INT MATH 2 **NAME:** **PER:**

CAREFULLY DRAW A DIAGRAM AND LABEL ALL GIVEN MEASUREMENTS, WRITE AN EQUATION, THEN SOLVE.

1. Kyle wonders how tall the top of a field goal post is. He decided to find out by using the tools he learned in IM2. He measures a distance of 55 feet away from the post and then uses a clinometer to measure an angle of 30° as he looks at the top of the field goal post. If Kyle's eye height is 6 feet off the ground, then how tall is the field goal post? Round to the nearest hundredth.

CHECK ANSWERS
1.95
15.95
33.51
37.75
379.14
411.72

2. Brooke is looking at the top of a flag pole at a 35° angle. She is standing 40 feet from the flag pole and her eye height is 5.5 feet. How tall is the flag pole?

3. While visiting the beautiful redwoods of Big Sur, Tom came across a tree labeled as one of the tallest trees in the world. However, he could not find the height listed anywhere. Tom's "eye height" is 6 feet and he is standing 174 feet from the base of the tree. The angle of sight to the top of the tree is 65°.

a) How tall is the tree?

b) Using the diagram and answer from part a, find the distance from Tom's eyes to the top of the tree (hypotenuse of triangle.) Clearly show all steps, round to the nearest hundredth.

4. A ladder is leaning against a house, forming an angle of 72 with the ground. If the top of the ladder sits at a height of 6 feet, find how far away the base of the ladder is from the house (horizontal distance along the ground.)

5. A ramp leading up to the back of a moving truck has a vertical height of 2 feet. The base of the ramp is a horizontal distance of 7 feet away from the truck. What is the angle formed between the ramp and the ground?