Angles of Elevation and Depression Exploration

Names: 1. _____ Eye level height (inches): _____ Period: _____

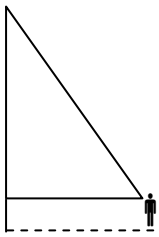
2. _____ _____

3. _____ _____

4. _____ _____

Your group will go to each "station" and perform the task described below. Each person in the group will perform the measurement, and each of you will perform the calculations. **While we are outside the classroom, you are expected to be on your best behavior. If you cannot manage to do this, your group will have to return to class, and you will receive a zero for this assignment.**

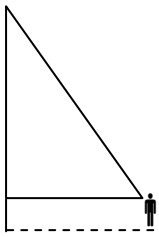
<u>Station 1 – Window Wall (1100 hallway, near doors)</u>



1. Using your clinometer, measure the angle to the ceiling of the window wall.
2. Count the number of floor tiles from where you are standing to the wall.
3. To find the ceiling height, use the tangent ratio to find the height from your eye level to the ceiling.
4. Add your eye level height to this number.

Angle of Elevation	# of Tiles From Wall x 1.67	Eye Level Height (feet) (divide inches by 12)	Ceiling Height

<u>Station 2 – Promenade (near doors)</u>

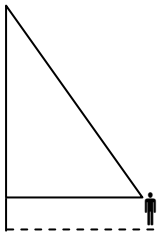


5. Using your clinometer, measure the angle to the ceiling of the promenade.
6. Count the number of floor tiles from where you are standing to the wall.
7. To find the ceiling height, use the tangent ratio to find the height from your eye level to the ceiling.
8. Add your eye level height to this number.

Angle of Elevation	# of Tiles From Wall	Eye Level Height (feet)	Ceiling Height

Angles of Elevation and Depression Exploration

Station 3 – Promenade Stairs (1st Landing)



1. Using your clinometer, measure the angle to the first landing of the promenade stairs.
2. Count the number of floor tiles from where you are standing to directly below the landing (where the lunch cart is).
3. To find the landing height, use the tangent ratio to find the height from your eye level to the stairs.
4. Add your eye level height to this number.

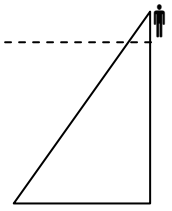
Angle of Elevation	# of Tiles From Landing	Eye Level Height (feet)	Stair Height

Station 4 – Promenade Stairs (1st Landing – Direct Measurement)

1. Using the tape measure, have one person hold one end on the floor below the landing, and one person hold the other end at the top of the landing.

Height of Landing in feet and inches	Height of Landing in feet (as a decimal)

Station 6 – Promenade Stairs (Top)



1. Standing at the corner of the top of the stairs, use your clinometer to measure the angle to the floor near the doorway.
2. Count the number of floor tiles from the door to directly under the stairs.
3. To find the stair height, use the tangent ratio to find the height from your eye level to the stairs.
4. **Subtract** your eye level height to this number.

Angle of Depression	# of Tiles From Wall	Eye Level Height (feet)	Stair Height

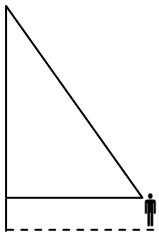
Angles of Elevation and Depression Exploration

Station 7 – Promenade Stairs (Top – Direct Measurement)

1. Using the tape measure, have one person hold one end on the floor below the landing, and one person hold the other end at the top of the landing.

Height of Landing in feet and inches	Height of Landing in feet (as a decimal)

Station 8 – Goal Post Uprights



1. Using your clinometer, measure the angle to the top of a goal post.
2. Count the number of yards from where you are standing to the goalpost. (It is 10 yards from the goal line to the back of the end zone.) Multiply this by 3 to get feet.
3. To find the goal post height, use the tangent ratio to find the height from your eye level to the top of the upright.
4. Add your eye level height to this number.

Angle of Elevation	# of **Feet** to Upright	Eye Level Height (feet)	Upright Height