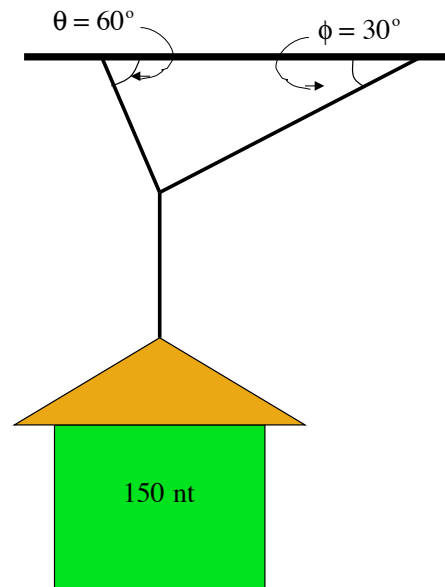


Problem 4.19

A birdfeeder is hung as shown.
What are the tensions in the lines?



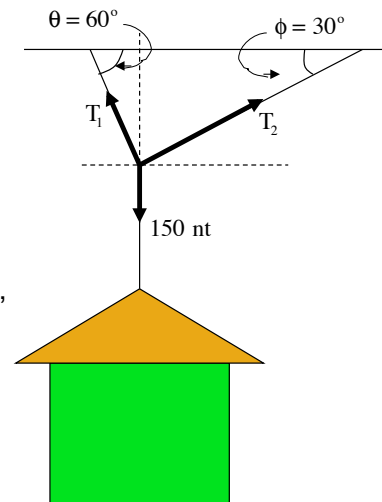
1.)

Problem 4.19

A birdfeeder is hung as shown. What
are the tensions in the lines?

This is technically a Newton's Second Law problem
with the acceleration equal to zero in all directions.
Without following the formal approach but simply by
breaking the forces into their component parts and
summing to zero in both the x-direction and y-direction,
we get:

$$\begin{aligned}\sum F_x : \\ -T_1 \cos 60^\circ + T_2 \cos 30^\circ &= m a_x^0 \\ \sum F_y : \\ T_1 \sin 60^\circ + T_2 \sin 30^\circ - 150 &= m a_y^0\end{aligned}$$



Solve simultaneously to get $T_1 = 130 \text{ nt}$ and $T_2 = 75 \text{ nt}$

2.)