

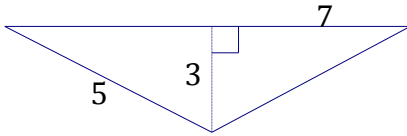
# Chapter 10 Study Guide

Name \_\_\_\_\_

Directions: Please show all work and leave answers as exact answers, unless otherwise noted.

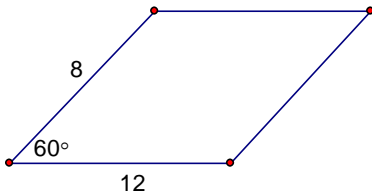
## 10.1 AREA OF TRIANGLES AND QUADRILATERALS

1. Find the area of the triangle.



2. Find the area of a triangle with side lengths of 41, 41, and 18.

3. Find the area of the parallelogram.



4. Find the area of a rhombus with:

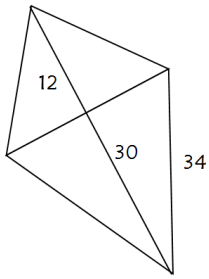
a) A base of 9 and a height of 7

b) A perimeter of 52 and a diagonal of 24.

5. Find the area of an isosceles trapezoid with side lengths of 8, 20, 40, and 20.

6. Find the area of a square with a diagonal of 20.

7. Find the area of the kite.



8. Find the area of a rectangle with a diagonal of 39 and a base of 36.

### 10.2 AREA OF CIRCLES AND REGULAR POLYGONS

9. Find the area of an equilateral triangle with a perimeter of 21.

10. a) Find the area of a circle if its circumference is  $24\pi$ .

b) Find the circumference of a circle if the area of a circle is  $169\pi$ .

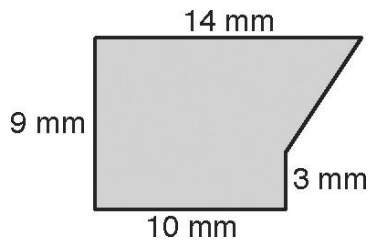
11. Find the apothem of a regular pentagon in which the radius is 8 cm. Round your answer to the nearest hundredth.

12. Find the area of a regular hexagon in which each side is 8 in.

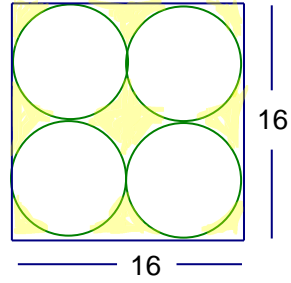
13. What is the side length of a regular hexagon, given an area of  $200\sqrt{3}$  and an apothem of  $5\sqrt{3}$ ? Round your answer to the nearest hundredth.

### 10.3 COMPOSITE FIGURES

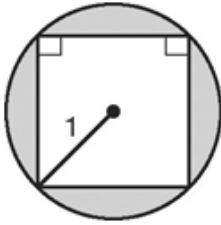
14. Find the area of the shaded region.



15. Find the area of the shaded region.

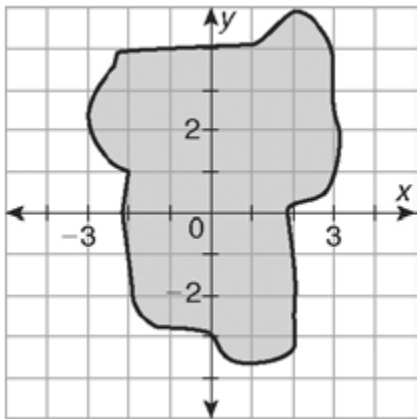


16. Find the area of the shaded region.

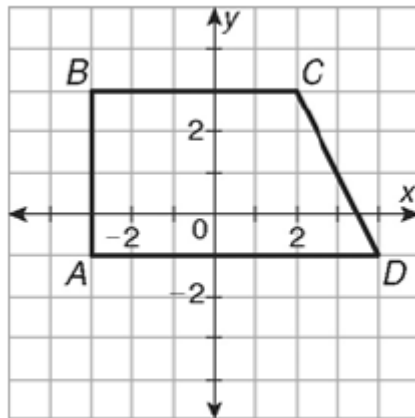


### 10.4 PERIMETER AND AREA IN THE COORDINATE PLANE

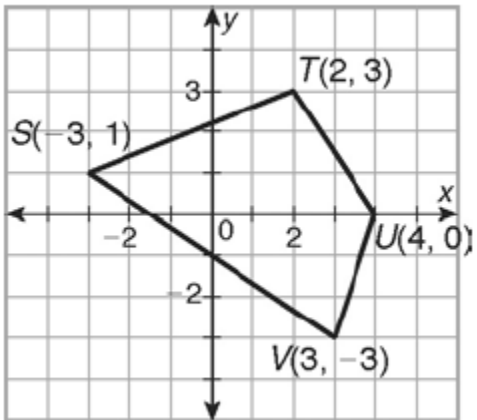
17. Estimate the area of the irregular shape.



18. Classify the polygon with the given vertices. Then, calculate the area and the perimeter.



19. Find the area and perimeter of the polygon below. Round perimeter to nearest hundredth.



#### 10.5 EFFECTS OF CHANGING DIMENSIONS AND PROPORTIONALITY

20. The base of a rectangle is multiplied by  $\frac{1}{3}$ . Describe the effect on the area of the rectangle.

21. The base and height of a triangle are doubled. Describe the effect on the area of the triangle.

22. The radius of a circle is multiplied by 4. Describe the effect on the area of the circle.