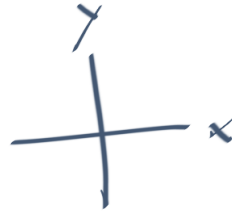
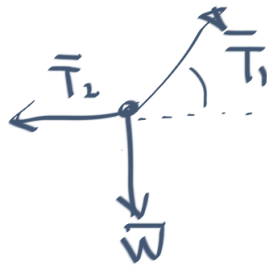
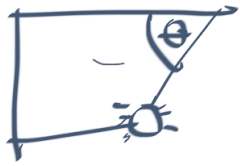


Spider problem



$$\vec{T}_1 + \vec{T}_2 + \vec{W} = m\vec{a} = 0$$

$$T_{1x} - T_2 = 0 \quad (\text{x-direction})$$

$$T_{1y} - Mg = 0 \quad (\text{y-direction})$$

$$T_{1y} = Mg \Rightarrow T_{1y} = (\cos\theta)(10) = \boxed{0.01 \text{ N}}$$

$$\frac{T_{1y}}{T_{1x}} = \frac{1}{\sqrt{3}} \Rightarrow T_{1x} = \sqrt{3} T_{1y} \Rightarrow T_{1x} = 0.01\sqrt{3} \text{ N}$$

$$T_1 = \sqrt{T_{1x}^2 + T_{1y}^2} = \boxed{0.02 \text{ N}}$$

$$T_2 = 0.017 \text{ N}$$

