Fx=0=T2X-T1X=T2cos(10degrees)-T1sin(10degrees)

Solution

$$F_x = 0 = T_{2X} - T_{1X} = T_2 \cos(10^\circ) - T_1 \sin(10^\circ)$$

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