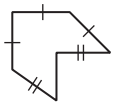
NAME _____ DATE _____ PERIOD _____

1-6 Practice

Two-Dimensional Figures

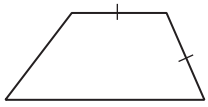
Name each polygon by its number of sides and then classify it as *convex* or *concave* and *regular* or *irregular*.

1. 

hexagon; concave; irregular

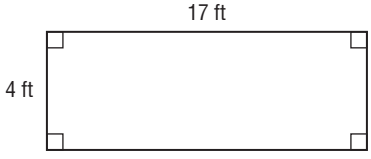
2. 

nonagon; convex; regular

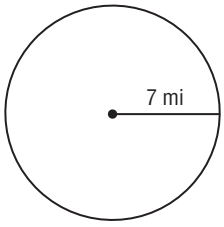
3. 

quadrilateral; convex; irregular

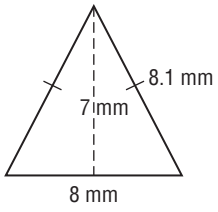
Find the perimeter or circumference and area of each figure. Round to the nearest tenth.

4. 

42 ft; 68 ft²

5. 

≈ 44.0 mi; 153.9 mi²

6. 

24.2 mm; 28 mm²

COORDINATE GEOMETRY Graph each figure with the given vertices and identify the figure. Then find the perimeter and area of the figure.

See students work

7. $O(3, 2)$, $P(1, 2)$, $Q(1, -4)$, $R(3, -4)$ **quadrilateral; 16 units; 12 square units**

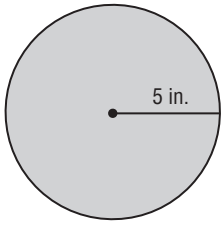
8. $S(0, 0)$, $T(3, -2)$, $U(8, 0)$ **triangle; 17.1 units; 8 square units**

CHANGING DIMENSIONS Use the rectangle from Exercise 4.

9. Suppose the length and width of the rectangle are doubled. What effect would this have on the perimeter? Justify your answer. **The perimeter doubles. The perimeter of a rectangle with dimensions 34 feet and 8 feet is 84 feet, which is twice the perimeter of the original figure since 2 • 42 = 84 feet.**

10. Suppose the length and width of the rectangle are doubled. What effect would this have on the area? Justify your answer. **The area quadruples. The area of a rectangle with dimensions 34 feet and 8 feet is 272 feet squared, which is four times the area of the original figure since 4 • 68 = 272 ft².**

11. SEWING Jasmine plans to sew fringe around the circular pillow shown in the diagram.



a. How many inches of fringe does she need to purchase? **about 31.4 in.**

b. If Jasmine doubles the radius of the pillow, what is the new area of the top of the pillow? **about 314.2 in²**