

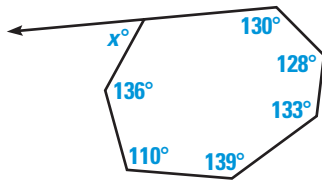
Chapter Standardized Test

TEST-TAKING STRATEGY Do not panic if you run out of time before answering all of the questions. You can still receive a high test score without answering every question.

1. **MULTIPLE CHOICE** A regular polygon has an interior angle with a measure of 160° . How many sides does the polygon have?

- (A) 14 (B) 16 (C) 18
(D) 20 (E) 22

2. **MULTIPLE CHOICE** What is the value of x ?

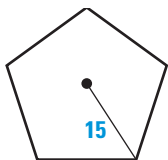


- (A) 56 (B) 59 (C) 62
(D) 67 (E) 72

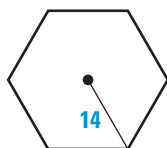
QUANTITATIVE COMPARISON In Exercises 3–5, use the two regular polygons shown to choose the statement that is true.

- (A) The quantity in column A is greater.
(B) The quantity in column B is greater.
(C) The two quantities are equal.
(D) The relationship cannot be determined from the given information.

Polygon A



Polygon B

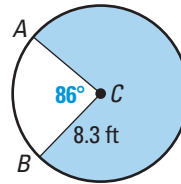


	Column A	Column B
3.	Apothem of polygon A	Apothem of polygon B
4.	Perimeter of polygon A	Perimeter of polygon B
5.	Area of polygon A	Area of polygon B

6. **MULTIPLE CHOICE** A regular octagon has sides of length 12 cm. Another regular octagon has sides of length 18 cm. Find the ratio of the area of the smaller octagon to the area of the larger octagon.

- (A) 4:9 (B) 2:3 (C) 12:18
(D) 18:12 (E) 9:4

In Exercises 7 and 8, use the diagram below.



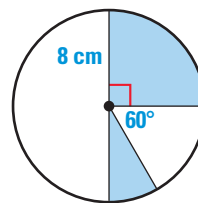
7. **MULTIPLE CHOICE** What is the length of \widehat{AB} ?

- (A) about 12.10 ft (B) about 12.46 ft
(C) about 13.56 ft (D) about 14.81 ft
(E) about 21.64 ft

8. **MULTIPLE CHOICE** What is the area of the shaded region?

- (A) about 51.70 ft^2 (B) about 84.50 ft^2
(C) about 160.27 ft^2 (D) about 162.72 ft^2
(E) about 164.72 ft^2

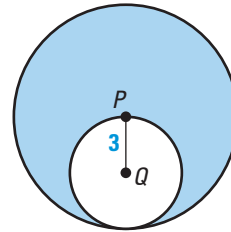
9. **MULTIPLE CHOICE** What is the area of the shaded region in the diagram below?



- (A) about 33.51 cm^2 (B) about 50.27 cm^2
(C) about 67.02 cm^2 (D) about 83.78 cm^2
(E) about 100.53 cm^2

10. **MULTIPLE CHOICE** $\odot P$ and $\odot Q$ are tangent. If a point is chosen at random in $\odot P$, what is the probability that the chosen point lies in the shaded region?

- (A) 25% (B) 50% (C) 75%
 (D) $133\frac{1}{3}\%$ (E) 200%



11. **MULTIPLE CHOICE** Suppose that in a one-hour television program, 24 minutes are used for advertising. If you start watching the program at a random time during the show, what is the probability that you tune in during a commercial?

- (A) 0.4 (B) 0.6 (C) about 0.67
 (D) 0.24 (E) cannot be determined

MULTI-STEP PROBLEM In the diagram at the right, the polygon is a regular octagon inscribed in a circle.

12. Find the circumference and the area of $\odot J$.

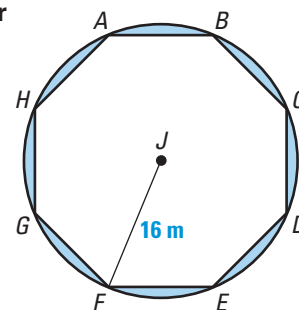
13. What is the measure of each interior angle of the octagon?

14. What is the measure of each exterior angle?

15. Find the perimeter and the area of the octagon.

16. Find the length of \widehat{AB} .

17. **Writing** Describe two different methods you could use to find the area of the shaded region. Does each method yield the same result? Which method do you prefer? Explain your answer by comparing the methods.



MULTI-STEP PROBLEM In Exercises 18–22, use the following information.

Suppose you are at a carnival playing a game in which you throw darts and hit the dart board shown at the right. A dart is equally likely to hit any point on the dart board. The red regions are congruent trapezoids.

18. Find the radius, the circumference, and the area of the green circular region.

19. What is the probability that a dart lands in the green circular region?

20. What is the probability that a dart lands in the blue rectangular region?

21. Suppose you win a prize if your dart hits a red, green, or blue region. If you throw a dart that hits the board, what is the probability that you win a prize?

22. Suppose you win a prize if your dart hits a red, green, or blue region. If you throw a dart that hits the board, what is the probability that you do not win a prize?

