

$v_i = 0$
 $t = 2s$
 $d = ?$

$v^2 = v_i^2 + 2ad$
 $(8 \frac{m}{s})^2 = 0 + 2(4 \frac{m}{s^2})d$

$d = 8m$

$F = m a$

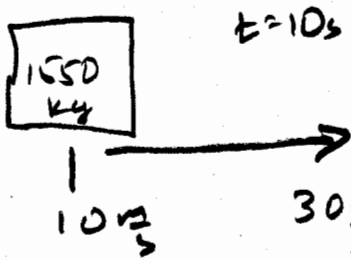
$2000 \frac{kg \cdot m}{s^2} = 500 kg a$

$a = 4 \frac{m}{s^2}$

$v = v_i + a t$
 $= 0 + 4 \frac{m}{s^2} 2s$

$v = 8 \frac{m}{s}$

2.



$F = ?$

$F = m a$
 $= 1550 kg 2 \frac{m}{s^2}$

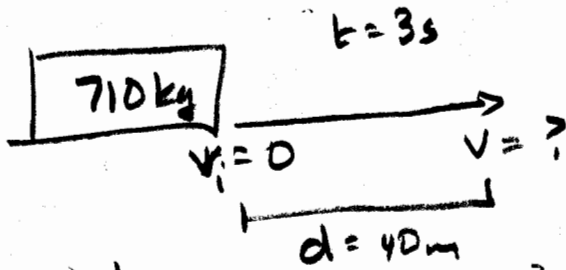
$a = \frac{\Delta v}{\Delta t} = \frac{(30 \frac{m}{s}) - (10 \frac{m}{s})}{10s}$

$a = 2 \frac{m}{s^2}$

$= 3100$

$F = 3.10 \times 10^3 N$

3.



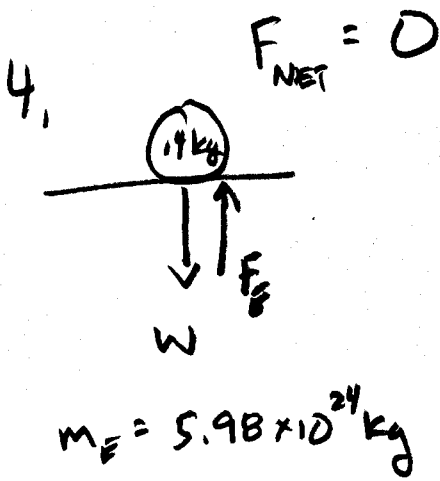
$F = ?$

$F = m a$
 $= 710 kg (8.89 \frac{m}{s^2})$

$d = v_i t + \frac{1}{2} a t^2$
 $40m = 0 + \frac{1}{2} a 3^2$

$a = 8.89 \frac{m}{s^2}$

$F = 6.31 \times 10^3 N$



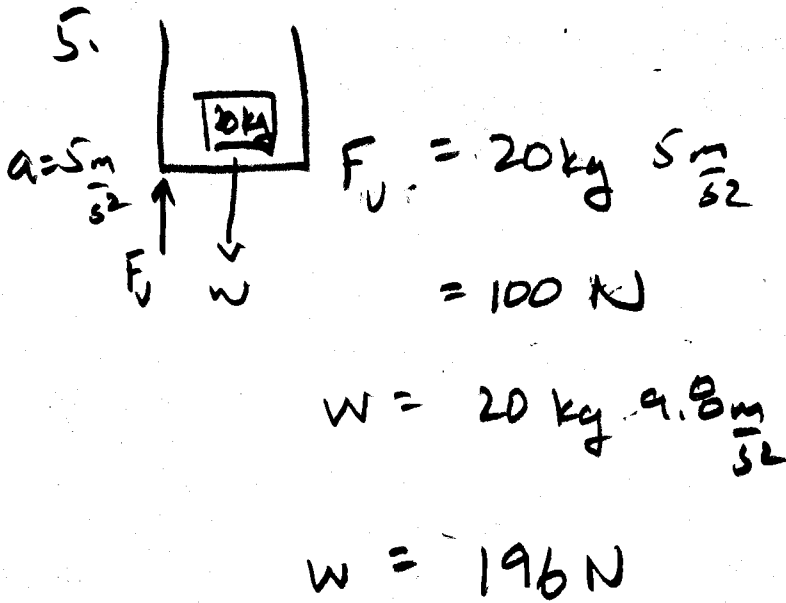
$$F_{NET} = F_E - W$$

$$0 = F_E - W$$

$$W = F_E$$

$$(14 \text{ kg}) \cdot 9.8 \frac{\text{m}}{\text{s}^2} = a (5.98 \times 10^{24} \text{ kg})$$

$$a = 6.56 \times 10^{-25} \frac{\text{m}}{\text{s}^2}$$

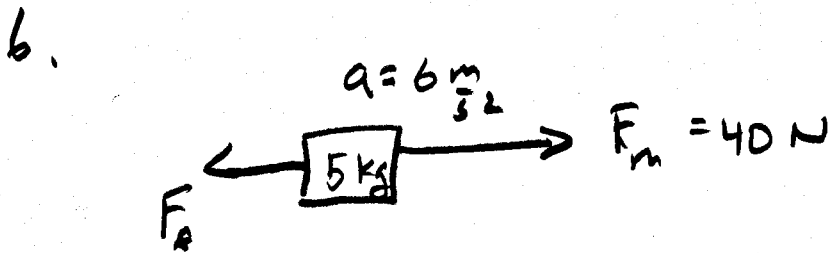


$$F_{NET} = F_U - W$$

$$= 100 \text{ N} - 196 \text{ N}$$

$$F_{NET} = 96 \text{ N}$$

NO BREAK



$$F_{NET} = m a$$

$$= 5 \text{ kg} \cdot 6 \frac{\text{m}}{\text{s}^2}$$

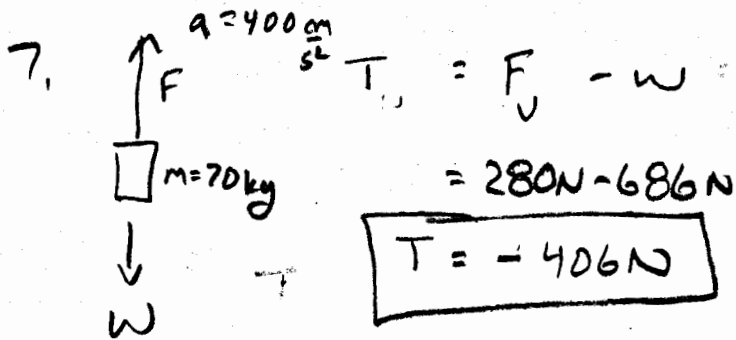
$$F_{NET} = 30 \text{ N}$$

$$F_{NET} = F_m - F_f$$

$$30 \text{ N} = 40 \text{ N} - F_f$$

$$F_f = 10 \text{ N}$$

$$F_f = 1.0 \times 10^1 \text{ N}$$



$$F_u = m a$$

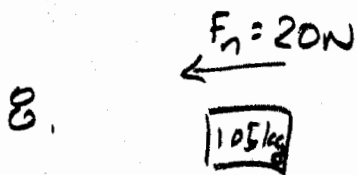
$$= 70\text{kg} \cdot 400 \frac{\text{cm}}{\text{s}^2} \times \frac{1\text{m}}{100\text{cm}}$$

$$F_u = 280\text{N}$$

$$W = m g$$

$$= 70\text{kg} \cdot 9.8 \frac{\text{m}}{\text{s}^2}$$

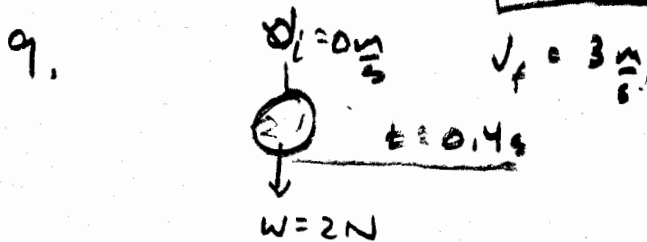
$$W = 686\text{N}$$



$$F = m a$$

$$20\text{N} = 105\text{kg} a$$

$$a = 1.90 \times 10^{-1} \frac{\text{m}}{\text{s}^2}$$



$$v = v_i + a t$$

$$3 \frac{\text{m}}{\text{s}} = 0 + a \cdot 0.4\text{s}$$

$$a = 7.5 \frac{\text{m}}{\text{s}^2}$$

$$W = m g$$

$$2\text{N} = m \cdot 9.8 \frac{\text{m}}{\text{s}^2}$$

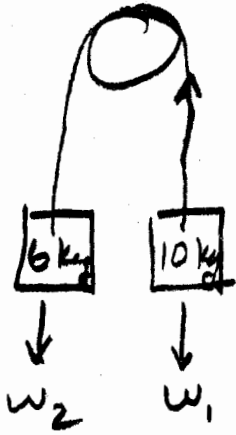
$$m = 0.204\text{kg}$$

$$F = m a$$

$$= 0.204\text{kg} \left(7.5 \frac{\text{m}}{\text{s}^2} \right)$$

$$F = 1.53\text{N}$$

10.



$$w_1 = m g$$
$$w = 10 \text{ kg } 9.8 \frac{\text{m}}{\text{s}^2}$$

$$\underline{w_1 = 98 \text{ N}}$$

$$w_2 = m g$$
$$= 6 \text{ kg } 9.8 \frac{\text{m}}{\text{s}^2}$$

$$\underline{w_2 = 58.8 \text{ N}}$$