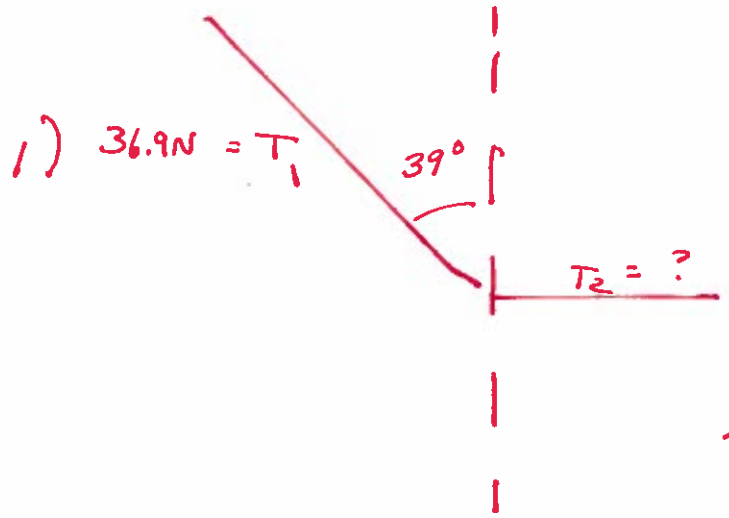


looking at just the x forces

$$F_{T_1 x} = F_{T_1} \sin 39° =$$

$$F_{T_1 x} = -23.22\ N$$

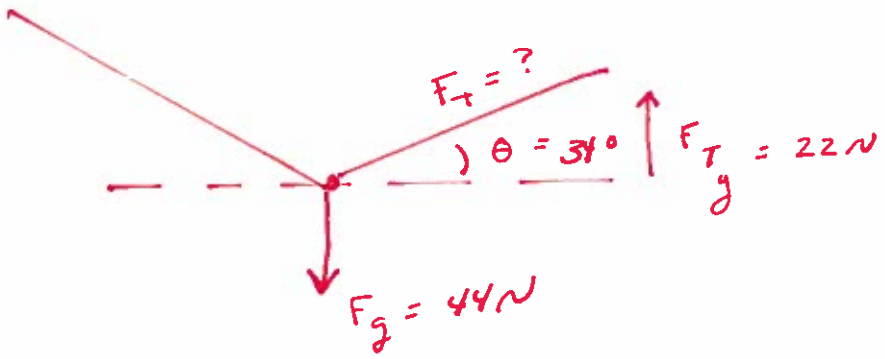
$$F_{net\ x} = 0 \quad \text{(at rest)}$$

$$F_{net\ x} = F_{T_1 x} + F_{T_2}$$

$$0 = -23.22\ N + F_{T_2}$$

$$F_{T_2} = 23.22\ N$$

2)



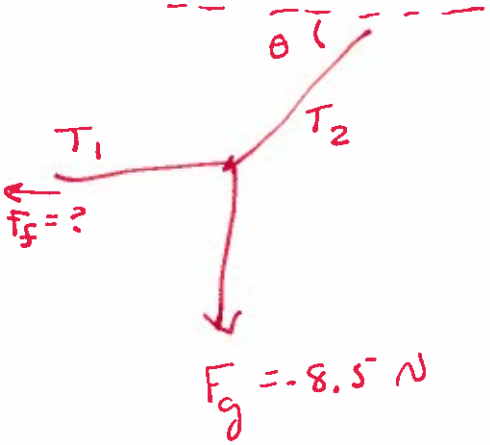
$$F_{T_y} = F_T \sin\theta$$

$$F_T = {}^{F_{T_y}}/_{\sin\theta}$$

$$F_T = {}^{22}/_{\sin 34}$$

$$F_T = 39.34\,N$$

3)



$\theta = 37°$

$F_f + T_1 = 0$

$F_f = -T_1$

$T_1 + T_{2x} = 0$

$T_1 = -T_{2x}$

$T_{2x} = T_2 \cos\theta$

$T_{2y} = 8.5\ N$

or toa

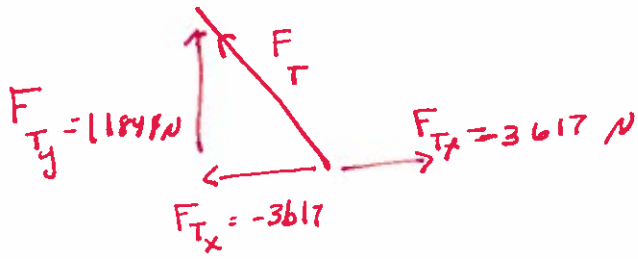
$\tan\theta = \frac{T_{2y}}{T_{2x}}$

$\tan 37° = \frac{8.5\ N}{T_{2x}}$

$F_f = T_{2x} = \frac{8.5}{\tan 37} = 11.28\ N$

4) $F_g = 11844\ N$

$F_{Tx} = 3617\ N$



$\theta = ?$

$$\tan\theta = \frac{3617}{11844}$$

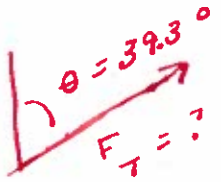
$$\theta = 16.98^\circ$$

5) $F_T = ?$

$$F_T = \sqrt{F_{Ty}^2 + F_{Tx}^2}$$

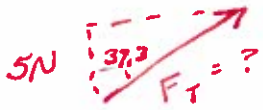
$$F_T = 12383.98\ N$$

6)



4 strings

$F_g = 20\ N$



$F_{T_y} = F_T \cancel{\sin\theta}\ \cos\theta$

$$F_T = \frac{5}{\cancel{\sin}\ \cos 39.3}$$

$F_T = \cancel{7.889\ N}\ 6.46\ N$