

# 10-3

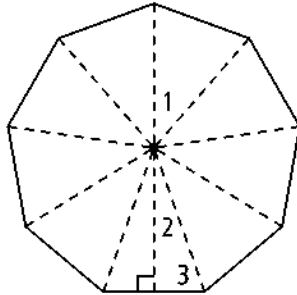
## Practice

Form G

### Areas of Regular Polygons

Each regular polygon has radii and apothem as shown. Find the measure of each numbered angle.

2.



Find the area of each regular polygon with the given apothem  $a$  and side length  $s$ .

5. hexagon,  $a = 12.1$  ft,  $s = 14$  ft

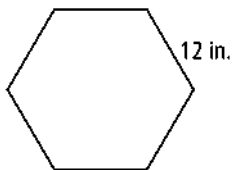
6. octagon,  $a = 20.8$  m,  $s = 17.2$  m

8. decagon,  $a = 31$  in.,  $s = 20.1$  in.

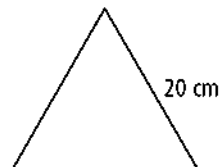
9. dodecagon,  $a = 40.6$  m,  $s = 21.7$  m

Find the area of each regular polygon. Round your answer to the nearest tenth.

10.



11.



13. Your math teacher draws a regular hexagon with a circle circumscribed around it. The radius of the circle is 5 m. To the nearest tenth, what is the area of the hexagon?

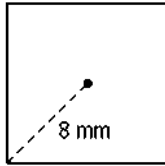
Find the measures of the angles formed by (a) two consecutive radii and (b) a radius and a side of the given regular polygon.

17. pentagon

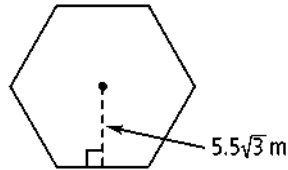
19. 20-gon

Find the area of each regular polygon with the given radius or apothem. If your answer is not an integer, leave it in simplest radical form.

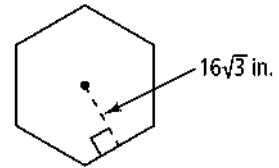
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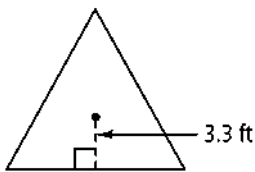
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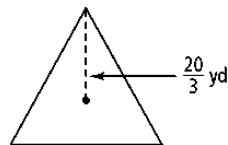
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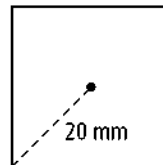
23.



24.



25.



29. An equilateral triangle has a perimeter of 36 cm. Find its area to the nearest tenth.

30. The logo for a school is an equilateral triangle inscribed inside a circle. The seniors are painting the logo on an outside wall of the school. The radius of the circle will be 6 feet. Find the area of the triangle.

31. **Algebra** Find the length of one side of each of the regular polygons named below if its area is  $64 \text{ ft}^2$ . Round your answer to the nearest tenth.

a. triangle

b. hexagon