Name: _____   Date: _____

Practice: Solve Problems Using Similar Triangles

1. James is 1.5 m tall. His younger brother is 0.75 m tall. If James' shadow is 2 m long, how long is his brother's shadow?

2. The height of a house is 9 m. The height of the doghouse in the backyard is 1.5 m. If the house casts a shadow that is 12 m long, what is the length of the shadow of the doghouse at the same time?

3. The height of a thermos is 18 cm. Its shadow is 24 cm long. The cup next to the thermos is 12 cm tall. Determine the length of the cup's shadow at the same time.

4. The shadow cast by a lunch box is 50 cm long. At the same time, the shadow cast by a juice box is 25 cm long. The juice box is 20 cm tall. What is the height of the lunch box?

5. A carpenter is building two wheelchair ramps for the school. The first ramp will be at the front door of the school. It will be steeper than the second ramp which will be at the back door. Determine the length of each ramp.
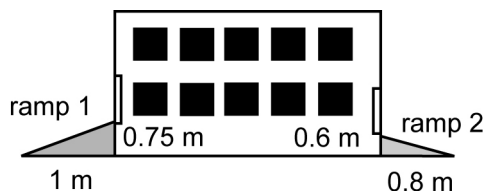
6. The observation tower was designed to have an area open from the rooftop so that a large telescope could be used to view the stars. Use the diagram of the observation building. Determine the height of the observation area.
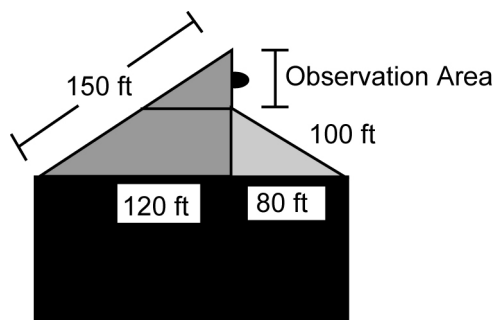
7. Kristin lit three different-sized candles. When the first candle was lit, it cast a shadow 15 cm long. The second candle cast a shadow 9 cm long. The third candle cast a shadow 12 cm long. If the height of the first candle is 20 cm, determine the heights of the other two candles.