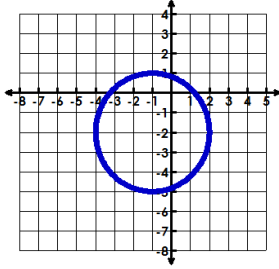


Name: _____

Block: _____

Vocabulary: Midpoint, distance, partition, endpoint, circle

1) Write the equation of the circle in standard form



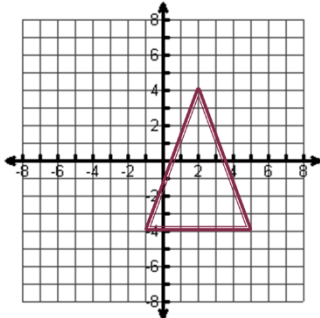
2) Find the midpoint of (5, 1) and (6, 7).

3) Find the coordinates of the **other endpoint** of a segment with an endpoint of (-2, 2) and a midpoint (8, 3).

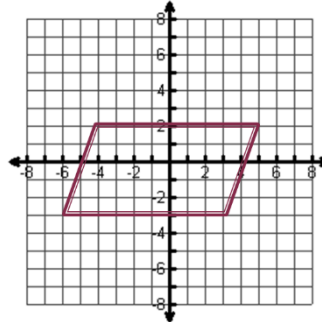
4) Brandy and Mandy are in the pool playing a game of Marco Polo. Brandy swims 10 ft south and 7 ft east of base. Mandy swims 6 ft north and 5 ft west from where they started together in the middle of the pool. How far apart are Brandy and Mandy?

5) Determine whether Point A (-5, 8) lies on the circle whose center is Point C (1, 2) and which contains the Point P (7, -4).

6) Find the area and perimeter of the figure.



7) Given that a parallelogram's **sides are parallel**, prove the following is a parallelogram.

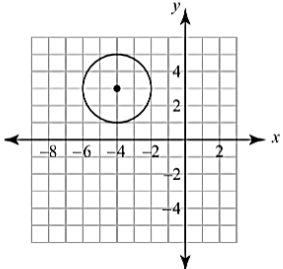
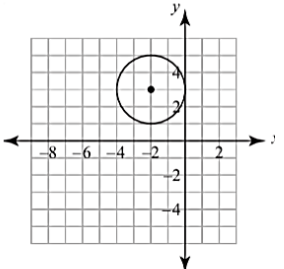
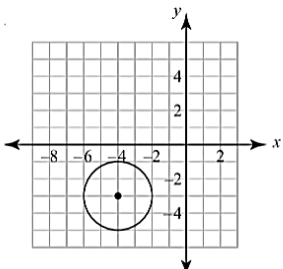
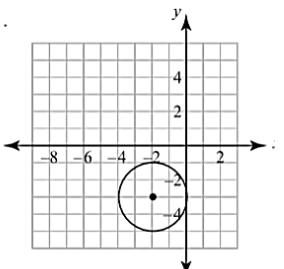


8) Write an equation of the line that passes through (-3, 4) and is parallel to $y = -3x - 1$.

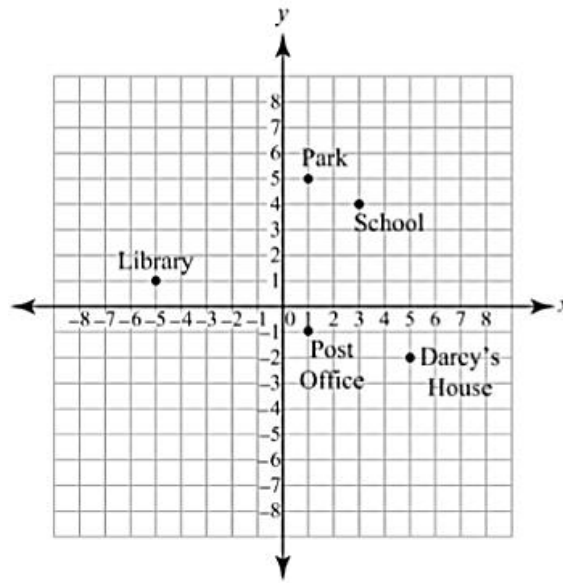
9) Write an equation of the line that passes through (5, -3) and is perpendicular to $y = -5/2x + 1$.

10) Find a point P on the segment with endpoints **A(-1, -3)** and **B(7, 1)** that partitions it in a 3:1 ratio.

11) Find a point T on the segment with endpoints **C(-4, -6)** and **D(2, 3)** that partitions it in a 2:1 ratio.

		Answers
<p>1) A circular sidewalk is being constructed around the perimeter of a local park. A brick pathway will be added through the diameter of the circle as shown on the coordinate plane below, and a tree will be planted in the sidewalk at the center of the circle. What are the coordinates where the tree will be planted?</p>		<p>1) _____</p>
<p>2) Which is the equation of the circle shown below?</p> <p>A. $(x - 3)^2 + y^2 = 3$ B. $(x - 3)^2 + y^2 = 9$ C. $(x + 3)^2 + y^2 = 3$ D. $(x + 3)^2 + y^2 = 9$</p>		<p>2) _____</p>
<p>3) Given the points A(-1,2) and B(5,11), find the coordinates of the point P on directed line segment AB that partitions AB in the ratio 1:2.</p> <p>A. (1,5) B. (2,6.5) C. (6,9) D. (3,4.5)</p>		<p>3) _____</p>
<p>4) The equation of a circle is $(x + 2)^2 + (y + 3)^2 = 4$. Which represents the equation?</p> <p>A. </p> <p>B. </p> <p>C. </p> <p>D. </p>		<p>4) _____</p>

5) Darcy used a coordinate grid, shown below, to sketch the location of some important buildings in her town. Each block represents 1 square mile. If Darcy could travel in a straight line from her house to school, how many miles would she travel?



- A. 5.1 miles
- B. 6.3 miles
- C. 8.2 miles
- D. 9.1 miles

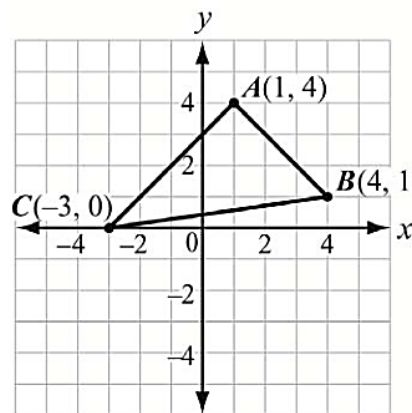
5) _____

6) Which point is on a circle with a center of (3,-9) and a radius of 5?

- A. (-6,5)
- B. (-1,6)
- C. (1,6)
- D. (6,-5)

6) _____

7) Triangle ABC has vertices as shown. What is the area of the triangle?



- A. $\sqrt{72}$ square units
- B. 12 square units
- C. $\sqrt{288}$ square units
- D. $\sqrt{24}$ square units

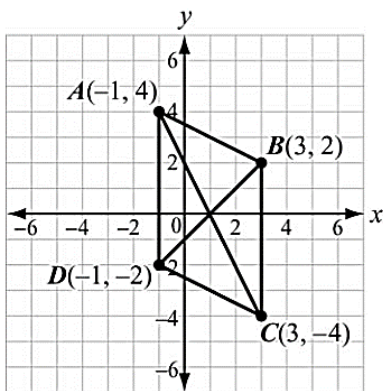
7) _____

8) The line p is represented by the equation $y = 4x + 1$. What is the equation of the line that is perpendicular to the line p and passes through the point (8,5)?

9) Circle P is dilated to form P'. Which statement is ALWAYS true?

- A. The radius of circle P is equal to the radius of circle P'.
- B. The length of any chord in circle P is greater than the length of any chord in circle P'.
- C. The diameter of circle P is greater than the diameter of circle P'.
- D. The ratio of the diameter to the circumference is the same for both circles.

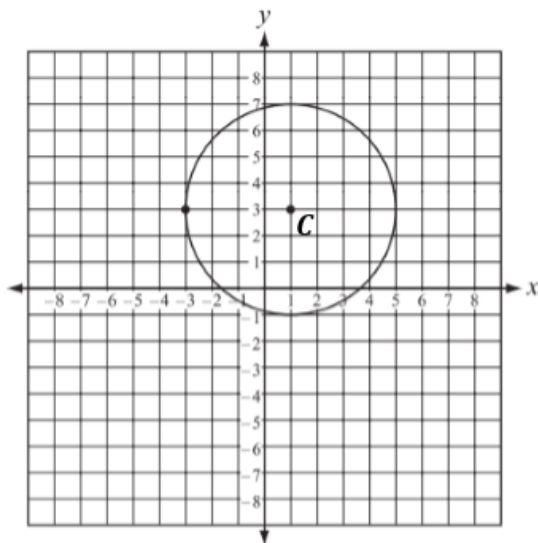
Parallelogram ABCD has vertices as shown.



Which equation would be used in proving that the diagonals of parallelogram ABCD bisect each other?

- A. $\sqrt{(3-1)^2 + (2-0)^2} = \sqrt{(1-3)^2 + (0+4)^2}$
- B. $\sqrt{(3+1)^2 + (2+0)^2} = \sqrt{(1+3)^2 + (0-4)^2}$
- C. $\sqrt{(-1-1)^2 + (4-0)^2} = \sqrt{(1-3)^2 + (0+4)^2}$
- D. $\sqrt{(-1+1)^2 + (4+0)^2} = \sqrt{(1+3)^2 + (0-4)^2}$

103. A factory uses the pattern shown below to cut circles out of sheet metal to make the bottoms of buckets.



If the center of the circle is C, what is the equation of the edge of the circular pattern?

- A. $(x-1)^2 + (y-3)^2 = 16$
- B. $(x-1)^2 + (y-3)^2 = 25$
- C. $(x-3)^2 + (y-1)^2 = 16$
- D. $(x-3)^2 + (y-1)^2 = 25$

