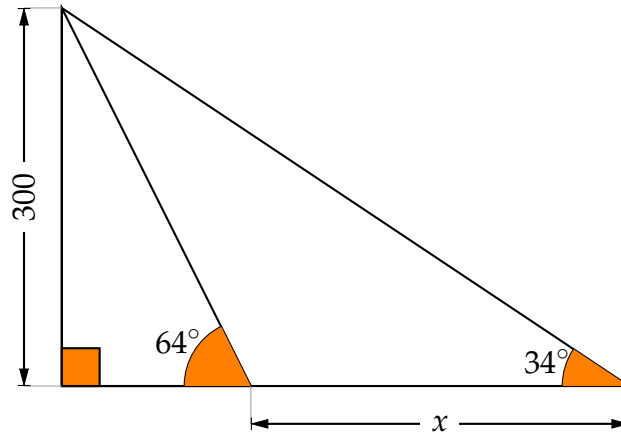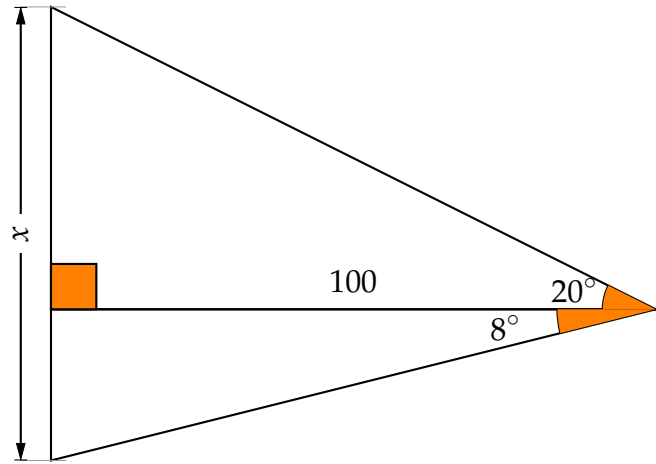**Purpose:** In this problem set, you will hone your trigonometry skills to solve for unknown measurements.

1. Find $x$.

2. Find $x$.

3. Describe the meaning of "angle of elevation" and "angle of depression." Give an example in drawing for each.

4. You walk 40 feet back from the base of a tree and measure the angle of elevation to the top of the tree to be 72 degrees. Find the height of the tree.

5. A 100 foot tower is located directly between two people. From the first person, there is a 50 degree angle of elevation to the top of the tower. From the second, there is a 40 degree angle of elevation to the top of the tower. How far apart are the two people?

6. A 400 foot tall monument is located in the distance. From a window in a building, a person determines that the angle of elevation to the top of the monument is 18 degrees and that the angle of depression to the bottom of the tower is 3 degrees. How far is the person from the monument?