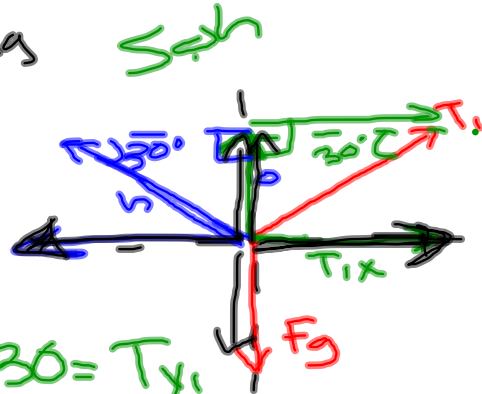


$a=0$   
 $\Sigma F=0$



$T_{2y} = T_2 \sin 30$      $T_1 \sin 30 = T_{1y}$   
 $T_{2x} = -T_2 \cos 30$      $T_1 \cos 30 = T_{1x}$

$F_g = 40(9.8) = -392 \text{ N } \hat{y}$

X  
 $\Sigma F = 0$

Y  
 $\Sigma F = 0$

$0 = T_{1x} + T_{2x}$

$F_g + T_{1y} + T_{2y} = 0$

$0 = T_1 \cos 30 + T_2 \cos 30$

$0 = -392 + T_1 \sin 30 + T_2 \sin 30$

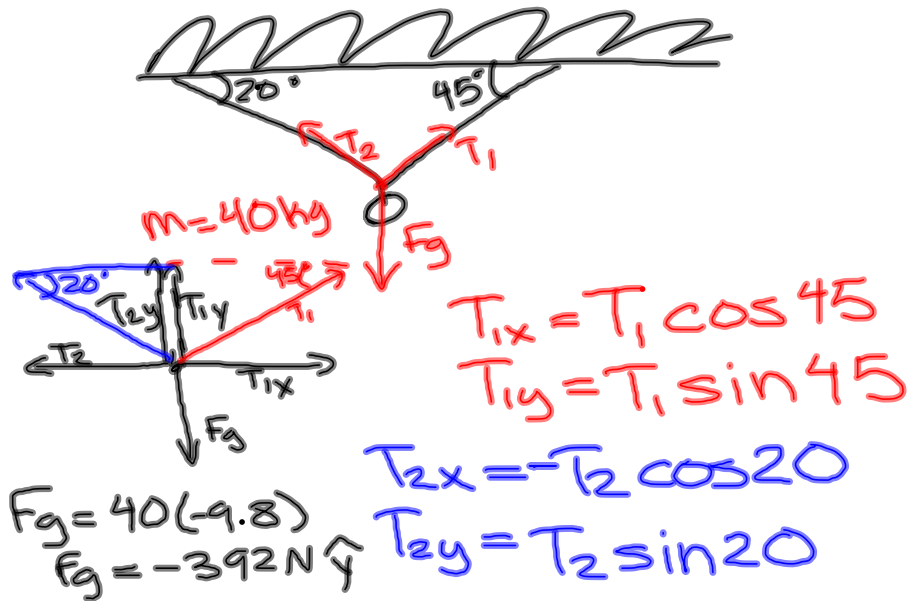
$T_2 \cos 30 = T_1 \cos 30$   
 $\cos 30$

$T_2 = T_1 = T$

$0 = -392 + T \sin 30 + T \sin 30$

$0 = -392 + .5T + .5T$

$392 = T$



$$F_g = 40(-9.8)$$

$$F_g = -392 \text{ N} \hat{y}$$

$$\sum_x$$

$$T_{1x} + T_{2x} = 0$$

$$T_1 \cos 45 - T_2 \cos 20 = 0$$

$$0.7071 T_1 - 0.93969 T_2 = 0$$

$$\frac{0.7071 T_1 = 0.93969 T_2}{0.7071}$$

$$\rightarrow T_1 = 1.3289 T_2$$

$$\sum_y$$

$$F_g + T_{1y} + T_{2y} = 0$$

$$-392 \text{ N} + T_1 \sin 45 + T_2 \sin 20 = 0$$

$$-392 + (1.3289 T_2)(0.7071) + 0.342 T_2 = 0$$

$$-392 + 0.93969 T_2 + 0.342 T_2 = 0$$

$$1.2817 T_2 = 392$$

$$T_2 = 305.8 \text{ N}$$

$$T_1 = 1.3289 T_2$$

$$T_1 = 406.43 \text{ N}$$