TI-NSPIRE

Similar Rectangles

Investigation: Perimeter and Areas of Similar Rectangles

1. **Turn on the NSPIRE, press Home, then select new document, geometry.**

2. **Press esc to get out of the f(x)=line, press menu, view, show grid.**

3. **Press menu, #8 Shapes, and select rectangle.**

4. **Draw a 3 unit by 4 unit rectangle. Label it original.**

5. **Draw three different rectangles, each <u>similar</u> to the original rectangle. Label them I, II, and III.**

6. **Press menu, measurement and length and measure each side of each rectangle and record in the chart below.**

RECTANGLE	SIDE 1	SIDE 2
Original		
I		
II		
III		

Explain why I only need to record 2 sides of the 4 sided rectangles?

7. **On your student activity guide use your drawings to complete the following chart,**

RECTANGLE	PERIMETER	AREA
Original		
I		
II		
III		

8. **Use the information from the first chart to complete chart 3.**

RECTANGLE	SIMILARTY RATIO	RATIO OF PERIMETERS	RATIO OF AREAS
I to Original			
II to Original			
III to Original			

9. **Answer the following questions. Always reduce the ratios.**

A. **How do the ratios of perimeters and the ratios of areas compare to the similarity ratios, (explain how they are alike and how they are different)?**

B. **Two similar polygons have corresponding sides in the ratio of 5:7. Use your discovery in the lesson above to answer the following:**
   - **What is the ratio of their perimeters?**
   - **What is the ratio of their areas?**

C. **The Corresponding sides of two similar parallelograms are in the ratio of 3:4. If the area of the larger parallelogram is 96 in^2, use your discovery in the lesson above to solve for the area of the smaller parallelogram.**

D. The areas of two similar rectangles are 1875 ft^2 and 135 ft^2. Use your discovery in the lesson above to solve for the ratio of their perimeters.