



1. Sketch three different rectangles that are similar to the one shown below using the following directions:
Rectangle 1: Double the base and the height (scale factor = 2).
Rectangle 2: Triple the base and the height (scale factor = 3).
Rectangle 3: Quadruple the base and the height (scale factor = 4)



2. Find the perimeter of each of the rectangles.
3. Find the area of each of the rectangles.
4. Study your results for problems 1 - 3. What happens to the perimeter and area of the rectangle when you double the dimensions, triple the dimensions, quadruple the dimensions, or make the dimensions n times as large (scale factor = n)? Record your answers in the following table.

Scale Factor	Perimeter	Area
1		
2		
3		
4		
n		



5. Describe how the perimeter of a rectangle changes when you make each dimension n times as large. Justify your answer.

6. Describe how the area of a rectangle changes when you make each dimension n times as large. Justify your answer.

7. Sketch a rectangle that is similar to the following rectangle. Make the base and height one half of the original base and height. What happens to the perimeter and area of a rectangle when you make the dimensions $\frac{1}{2}$ as large? Does this follow the pattern you described above?



