

$$\sin \theta = \frac{F_y}{80 \text{ N}}$$

$$F_y = 80 \text{ N} (\sin 53^\circ) = 63.84 \text{ N}$$

$$\cos \theta = \frac{F_x}{80 \text{ N}}$$

$$F_x = 80 \text{ N} (\cos 53^\circ) = 48.08 \text{ N}$$

$$\cos \theta = \frac{F_x}{50 \text{ N}}$$

$$F_x = 50 \text{ N} (\cos 53^\circ) = 30.09 \text{ N}$$

$$\cos \theta = \frac{F_x}{50 \text{ N}}$$

$$F_x = 50 \text{ N} (\cos 53^\circ) = 39.93 \text{ N}$$

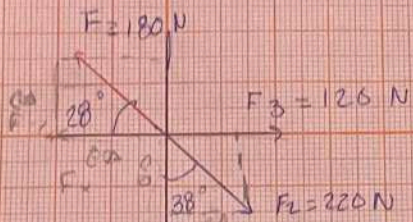
$$F_y = 63.84 \text{ N} + (30.09 \text{ N}) + (-70 \text{ N})$$

$$F_y = 23.93 \text{ N}$$

$$F_x = 48.08 \text{ N} + (-39.93 \text{ N})$$

$$F_x = 8.15 \text{ N}$$





$$\sin \theta = \frac{F_y}{F}$$

$$F_y = 180\text{ N} (\sin 28^\circ) = 84.50\text{ N}$$

$$\cos \theta = \frac{F_x}{F}$$

$$F_x = 180\text{ N} (\cos 28^\circ) = 158.93\text{ N}$$

$$\Sigma F_x = 120 + 158.93 - 180 = 98.93\text{ N}$$

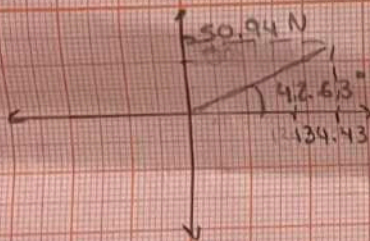
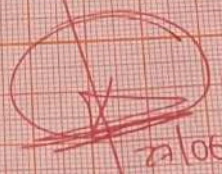
$$\Sigma F_y = 84.50 - 173.86 = -88.86\text{ N}$$

$$\sin \theta = \frac{F_y}{F}$$

$$F_x = -220\text{ N} (\sin 38^\circ) = -135.44\text{ N}$$

$$\cos \theta = \frac{F_x}{F}$$

$$F_x = 220\text{ N} (\cos 38^\circ) = 173.36\text{ N}$$



$$C = \sqrt{a^2 + b^2}$$

$$C = \sqrt{(96.51\text{ N})^2 + (-88.86\text{ N})^2}$$

$$C = \sqrt{9314.78 + 7895.09} = 140.5\text{ N}$$

$$\tan \theta = \frac{88.06\text{ N}}{96.51\text{ N}}$$

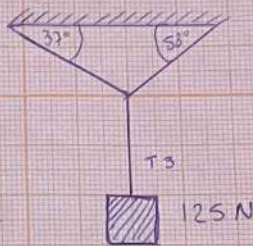
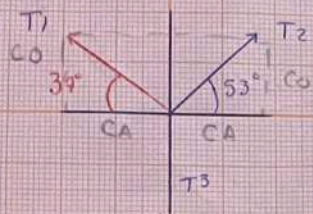
$$\theta = \tan^{-1} \frac{88.06\text{ N}}{96.51\text{ N}}$$

$$\theta = 42.63^\circ$$

$$C = \sqrt{12,210.27\text{ N}}$$

$$C = 110.5\text{ N}$$





$$\textcircled{1} \quad \text{Sen } 37^\circ = \frac{T_{1y}}{T_1} = T_{1y} = T_1 (\text{Sen } 37^\circ)$$

$$\text{Cos } 37^\circ = \frac{T_{1x}}{T_1} = T_{1x} = T_1 (\text{Cos } 37^\circ)$$

$$\text{Sen } 53^\circ = \frac{T_{2y}}{T_2} = T_{2y} = T_2 (\text{Sen } 53^\circ)$$

$$\text{Cos } 53^\circ = \frac{T_{2x}}{T_2} = T_{2x} = T_2 (\text{Cos } 53^\circ)$$

$$\textcircled{2} \quad \Sigma F_x = 0$$

$$-T_1 \cdot \text{Cos } 37^\circ + T_2 (\text{Cos } 53^\circ) = 0$$

$$-T_1 \cdot \text{Cos } 37^\circ + T_2 \cdot \text{Cos } 53^\circ$$

$$T_2 = \frac{T_1 \cdot \text{Cos } 37^\circ}{\text{Cos } 53^\circ} = 1.32 \cdot T_1$$

$$\textcircled{3} \quad \Sigma F_y = 0$$

$$T_2 (\text{Cos } 53^\circ) + T_1 (\text{Sen } 53^\circ) - 125 \text{ N} = 0$$

$$T_2 (0.60) + [1.32 \cdot T_1] (0.39) - 125 \text{ N} = 0$$

$$T_1 (0.60 + 0.04) - 125 \text{ N} = 0$$

$$T_1 = 1.64 - 125 \text{ N} = 0$$

$$T_1 = \frac{125}{1.64} = \underline{\underline{76.21 \text{ N}}}$$

~~0.107~~