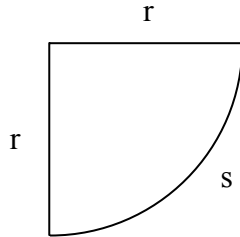# Math0090 Lab Worksheet #2

Objective: Solve problems #1-#10 involving perimeter and area of geometric figures (Quadrilateral, Parallelograms, Rectangles, Squares, Triangles, Trapezoids, circles and composite figures). #11 through #15 are review problems.

1.   Use the diagram below to answer the question that follows.

If the perimeter of the quarter circle is $15\pi + 60$, what is the area of the quarter circle?
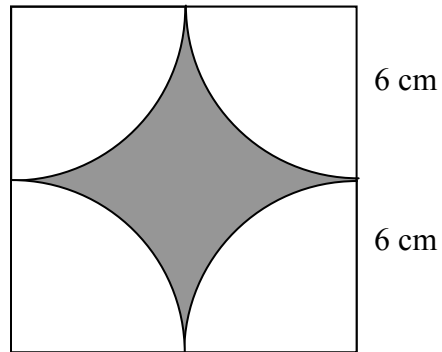
A. 15π
B. 30π
C. 225π
D. 450π

2.   Use the diagram below to answer the question that follows.
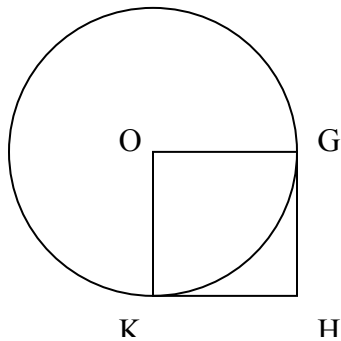
OGHK is a square with an area of 36 square inches. What is the circumference of the circle with center at O?
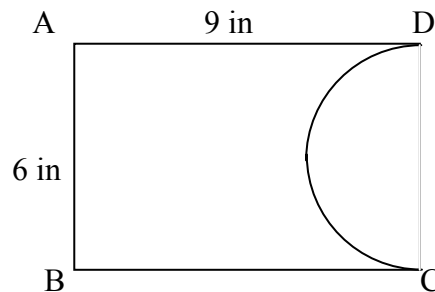
A 6π
B 12π
C 24π
D 36π

3. Use the diagram below to answer the question that follows.

6 cm

6 cm

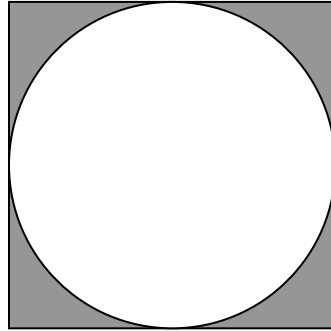What is the area of the shaded region in the square?

A. $144 - 12\pi$
B. $48 - 12\pi$
C. $144 - 36\pi$
D. 132π

4. Use the diagram below to answer the question that follows.

A   9 in   D

6 in

B   C

Find the perimeter of the figure composed of a rectangle and a semicircle.
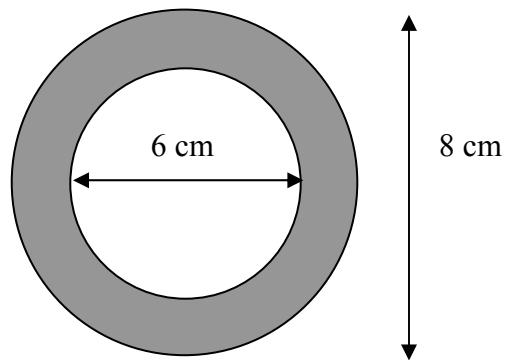
A. 30 in
B. 33.42 in
C. 42.84 in
D. 52.26 in

5.   Use the diagram below to answer the question that follows.

If the area of the circle is 49π square meters, what is the area of the shaded region?
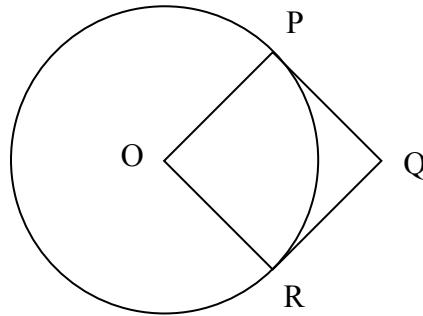
A. $196 - 49\pi$
B. $64 - 49\pi$
C. $49\pi - 28$
D. 144π

6.   Use the diagram below to answer the question that follows.

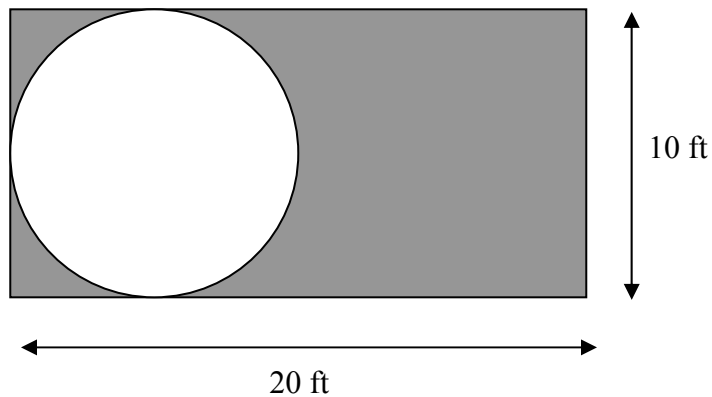In the concentric circles above, what is the area of the shaded region.

A. 2π cm^2
B. 4π cm^2
C. 7π cm^2
D. 25π cm^2

7.   Use the diagram below to answer the question that follows.

OPQR is a square with a perimeter of 36 inches. What is the area of the circle?

A. 9π
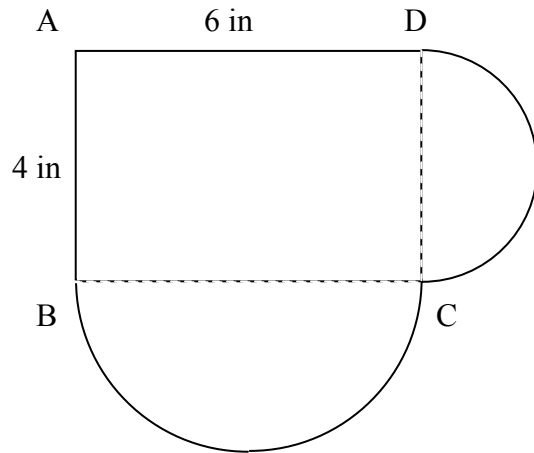B. 18π
C. 24π
D. 81π

8.   Use the diagram below to answer the question that follows.
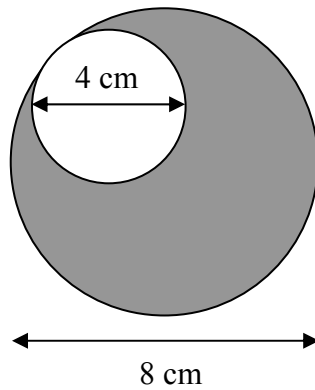

Find the area of the shaded region.

A. $(200 - 40\pi)$ ft^2
B. $(200 - 25\pi)$ ft^2
C. $(200 - 10\pi)$ ft^2
D. $(200 + 10\pi)$ ft^2

9.   Use the diagram below to answer the question that follows.

Find the perimeter of the figure composed of a rectangle and two semicircles.

A.   25.70 in
B.   33.42 in
C.   35.70 in
D.   41.40 in

10.   Use the diagram to answer the question that follows.

Find the area of the shaded region.

A. 4π cm^2
B. 8π cm^2
C. 12π cm^2
D. 48π cm^2

11. If $-\dfrac{1}{7}x - 6 = 34$, find the value of $-2x + 3$.

    A. - 280

    B. - 77

    C. 395

    D. 563

12. Square $(9x - 5y)$.

    A. $16x^2 - 10y^2$

    B. $81x^2 - 90xy + 25y^2$

    C. $81x^2 - 45xy + 25y^2$

    D. $81x^2 + 25y^2$

13. Simplify and express the answer in scientific notation. $\dfrac{9 \times 10^2 - 1 \times 10^2}{(2 \times 10^4) \bullet (2 \times 10^4)}$

    A. 1.5×10^{-10}

    B. 1.5×10^{-6}

    C. 0.5×10^{-2}

    D. 2.0×10^{-6}

14. Which of the following is a factor of $15x^2 + 4xy - 4y^2$?

    A. $(5x - 4y)$

    B. $(3x - y)$

    C. $(3x + 2y)$

    D. $(5x + 2y)$

15. Simplify. $\dfrac{5x^{-2}}{(2x)^{-3}}$

    A. $\dfrac{5}{2x}$

    B. $2.5x^{-1}$

    C. $40x$

    D. $10x^6$