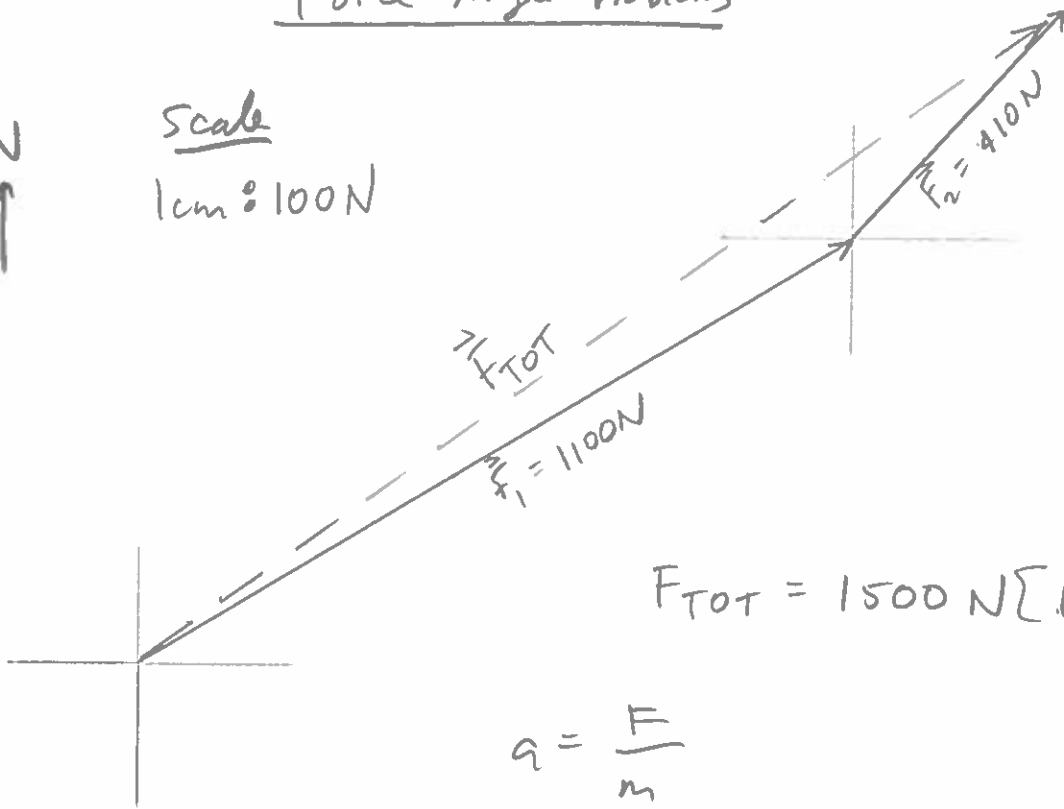


Force Angle Problems

A)

N
↑

Scale
1 cm = 100 N



$$F_{TOT} = 1500\text{ N} [E 35.5^\circ N]$$

$$a = \frac{F}{m}$$

$$= \frac{1500\text{ N}}{78\text{ kg}}$$

$$= 19.1\text{ m/s}^2 [E 35.5^\circ N]$$

B.)

N
↑

want 10 cm = 20 pN

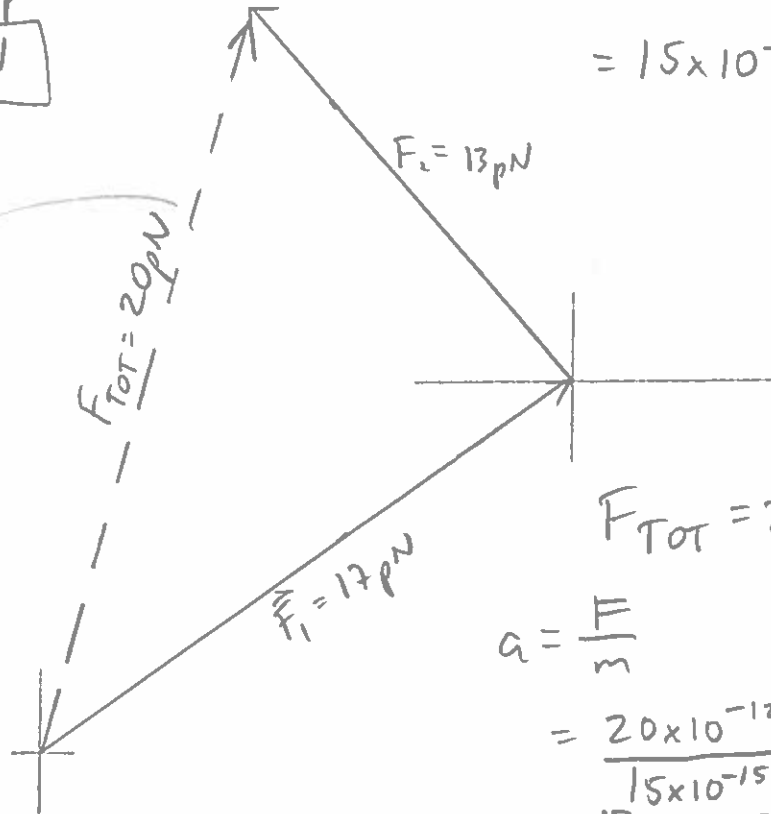
1 cm = 2 pN

scale

$$m = 15 \times 10^{-12}\text{ g} \left(\frac{1\text{ kg}}{10^3\text{ g}} \right)$$

$$= 15 \times 10^{-15}\text{ kg}$$

10.2 cm (x2)
↓
20 pN



$$F_{TOT} = 20\text{ pN} [E 74^\circ N]$$

$$a = \frac{F}{m}$$

$$= \frac{20 \times 10^{-12}\text{ N}}{15 \times 10^{-15}\text{ kg}}$$

$$= 1300\text{ m/s}^2 [E 74^\circ N]$$

