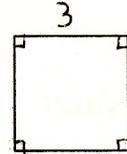
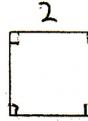
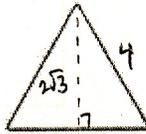


Geometry – Homework 8.2.2 (A#17)
Ratios of Similar Polygons

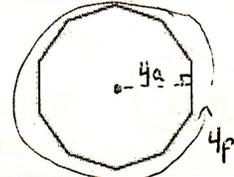
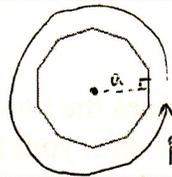
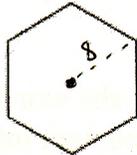
Do entire front

Name _____
 Date _____ Period _____

Fill out the tables below. Assume all polygons are regular, which also means they are similar.



Ratio of Sides:	:	Ratio of Sides:	:
Perimeter:	Perimeter:	Perimeter:	Perimeter:
Ratio of Perimeters:	:	Ratio of Perimeters:	:
Area:	Area:	Area:	Area:
Ratio of Areas:	:	Ratio of Areas:	:



Ratio of Sides:	:	Ratio of Sides:	:
Perimeter:	Perimeter:	Perimeter:	Perimeter:
Ratio of Perimeters:	:	Ratio of Perimeters:	:
Area:	Area:	Area:	Area:
Ratio of Areas:	:	Ratio of Areas:	:

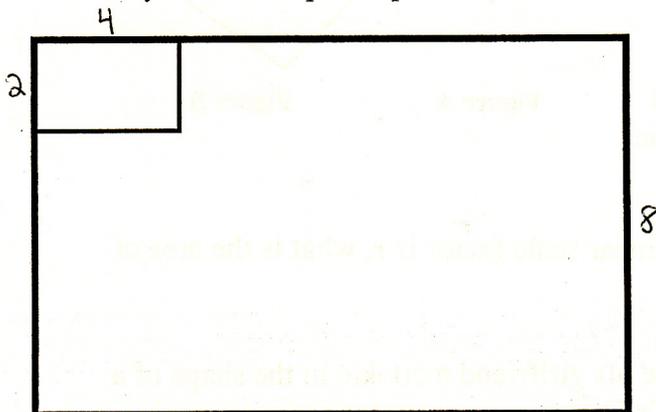
When considering the ratio of sides of two similar polygons, what did you determine is true about the ratio of perimeters and the ratio of areas of those polygons?

The ratio of the perimeters of two similar polygons is _____ the ratio of their sides.

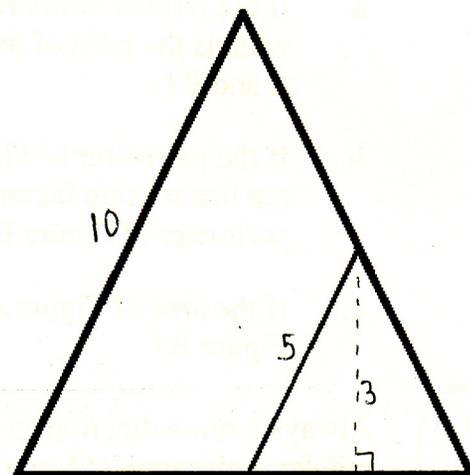
The ratio of the areas of two similar polygons is _____ the ratio of their sides.

Investigate

Fit as many similar shapes as possible below.



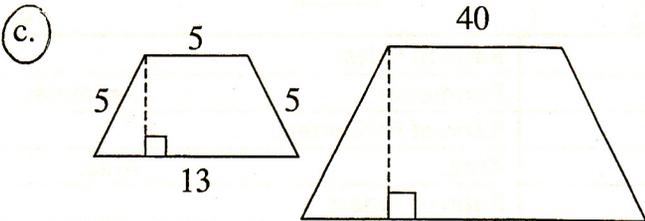
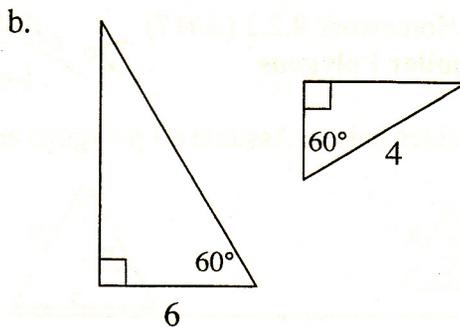
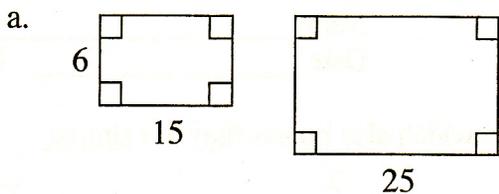
Ratio of perimeters (R_P): _____
 Ratio of areas (R_A): _____



Ratio of perimeters (R_P): _____
 Ratio of areas (R_A): _____

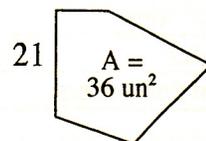
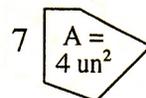
8-72.

Find P_p
& P_A of
each shape



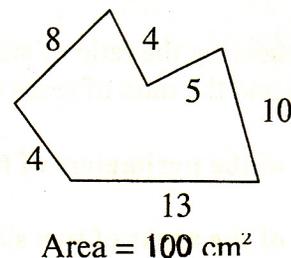
8-73.

While Jessie examines the two figures at right, she wonders if they are similar. Decide with your team if there is enough information to determine if the shapes are similar. **Justify** your conclusion.



8-74.

Your teacher enlarged the figure at right so that the area of the similar shape is 900 square cm. What is the perimeter of the enlarged figure? Be prepared to explain your method to the class.



8-76.

Assume Figure A and Figure B, at right, are similar.

a. If the ratio of similarity is $\frac{3}{4}$, then what is the ratio of the perimeters of A and B?

b. If the perimeter of Figure A is p and the linear scale factor is r , what is the perimeter of Figure B?

c. If the area of Figure A is a and the linear scale factor is r , what is the area of Figure B?

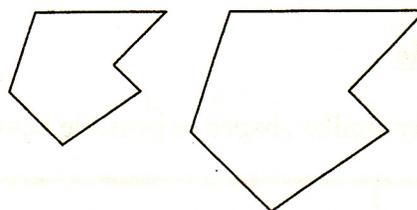


Figure A

Figure B

8-77.

Always a romantic, Marris decided to bake his girlfriend a cookie in the shape of a regular dodecagon (12-gon) for Valentine's Day.

a. If the edge of the dodecagon is 6 cm, what is the area of the top of the cookie?

b. His girlfriend decides to divide the cookie into 12 separate but congruent pieces. After 9 of the pieces have been eaten, what area of cookie is left?