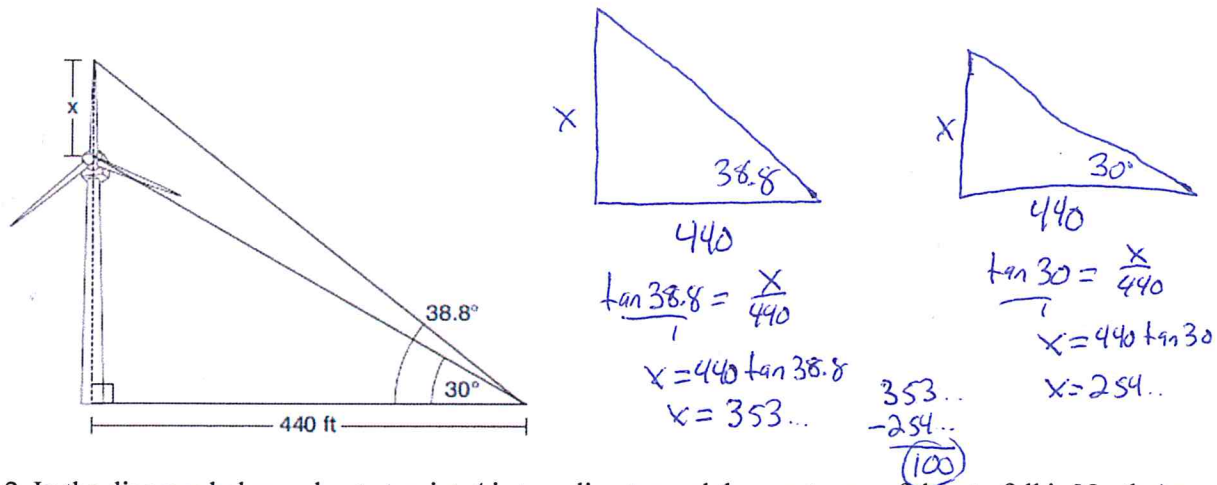


Name Schlansky
Mr. Schlansky

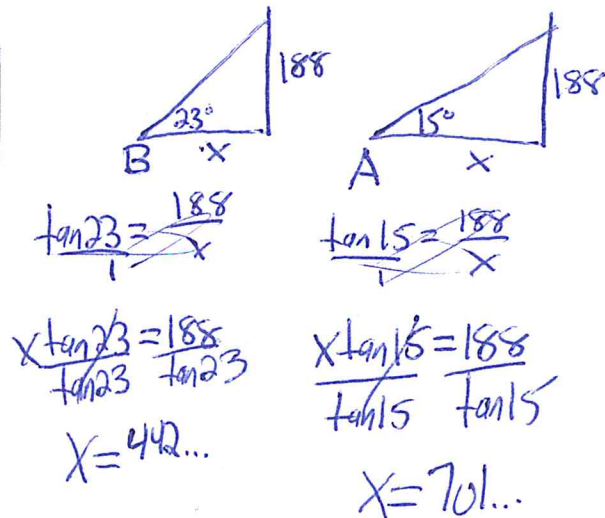
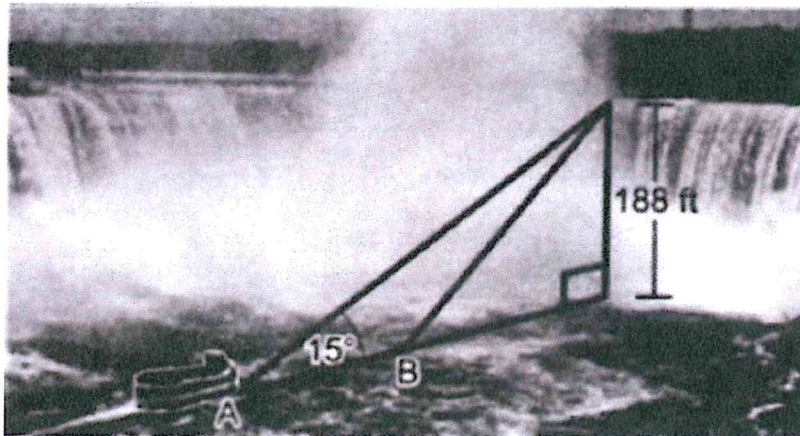
Date _____
Geometry

Compound Right Triangle Problems (Subtraction/Reflexive) Practice

1. Nick wanted to determine the length of one blade of the windmill pictured below. He stood at a point on the ground 440 feet from the windmill's base. Using surveyor's tools, Nick measured the angle between the ground and the highest point reached by the top blade and found it was 38.8° . He also measured the angle between the ground and the lowest point of the top blade, and found it was 30° . Determine and state a blade's length, x , to the nearest foot.

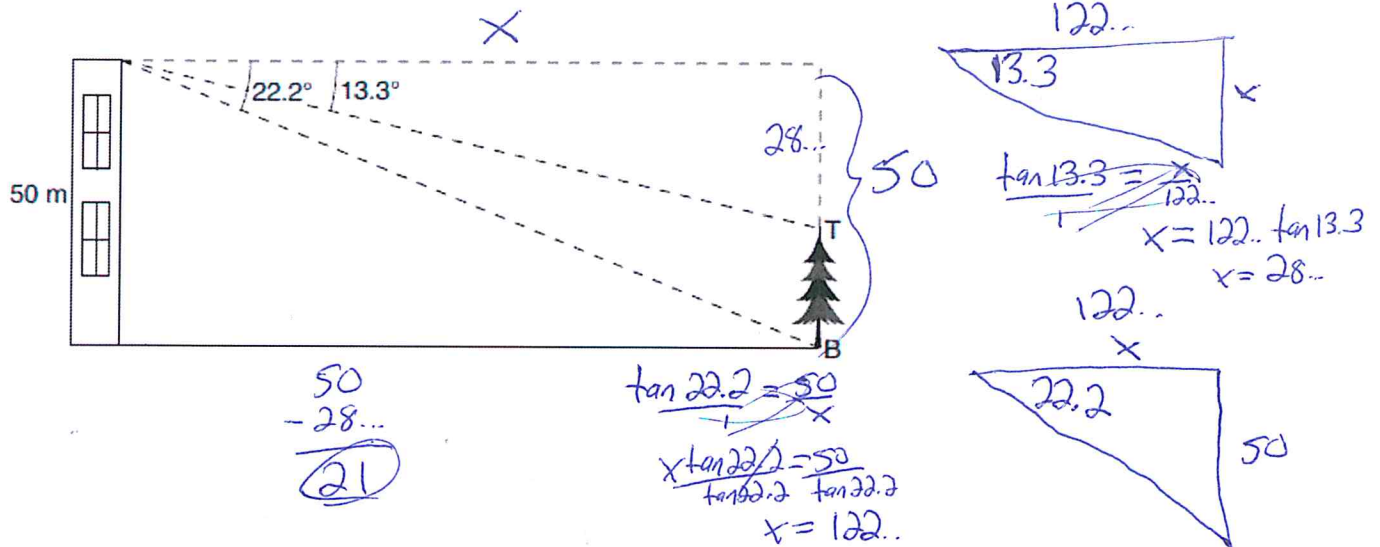


2. In the diagram below, a boat at point A is traveling toward the most powerful waterfall in North America, the Horseshoe Falls. The Horseshoe Falls has a vertical drop of 188 feet. The angle of elevation from point A to the top of the waterfall is 15° . After the boat travels toward the falls, the angle of elevation at point B to the top of the waterfall is 23° . Determine and state, to the nearest foot, the distance the boat traveled from point A to point B .



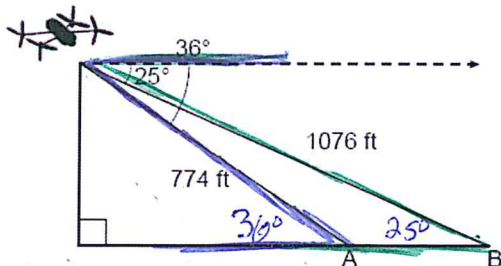
$$701 \dots - 442 \dots = \underline{258}$$

3. As modeled in the diagram below, a building has a height of 50 meters. The angle of depression from the top of the building to the top of the tree, T , is 13.3° . The angle of depression from the top of the building to the bottom of the tree, B , is 22.2° . Determine and state, to the nearest meter, the height of the tree.

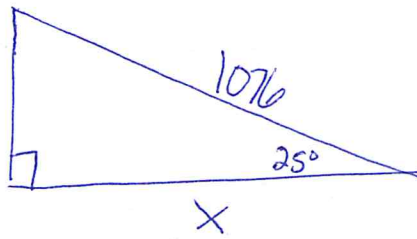
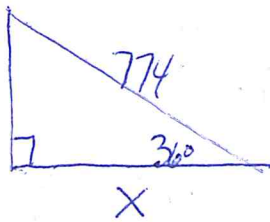


4. A drone is used to measure the size of a brush fire on the ground. Segment AB represents the width of the fire, as shown below. The drone calculates the distance to point B to be 1076 feet at an angle of depression of 25° . At the same point, the drone calculates the distance to point A to be 774 feet at an angle of depression of 36° . Determine and state the width of the fire, \overline{AB} , to the nearest foot.

angle of depression = angle of elevation



$$\begin{array}{r} 975. \\ - 626. \\ \hline 349 \end{array}$$



$$\cos 36^\circ = \frac{x}{774}$$

$$x = 774 \cos 36^\circ$$

$$x = 626$$

$$\cos 25^\circ = \frac{x}{1076}$$

$$x = 1076 \cos 25^\circ$$

$$x = 975$$