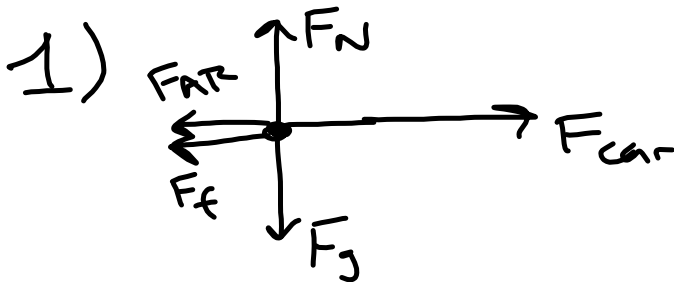


PRACTICE



$$\Sigma F_x = ma$$

$$\Sigma F_y = 0$$

need a

$$\Sigma F = (710 \text{ kg})(8.89 \text{ m/s}^2) \Delta x = v_i t + \frac{1}{2} a t^2$$

$$= 6311 \text{ N} \quad a = \frac{2 \Delta x}{t^2}$$

$$= 8.89 \text{ m/s}^2$$

2)

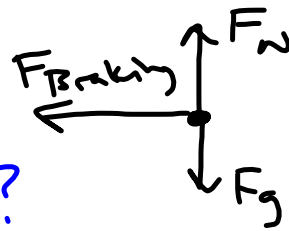
$$m = 1000 \text{ kg}$$

$$F_{\text{Braking}} = 5000 \text{ N}$$

$$v_i = 25 \text{ m/s}$$

$$v_f = 0 \text{ m/s}$$

$$\Delta x = ?$$



$$\sum F_x = ma$$

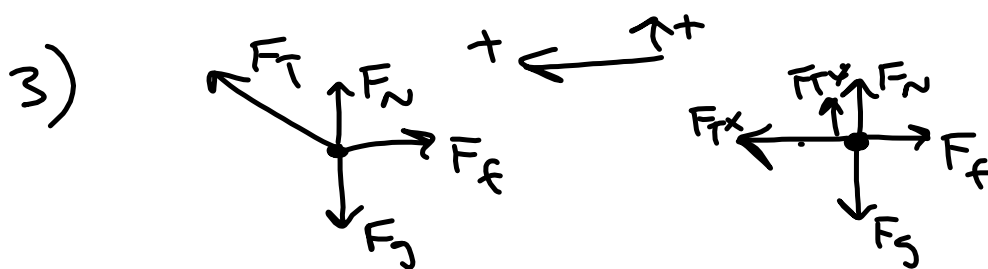
$$-F_{\text{Braking}} = ma$$

$$a = \frac{-F_{\text{Braking}}}{m} = \frac{-5000 \text{ N}}{1000 \text{ kg}} = -5 \text{ m/s}^2$$

$$v_f^2 = v_i^2 + 2a\Delta x$$

$$\Delta x = \frac{v_f^2 - v_i^2}{2a}$$

$$= 62.5 \text{ m}$$



$$F_{Tx} = 346 \text{ N}$$

$$F_{Ty} = 200 \text{ N}$$

$$\sum F_x = ma$$

$$F_{Tx} - F_f = ma$$

$$a = \frac{F_{Tx} - F_f}{m}$$

$$= 3.8 \text{ m/s}^2$$