Indirect Measurement Extra Practice

For each question, draw and label a diagram. Then use proportions to solve.

1.) If a 4-meter flagpole casts a shadow of 6 meters at the same time that a nearby building casts a 24-meter shadow, how tall is the building?

2.) If five-foot-tall Madeleine casts a **84-inch** shadow, then how tall is her friend if he has a shadow at the same time which is one foot shorter than hers? Round to the nearest tenth.

3.) A rope from the tip of a flagpole reaches all the way down to the end of the flagpole shadow, a distance of 10 meters. The length of the shadow is 6 meters. How tall is the nearby football goal post if it has a shadow of 4 meters? Round to the nearest tenth.

4.) One overcast day, Amanda needed to calculate the height of a window in a nearby building. Since there were no shadows available, she decided to use mirrors. Amanda positioned a mirror on the ground between herself and the building in such a way that when she looked into the mirror while standing upright, she was looking at the window's reflection. If the mirror was 122 cm from her feet and 732 cm from the base of the building and her eyes are 182 [redacted] above the ground, how high up on the building was the window? Round to the nearest tenth.

cm

5.) A triangle with sides 8, 15, and 17 cm is similar to a triangle whose longest side is 68 cm.

a.) What is the <u>perimeter</u> of the larger triangle?

b.) What is the ratio of the perimeter of the small triangle to the perimeter of the large triangle?