

$$F_x = 0 = T_2 \cos(10^\circ) - T_1 \sin(10^\circ)$$

Solution

$$F_x = 0 = T_2 \cos(10^\circ) - T_1 \sin(10^\circ)$$

We know that

$$\cos(10^\circ) \cong 0.98, \sin(10^\circ) \cong 0.17.$$

Then we have

$$0.98T_2 - 0.17T_1 = 0 \rightarrow \frac{T_1}{T_2} = 5.67$$

Answer : $\frac{T_1}{T_2} = 5.67$.