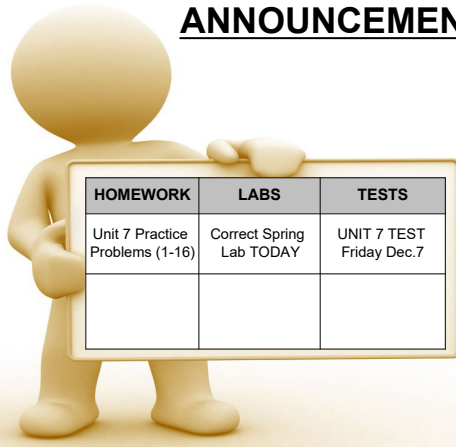


SPRING LAB

SECTION	EVALUATION	POINTS EARNED
TITLE	Title of lab is present and labeled	
PURPOSE	Purpose of lab is labeled and clearly written in a complete sentence	
HYPOTHESIS	Hypothesis of lab is labeled and clearly written in a complete sentence	
MATERIALS	Materials of lab are labeled and clearly listed	
DATA AND CALCULATIONS	Data is clearly labeled and appropriately displayed through tables or charts Graphs and/or calculations are clearly labeled and contain appropriate units	
CONCLUSION	Purpose of lab is restated Findings are verified with 3 or more results including important numerical values and their significance Counterclaim is provided to address specific experimental error and provide possible experimental improvements Specific real-world applications are given to provide importance of the experimental process	

TOTAL 20

ANNOUNCEMENTS



7.5 Translational Equilibrium

LEARNING TARGETS

7.3 I can define, analyze, and solve dynamic problems involving tension forces and connected objects.

Translational Equilibrium

When an object is in **translational equilibrium**, the net force acting on it is zero.



Translational Equilibrium

$$\Sigma \vec{F} = 0$$

$$\Sigma \vec{F}_x = 0$$

$$\Sigma \vec{F}_y = 0$$

$F_{net} = 0$

$f = F_A$ $N = F_g$

Translational Equilibrium

$T_{R1B} = F_{g1B}$ $2T_{R2B} = F_{g1B}$

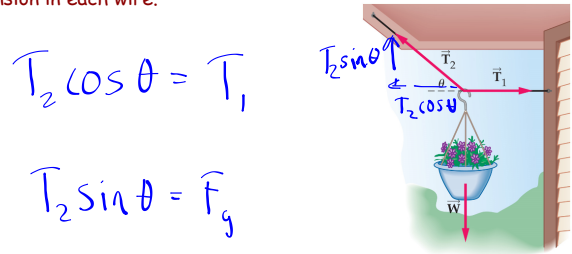
$T_{R1B} = \frac{F_{g1B}}{2}$

Suspended Vegetation

- 6) To hang a 6.20 kg pot of flowers, a gardener uses two wires - one attached horizontally to a wall, the other sloping upward at an angle of $\theta = 40.0^\circ$ and attached to the ceiling. Find the tension in each wire.
- 7) A 1.84 kg bag of clothespins hangs in the middle of a clothesline, causing it to sag by an angle of $\theta = 3.50^\circ$. Find the tension, T , in the clothesline.

Suspended Vegetation

To hang a 6.20 kg pot of flowers, a gardener uses two wires - one attached horizontally to a wall, the other sloping upward at an angle of $\theta = 40.0^\circ$ and attached to the ceiling. Find the tension in each wire.



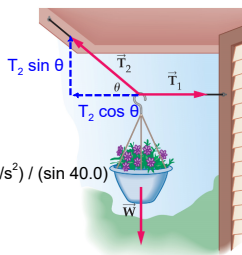
Suspended Vegetation

To hang a 6.20 kg pot of flowers, a gardener uses two wires - one attached horizontally to a wall, the other sloping upward at an angle of $\theta = 40.0^\circ$ and attached to the ceiling. Find the tension in each wire.

$T_2 \cos \theta = T_1$
 $72.4 \text{ N} = T_1$

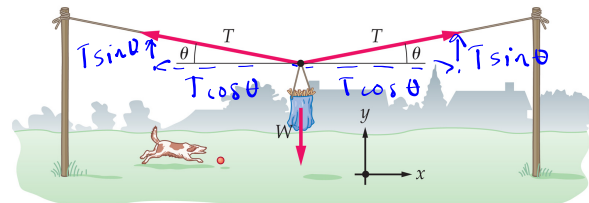
$T_2 \sin \theta = F_g$
 $T_2 \sin \theta = mg$
 $T_2 = mg / \sin \theta$

$T_2 = (6.20 \text{ kg})(9.8 \text{ m/s}^2) / (\sin 40.0)$
 $T_2 = 94.5 \text{ N}$



Suspended Vegetation

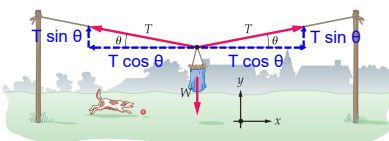
A 1.84 kg bag of clothespins hangs in the middle of a clothesline, causing it to sag by an angle of $\theta = 3.50^\circ$. Find the tension, T , in the clothesline.



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Suspended Vegetation

A 1.84 kg bag of clothespins hangs in the middle of a clothesline, causing it to sag by an angle of $\theta = 3.50^\circ$. Find the tension, T , in the clothesline.



$2(T \sin \theta) = F_g$
 $T = (mg) / (2 \sin \theta)$
 $T = 148 \text{ N}$

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PRACTICE
UNIT 7 PROBLEMS
(17-18)