

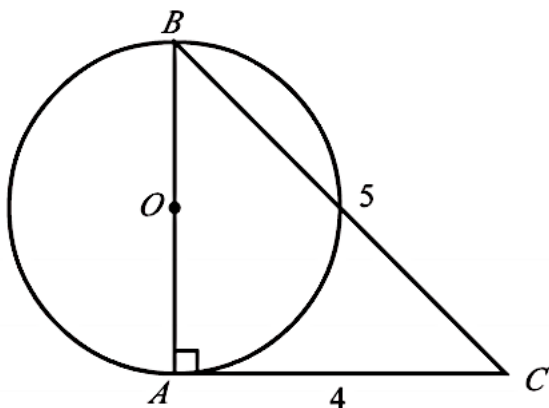
Circle Quiz

Non-Calculator: Multiple Choice

$$x^2 + y^2 - 12x + 8y = -3$$

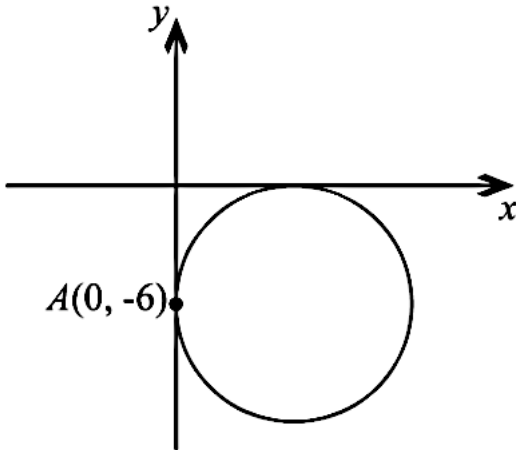
1. The equation above defines a circle in the xy -plane. What are the coordinates of the center of the circle?
A) $(12, -8)$
B) $(-12, 8)$
C) $(6, -4)$
D) $(-6, 4)$

2. In the figure below, \overline{AB} is a diameter of the circle with center O . If $\overline{AC} = 4$ and $\overline{BC} = 5$, what is the circumference of the circle?



- A) $\frac{3\pi}{2}$
- B) 3π
- C) 4π
- D) 6π

3. In the xy -coordinate plane below, the circle is tangent to the x -axis and tangent to the y -axis at point A . If point A is $(0, -6)$, what is the circumference of the circle?



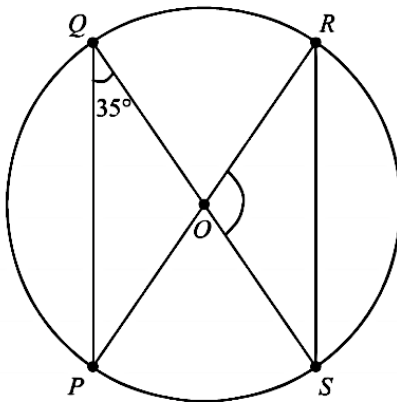
- A) 6π
 B) 9π
 C) 12π
 D) 36π
4. What is the area of a circle with a circumference of π ?
- A) $\frac{1}{4}\pi$
 B) $\frac{1}{2}\pi$
 C) π
 D) 2π
5. Which of the following is an equation of a circle in the xy -plane with center $(\frac{1}{5}, \frac{1}{5})$ and a radius with endpoint $(1, \frac{4}{5})$?
- A) $(x + \frac{1}{5})^2 + (y + \frac{1}{5})^2 = \frac{1}{25}$
 B) $(x - \frac{1}{5})^2 + (y - \frac{1}{5})^2 = \frac{1}{25}$
 C) $(x + \frac{1}{5})^2 + (y + \frac{1}{5})^2 = 1$
 D) $(x - \frac{1}{5})^2 + (y - \frac{1}{5})^2 = 1$

Non-Calculator: Grid In

6. A circle with center $(3, -2)$ is tangent to the y -axis. What is the radius of the circle?

/	○	○		
.	○	○	○	○
0	○	○	○	○
1	○	○	○	○
2	○	○	○	○
3	○	○	○	○
4	○	○	○	○
5	○	○	○	○
6	○	○	○	○
7	○	○	○	○
8	○	○	○	○
9	○	○	○	○

7. In the figure below, \overline{PR} and \overline{QS} are diameters of circle O , and the measure of $\angle PQS$ is 35° . What is the measure of $\angle ROS$, in degrees?



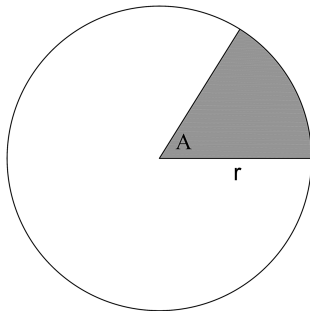
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0	○	○	○	○
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8. Elisha is making a pizza. She rolls the dough into a perfect circle with a radius of 8 inches. She then spreads red sauce on top of the pizza, leaving 1" of crust uncovered on the outer edge of the pizza. Finally, she sprinkles cheese on top of the sauce, but leaves the outer $\frac{1}{2}$ inch ring of sauce-covered dough without cheese. What is the diameter of the circular portion covered in cheese, in inches?

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Calculator: Multiple Choice

9. The Sarsen Circle at Stonehenge has an approximate diameter of 108 feet. If a drawing of the Sarsen Circle was placed on the standard xy -coordinate plane with the center at $(0, 0)$, which of the following equations could represent the Sarsen Circle?
- A) $x^2 + y^2 = 2,916$
 B) $x^2 + y^2 = 11,664$
 C) $x^2 + y^2 = 54$
 D) $x^2 + y^2 = 108$
10. Rectangle $ABCD$ is inscribed in a circle and has a width of 6 and a length of 8. What is the circumference of the circle?
- A) 6π
 B) 10π
 C) 36π
 D) 100π
11. The diameter of a circle is 13.5 cm. What is the area of the circle?
- A) 6.75π
 B) 13.5π
 C) 45.6π
 D) 182.3π



12. Point A is the center of the circle above. If $\angle A$ is measures 70° , what fraction of the area of the circle is the area of the shaded region?
- A) $\frac{7}{36}$
 B) $\frac{7}{18}$
 C) $\frac{7}{28}$
 D) $\frac{7}{42}$

Calculator: Grid In

13. Points A and B lie on a circle with radius 9, and arc AB has length of 6π . What fraction of the circumference of the circle is the length of arc AB ?

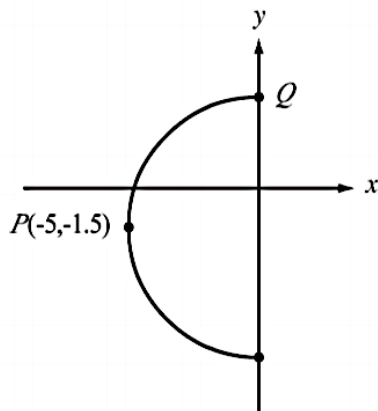
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14. What is a possible integer value for x that satisfies the below statements?

$$(x - 2.25)^2 + (y + 3)^2 = (6.75)^2; x > 6$$

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15. On the semicircle below, point P is the point with the smallest x -coordinate. What is the y -coordinate of point Q ?



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