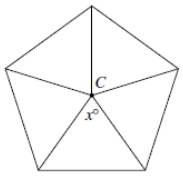
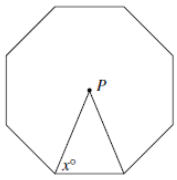


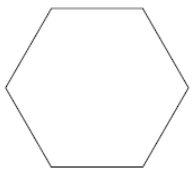
17. In the regular pentagon above, with center at C, what is the value of x?

A. 36
B. 45
C. 60
D. 72
E. It cannot be determined from given information.



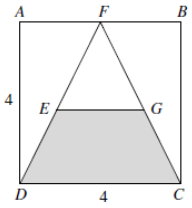
18. In the regular octagon above, with center at P, what is the value of x?

A. 22.5
B. 45
C. 60
D. 67.5
E. 135

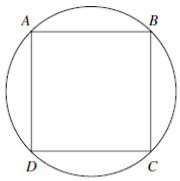


19. In the figure above, the regular hexagon has a perimeter of 72. What is the area of the hexagon?

A. 108
B. $108\sqrt{3}$ (approximately 187.06)
C. 216
D. $216\sqrt{2}$ (approximately 305.47)
E. $216\sqrt{3}$ (approximately 374.12)



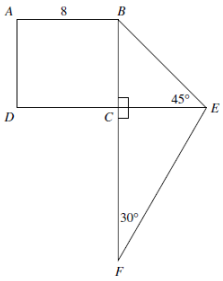
20. Quadrilateral $ABCD$ is a square with sides of 4 units as shown above. Triangle FDC is isosceles such that $DF = CF$. E is the midpoint of $\overline{FD}$ and G is the midpoint of $\overline{FC}$. What is the area of the shaded region?



26. In the figure above, square $ABCD$ is inscribed within a circle of radius $3\sqrt{2}$.

What is the perimeter of $ABCD$?

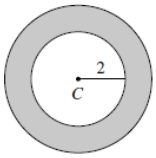
A. 12
B. $12\sqrt{2}$
C. 24
D. $24\sqrt{2}$
E. 36



27. In the figure above, $ABCD$ is a rectangle having a perimeter of 30. What is the perimeter of the figure above?

A. $51\sqrt{5}$
B. $37+7\sqrt{5}$
C. $37+7\sqrt{2}+7\sqrt{3}$
D. $37+14\sqrt{2}$
E. $51+7\sqrt{2}+7\sqrt{3}$

14. What is the circumference of a circle whose area is 8π?

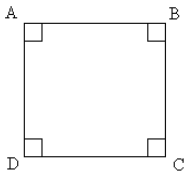


15. For the concentric circles above, with center at C, the shaded region has an area of 11π. What is the radius of the larger circle?

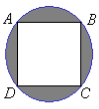
A. $\sqrt{2}$
B. $\sqrt{7}$
C. 3
D. $\sqrt{15}$
E. 4

16. The ratio of the areas of two circles is 9π to 4π. What is the ratio of the circumferences of these two circles?

What is the area of the following square, if the length of BD is $2\sqrt{2}$?



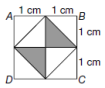
(A) 1
(B) 2
(C) 3
(D) 4
(E) 5



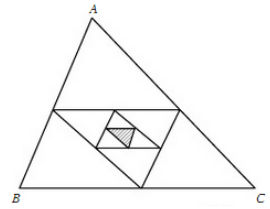
The square *ABCD* touches the circle at 4 points. The length of the side of the square is 2 cm. Find the area of the shaded region.

(A) $\pi - 4$
(B) $2\pi - 4$
(C) $3\pi - 4$
(D) $4\pi - 4$
(E) $5\pi - 4$

Standardized Test Practice If you throw a dart at the square target *ABCD*, what is the probability that the dart will land in the shaded region?



A 2 **B** $\frac{1}{2}$ **C** $\frac{1}{4}$ **D** $\frac{1}{8}$



14. The triangles inside $\triangle ABC$, shown above, are formed by joining the midpoints of the sides and then repeating the process. If a point is chosen at random inside $\triangle ABC$, what is the probability that the point lies in the shaded region?

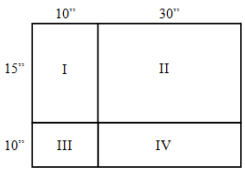
5. A dart hits the board. Which is the probability that it will hit in region II?

O A. $\frac{9}{20}$

O B. $\frac{6}{13}$

O C. $\frac{1}{4}$

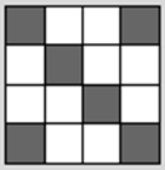
O D. $\frac{1}{3}$



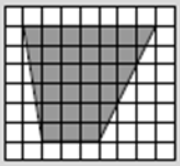
Each figure represents a dartboard. Find the probability of landing in the shaded region.

1.

2.



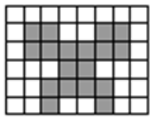
3.



Each figure represents a dartboard. Find the probability of landing in the shaded region.

4.

5.



6.