Lesson 10 ~ Special Ratios for Similar Figures

Name__________________________________________      Period______      Date____________

Rectangle BIKE is similar to rectangle PLAY.

1. Find the scale factor.

2. Find the perimeter of each rectangle.

3. Find the ratio of the perimeters.

4. Find the area of each rectangle.

5. Find the ratio of the areas.

For each pair of similar figures:
   a. Find the scale factor. (a:b)
   b. Find the ratio of the perimeters. (a:b)
   c. Find the ratio of the areas. (a²:b²)

6. 

7. 

8. 

9. 

10. 

11. 

12. Use the similar figures to the right.

   a. If the smaller hexagon has a perimeter of $21\, m$, find the perimeter of the larger hexagon.

   b. If the larger hexagon has area $16\, m^2$, find the area of the smaller hexagon.
Lesson 11 ~ Scale Drawings (Remember to show your work!!!)

A map has a scale 1 inches : 10 miles. Use the given map distance to find the actual distance.

1. 3 in  
2. 7.5 in  
3. 1 ft  
4. 18 in

A map has a scale 1 inch : 5 kilometers. Use the given actual distance to find the map distance.

5. 100 km  
6. 45 km  
7. 72 km  
8. 9.5 km

The cities of Lincoln City and Newport are 36 miles apart. Given the distance between the cities on each map, find the scale of each map.

9. 6 inches  
10. 1 foot

11. A wall is 4 inches long in a scale drawing. The actual wall is 12 feet long. Find the scale of the drawing.

12. A sofa is 6 feet long. In a scale drawing, the sofa is 3 inches long. Find the scale of the drawing.

13. A blueprint of a house has a scale of 1 inch : 2 feet.  
    a. Find the actual length of a wall that is 7 in on the blueprint.  
    b. Find the actual height of a door that is 4 in on the blueprint.

14. You are building a model of a new roller coaster with a scale 1 : 51. The model is 4 ft tall. How tall is the actual roller coaster?