_x$$

$$F_A - F_{smax} = m a_x \rightarrow 0$$

$$F_A = F_{smax} = \mu_s \cdot F_N$$

d)



$$\Sigma F_x = m a_x$$

$$3 \frac{m}{s^2}$$

$$F_A - F_k = m a_x$$