



$$T_{x1} = T_1 \cdot \cos 60$$

$$T_{y1} = T_1 \cdot \sin 60$$

$$T_{x2} = T_2 \cdot \cos 30$$

$$T_{y2} = T_2 \cdot \sin 30$$

Vertical Forces:  $T_{y1} + T_{y2} = W$

$$T_1 \cdot \sin 60 + T_2 \cdot \sin 30 = 150 \text{ N}$$

Horizontal Forces:  $T_{x1} = T_{x2}$

$$T_1 \cdot \cos 60 = T_2 \cdot \cos 30$$

$$T_1 = T_2 \cdot \frac{\cos 30}{\cos 60}$$

Substituting:  $\left( \frac{T_2 \cdot \cos 30}{\cos 60} \right) \cdot \sin 60 + T_2 \cdot \sin 30 = 150 \text{ N}$

$$1.5 \cdot T_2 + .5 \cdot T_2 = 150 \text{ N}$$

$$T_2 = 75 \text{ N}$$

$$T_1 = T_2 \cdot \frac{\cos 30}{\cos 60} = (75 \text{ N}) \cdot \frac{\cos 30}{\cos 60}$$

$$T_1 = 130 \text{ N}$$