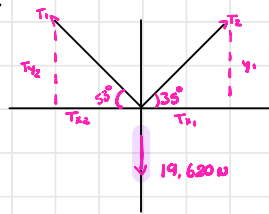
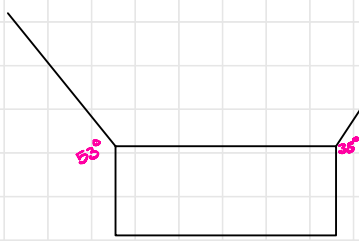


Se tiene una tarima de 2 toneladas, suspendida con dos cuerdas, las cuerdas forman ángulos de 35° y 53° con la horizontal, determina la tensión que soportan ambas cuerdas.



$$F = 19,620 \text{ N}$$

$$T_1 =$$

$$T_2 =$$

$$1 \text{ Ton} \text{ --- } 1000 \text{ kg}$$

$$2 \text{ Ton} \text{ --- } x$$

$$\downarrow$$

$$2000 \text{ kg}$$

$$F = m \cdot g$$

$$F = (2000 \text{ kg})(9.81 \text{ m/s}^2)$$

$$F = 19,620$$

$$\sum F_x = 0$$

$$T_{x1} - T_{x2} = 0$$

$$T_{x1} = T_{x2}$$

$$T_1 \cos 35^\circ = T_2 \cos 53^\circ$$

$$T_1 \cdot 0.819 = T_2 \cdot 0.601$$

$$T_1 = \frac{T_2 \cdot 0.601}{0.819}$$

$$0.819$$

$$T_1 = 0.733$$

$$\sum F_y = 0$$

$$T_{y1} + T_{y2} = 19,620 \text{ N}$$

$$T_1 \sin 35^\circ + T_2 \sin 53^\circ = 19,620 \text{ N}$$

$$T_1 \cdot 0.573 + T_2 \cdot 0.798 = 19,620 \text{ N}$$

$$(T_2 \cdot 0.733)(0.573) + T_2 \cdot 0.798 = 19,620 \text{ N}$$

$$T_1 \cdot 0.420 + T_2 \cdot 0.798 = 19,620 \text{ N}$$

$$T_1 \cdot 1.218 = 19,620 \text{ N}$$

$$T_2 = \frac{19,620 \text{ N}}{1.218}$$

$$1.218$$

$$T_2 = 16,108.37 \text{ N}$$

$$T_1 = (16,108.37 \text{ N})(0.733)$$

$$T_1 = 11,807.43 \text{ N}$$

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