Name:_____

Rocket Calculations Starter

(2 points of extra credit if you are below a B)

Exemplar:

Calculation Max Height Using Soh Cah Toa

What we know:

- The angle measurer was taken 100 ft back from the launcher.
- The angle was 67.776
- The Altitude of the angle measurer above ground is 4.75ft

If we build a triangle it would look like. And we look at what the sides are corresponding to the angle we know

Step 1: The equation of best fit is tangent because we are using the opposite and the adjacent sides.

$$tan(\theta) = \frac{opp}{adj}$$

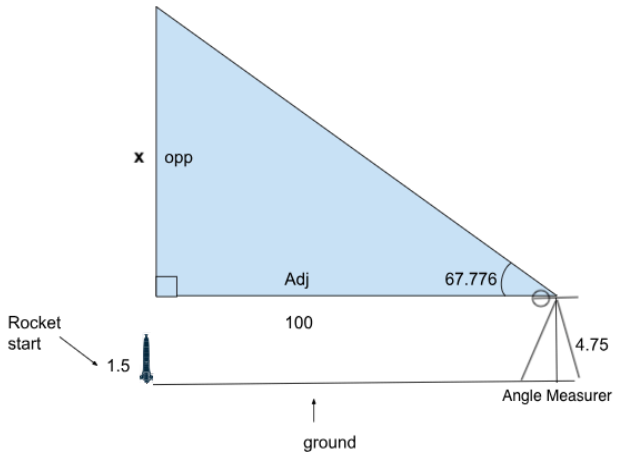
Step 2: Fill out what we know

$$tan(66.013) = \frac{x}{100}$$

Step 3: Get *x* by itself

$$100 \cdot tan(66.013) = x$$

$$224.740896 = x$$



Step 4: Add the height of the angle measurer

Height above ground:

$$224.740896 + 4.75 = \mathbf{229.4596ft}$$

Criteria for Math:

1. The calculations are explained in words, and someone who does not know the math can easily follow.
2. Steps are clear, broken up with pictures, charts, graphs, and diagrams that complement what is being said.
3. All simplifications and assumptions are presented.
4. The process is clear and concise, and every step is justified.

1. **How well did they demonstrate their knowledge of the content?**

2. **How clear and easy to understand is the example?**

3. **What did the exemplar do to make it easier to follow?**