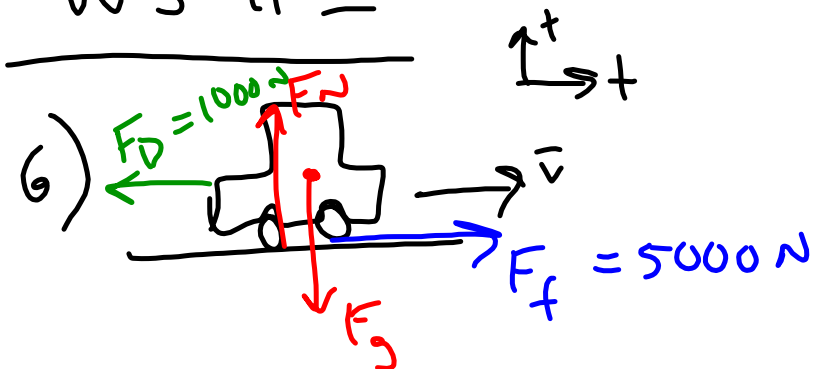
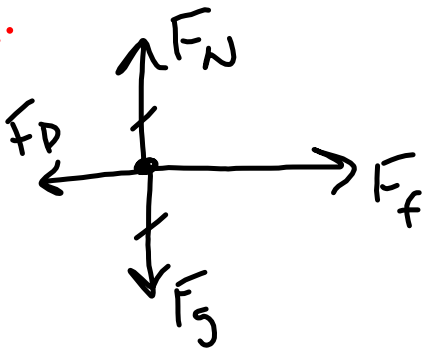


## WS #1



a.



b.  $\sum \vec{F}_x = m\vec{a}_x$

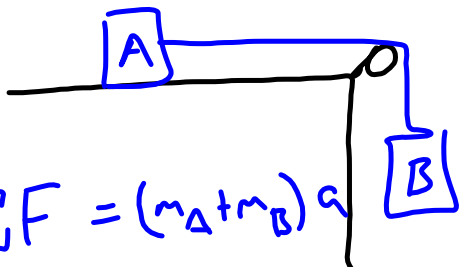
$$F_f - F_D = ma_x$$

c. 
$$a_x = \frac{F_f - F_D}{m}$$

$$= \frac{5000 \text{ N} - 1000 \text{ N}}{900 \text{ kg}}$$

$$= 4.44 \text{ m/s}^2$$

7)



$$\Sigma F = (m_A + m_B) a$$

$$F_{gB} = (m_A + m_B) a$$

$$\Sigma F_{\text{hanging}} = m_{\text{total}} a$$

a. System C  $\rightarrow$  two hanging masses

b. System A  $\rightarrow$  least amount of total mass

c. System A

$$a = \frac{F_{\text{hanging}}}{m_{\text{total}}}$$

$$= \frac{\cancel{M} a g}{2 \cancel{M}}$$

$$= \frac{a g}{2}$$

System B

$$a = \frac{F_{\text{hanging}}}{m_{\text{total}}}$$

$$= \frac{\cancel{M} a g}{3 \cancel{M}}$$

$$= \frac{a g}{3}$$

System C

$$a = \frac{F_{\text{hanging}}}{m_{\text{total}}}$$

$$= \frac{2 \cancel{M} a g}{3 \cancel{M}}$$

$$= \frac{2 a g}{3}$$