**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**May 7th, 2012**

**Geometry, Mrs. Sulkes**

**11-7 Ratio of Areas**

1. The table refers to similar figures. Complete the table.

1. 2. 3. 4.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Scale factor** | 3:5 |  |  | 3:k |
| **Ratio of Perimeters** |  | 7:4 |  |  |
| **Ratio of Areas** |  |  | 25:9 |  |

5. The diameters of two circles are 10 cm and 9 cm. What is the ratio of their circumferences? Of their areas?

6. The ratio of the corresponding heights of two similar triangles is 2:7. What is the ratio of the corresponding sides? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the perimeters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the areas? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

7. The ratio of the areas of two similar quadrilaterals is 15:22. What is the ratio of their corresponding sides?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of their perimeters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. A pentagon with sides 5 cm, 7 cm, 8 cm, 9 cm, and 11 cm has an area of 96 . Find the perimeter of a similar pentagon whose area is 24 cm.

9. Classify each statement as true or false.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If two quadrilaterals are similar, then their areas must be in the same ratio as the square of the ratio of their perimeters.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If the ratio of the areas of two equilateral triangles is 1:3, then the ratio of the perimeters is 1: .
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If the ratio of the perimeters of two rectangles is 4:7, then the ratio of their areas must be 16:49.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ If the ratio of the areas of two squares is 3:2, then the ratio of their sides must be .