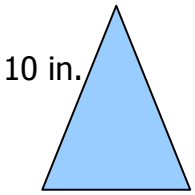
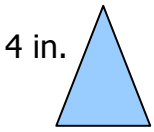
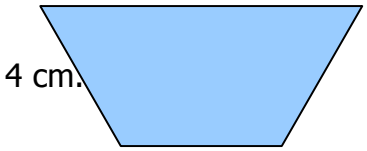
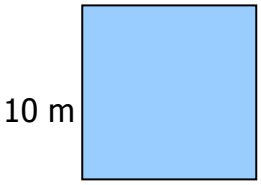
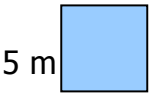
NAME_____

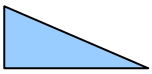
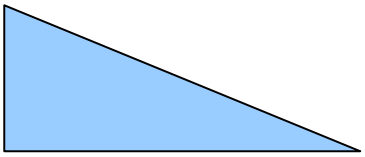
Area of Similar Figures Investigation

Consider the following similar figures. For each pair:

a. Identify the scale factor of the side lengths.
(How many times bigger or smaller are the sides?)

b. Identify the scale factor of the areas.
(How many times bigger or smaller are the areas?)

Side Length Scale Factor	**Area Scale Factor**	**Figure 1**	**Figure 2**
$\frac{10}{4} = \frac{5}{2}$	$\frac{50}{8} = \frac{25}{4}$	 Area = 50 in^2	 Area = 8 in^2
		 Area = 5 cm^2	 Area = 80 cm^2
		 Area = 80 m^2	 Area = 20 m^2
		 Area = 75 cm^2	 Area = 12 cm^2

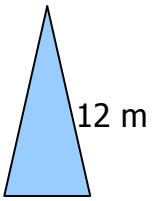
		 4 in. Area = 6 in^2	 12 in. Area = 54 in^2
		 6 ft Area = 45 ft^2	 4 ft Area = 20 ft^2

1. Distinguish what you notice about the relationship between side length scale factor and the area scale factor?

   Class Rule:

2. Apply what you just found regarding the relationship of side length scale factor and area scale factor to evaluate the missing area in each pair of similar figures below.

   a.

   
   12 m

   
   8 m

   Area = 16 m^2

   Area = _____

   b.

   
   3 ft

   Area = _____

   
   9 ft

   Area = 100 ft^2