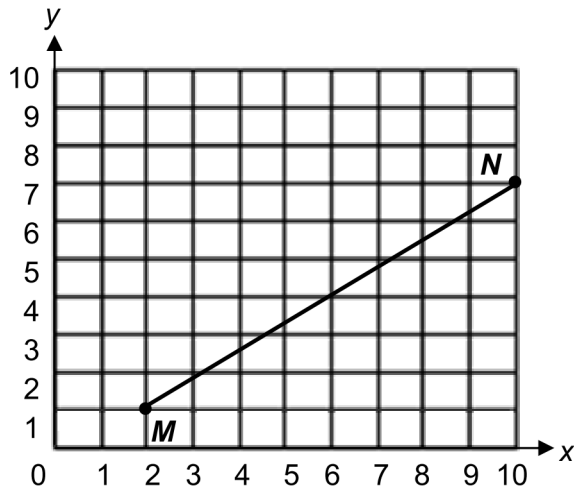


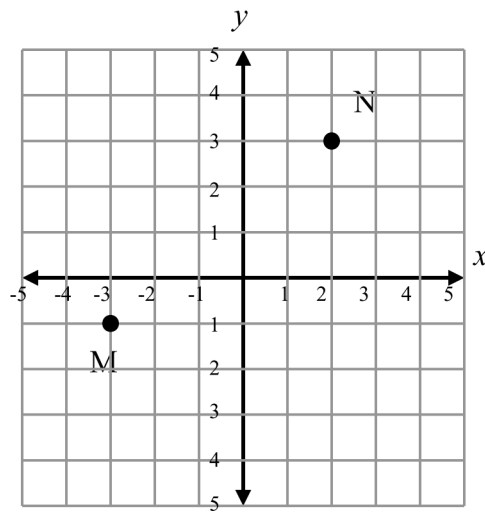
1. Look at \overline{MN} on the coordinate plane.



What is the distance between the endpoints of \overline{MN} ?

- A. 5 units B. 6 units C. 8 units D. 10 units

2. What is the distance between points $M(-3, -1)$ and $N(2, 3)$ on the graph below?



- A. $\sqrt{5}$ B. $\sqrt{17}$ C. $\sqrt{41}$ D. $\sqrt{45}$

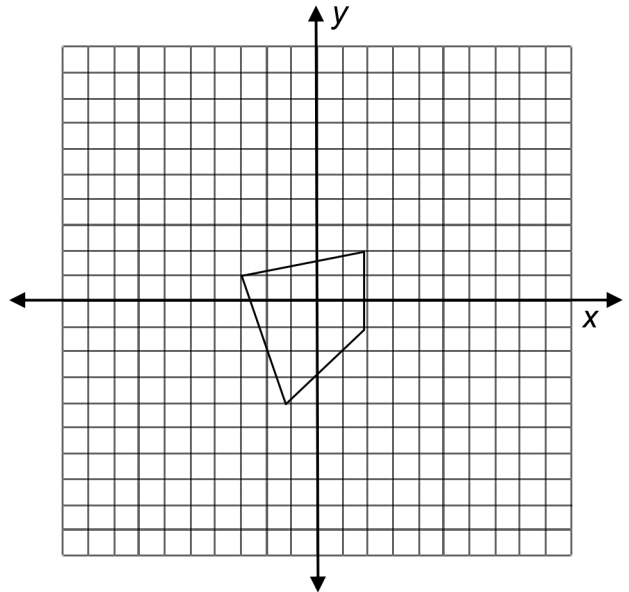
3. Segment ST has endpoints $(6, 2)$, and $(1, 14)$. What is the distance between these two endpoints?

- A. 5 units B. 6 units C. 12 units D. 13 units

4. Calculate the distance between $(-4, -7)$ and $(8, 9)$.

- A. 12 units B. 16 units C. 20 units D. 28 units

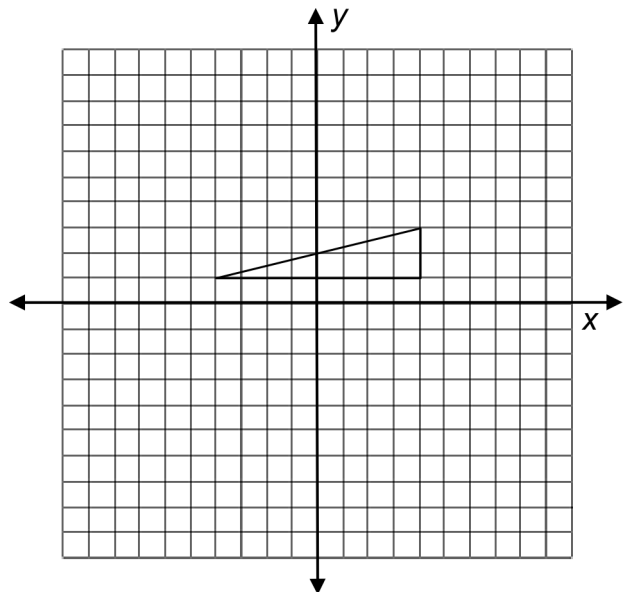
5. The coordinates $(2, 2)$ and $(-3, 1)$ are two of the vertices of the figure on the coordinate plane.



What are the coordinates of the midpoint of the two vertices?

- A. $(-\frac{1}{2}, \frac{3}{2})$ B. $(-\frac{3}{2}, \frac{1}{2})$ C. $(\frac{1}{2}, \frac{3}{2})$ D. $(\frac{3}{2}, \frac{1}{2})$

6. The coordinates $(-4, 1)$ and $(4, 3)$ are two vertices of a right triangle on a coordinate plane.

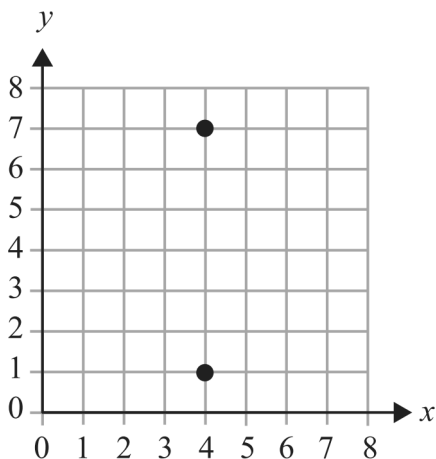


What are the coordinates of the midpoint of the two vertices?

- A. $(4, 1)$ B. $(0, 2)$ C. $(2, 0)$ D. $(1, 4)$

7. What is the midpoint of the segment joining the points $(4, -2)$ and $(-8, 6)$?
- A. $(6, 4)$ B. $(-6, -4)$ C. $(2, 2)$ D. $(-2, 2)$
8. A circle has a center at $(2, -3)$. One end point of a diameter is at $(4, -2)$. What are the coordinates of the other endpoint of that diameter?
- A. $(6, -1)$ B. $(-2, 4)$ C. $(1, -5)$ D. $(0, -4)$
9. Line segment AB has a midpoint at $\left(\frac{11}{2}, \frac{7}{2}\right)$ on the coordinate plane. If point A is located at $(8, 2)$, which of these ordered pairs represents the location of point B ?
- A. $\left(\frac{27}{4}, -\frac{11}{4}\right)$ B. $(3, 5)$
- C. $(5, 3)$ D. $(4, 1)$
10. The endpoints of a line segment graphed on a coordinate plane are $(8, 5)$ and $(10, 1)$. What are the coordinates of the midpoint of the line segment?
- A. $(2, 4)$ B. $(9, 3)$ C. $(2, 8)$ D. $(4, 16)$
11. The diameter of circle P is \overline{RT} . The center of the circle, P , has coordinates $(-4, 1)$. The coordinates of point R are $(2, -3)$. What are the coordinates of point T ?
- A. $(-12, 8)$ B. $(-10, 5)$ C. $(-6, 4)$ D. $(-1, -1)$
12. On the map of a school shown below, the school office is located at point $(4, 1)$, and Keegan's classroom is located at point $(4, 7)$.

Map of School

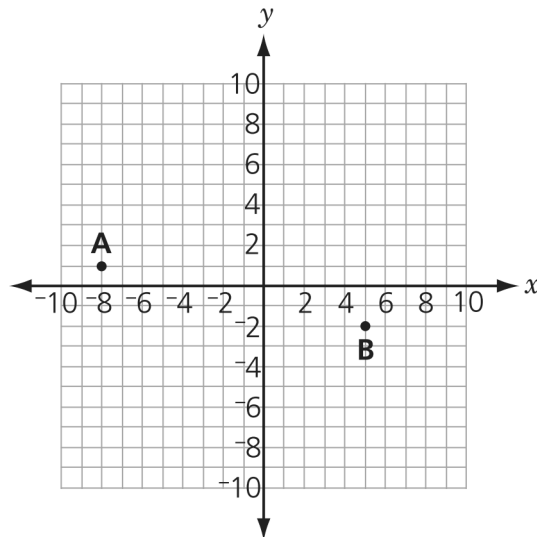


The cafeteria is located at the midpoint between the school office and Keegan's classroom. What is the location of the cafeteria?

- A. $(4, 3)$ B. $(4, 4)$ C. $(4, 6)$ D. $(4, 10)$

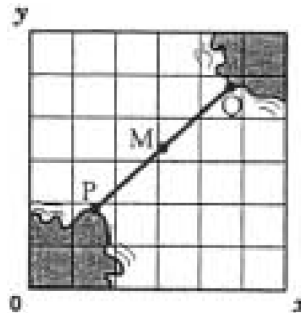
13. The coordinate plane below shows Stan's house as point A and Jerry's house as point B .

LOCATION OF STAN'S AND JERRY'S HOUSES



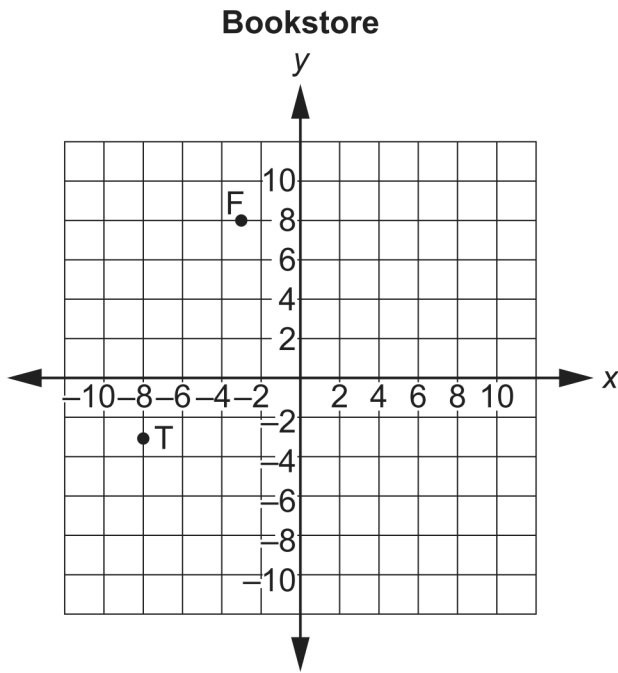
What point is halfway between the 2 houses?

- A. $\left(-\frac{3}{2}, -\frac{1}{2}\right)$ B. $\left(-\frac{1}{2}, -\frac{3}{2}\right)$ C. $\left(-\frac{13}{2}, \frac{3}{2}\right)$ D. $\left(\frac{13}{2}, -\frac{1}{2}\right)$
14. The graph below shows a bridge between two islands. If point M is the midpoint of \overline{PQ} , and $\overline{PM} = 6$ centimeters, what is the length of \overline{PQ} ?



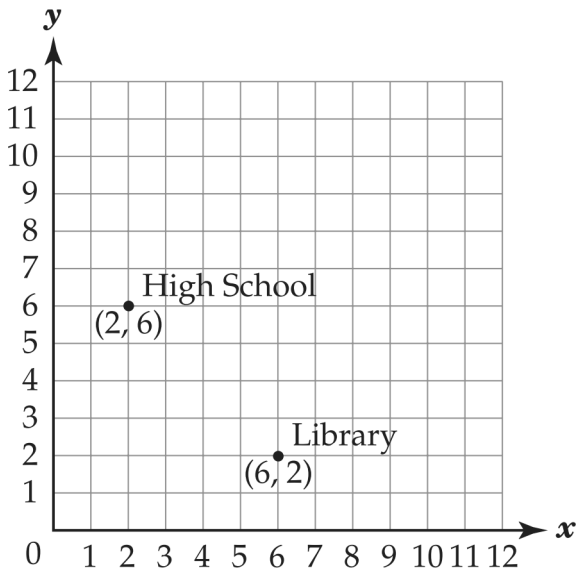
- A. 3 centimeters B. 6 centimeters
- C. 9 centimeters D. 12 centimeters

15. Stanley marked two points on the grid below to show the locations of the fiction section, point F, and the travel section, point T, in a bookstore.



What is the shortest distance, in units, between the fiction section and the travel section in the bookstore?

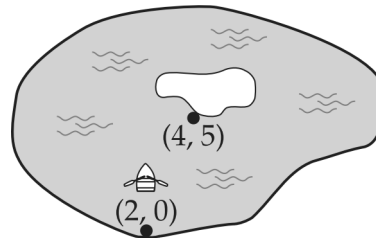
- A. $\sqrt{146}$ B. $\sqrt{242}$ C. 16 D. 25
16. The grid below shows the location of a high school and a library. A community center is at the midpoint between the school and the library.



What are the coordinates of the community center?

- A. (2, 2) B. (2, 4) C. (4, 2) D. (4, 4)

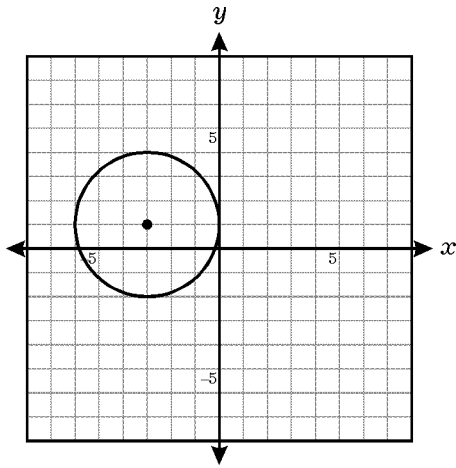
17. A lake is shown below. An island is located at (4, 5). A boat travels in a straight line from (2, 0) to the island.



How far does the boat travel? Round the answer to the nearest tenth of a unit.

- A. 3.3 units B. 3.7 units C. 5.4 units D. 7.8 units
18. The coordinates on a grid of the location of 2 trees in a park are (3, 9) and (5, 3). What are the coordinates of the midpoint of the line segment joining the 2 trees?
- A. (2, 6) B. (4, 6) C. (4, 12) D. (8, 12)
19. The equation of a circle is given as $2x^2 + 2y^2 + 4x + 12y + 6 = 0$. What are the center, C , and the radius, r , of the circle?
- A. $C(-1, -3); r = \sqrt{7}$ B. $C(-1, -3); r = 7$
 C. $C(1, 3); r = \sqrt{7}$ D. $C(1, 3); r = 7$
20. Which of the following points is on the circle with equation: $(x - 1)^2 + (y + 2)^2 = 5$?
- A. (1, -2) B. (2, 2) C. (3, -1) D. (3, 4)
21. The point (-3, 2) lies on a circle whose equation is $(x + 3)^2 + (y + 1)^2 = r^2$. Which of the following must be the radius of the circle?
- A. 3 B. $\sqrt{10}$ C. 9 D. 10
22. What are the center and radius of the circle described by the equation: $2x^2 + 2y^2 + 12x + 20y + 36 = 0$
- A. Center (3, 5); radius 4 B. Center (-3, -5); radius 4
 C. Center (3, 5); radius 16 D. Center (-3, -5); radius 16

23. Which of the following is an equation for the circle shown?



- A. $x^2 + y^2 + 6x - 2y + 1 = 0$ B. $x^2 + y^2 - 6x - 2y + 1 = 0$
 C. $x^2 + y^2 + 6x + 2y + 7 = 0$ D. $x^2 + y^2 - 6x - 2y + 7 = 0$
24. What is an equation of the circle that has center $(-2, 3)$ and passes through $(-1, 1)$?
- A. $(x + 2)^2 + (y - 3)^2 = 5$ B. $(x - 2)^2 + (y + 3)^2 = 5$
 C. $(x + 2)^2 + (y - 3)^2 = 25$ D. $(x - 2)^2 + (y + 3)^2 = 25$
25. Which equation describes the circle with center $(5, -1)$ and radius 7?
- A. $(x - 5)^2 + (y + 1)^2 = 7$ B. $(x - 5)^2 + (y + 1)^2 = 49$
 C. $(x + 5)^2 + (y - 1)^2 = 7$ D. $(x + 5)^2 + (y - 1)^2 = 49$
26. What is the y -intercept for the graph of the equation $3x - 5y = 15$?
- A. -5 B. -3 C. 3 D. 5
27. What is the x -intercept of the graph for the following equation?
 $y = 3x + 4$
- A. $(-\frac{4}{3}, 0)$ B. $(\frac{-3}{4}, 0)$ C. $(\frac{4}{3}, 0)$ D. $(\frac{3}{4}, 0)$
28. What is the y -intercept of the line defined by $y = 6x - 4$?
- A. -4 B. -3 C. 32 D. 4
29. What is the slope of the line defined by the equation shown below?
 $5x + 2y = 10$
- A. $-\frac{2}{5}$ B. $-\frac{5}{2}$ C. $\frac{5}{2}$ D. $\frac{2}{5}$

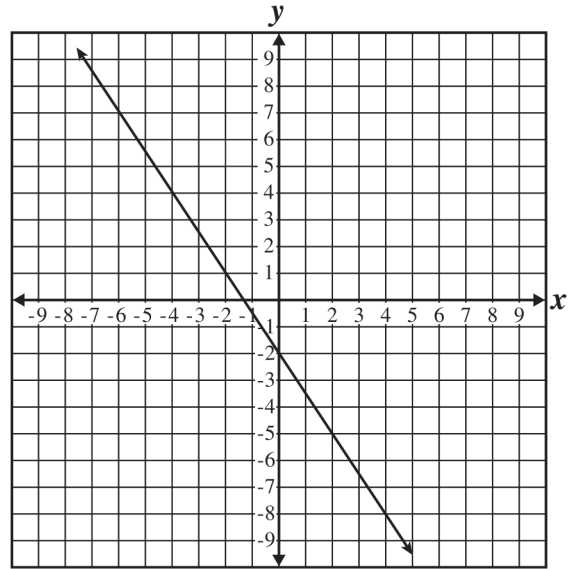
30. Which of the following could be the equation of a line parallel to the line $y = 4x - 7$?

- A. $y = \frac{1}{4}x - 7$ B. $y = 4x + 3$
 C. $y = -4x + 3$ D. $y = -\frac{1}{4}x - 7$

31. Which is the equation of a line perpendicular to $3x - 4y = 12$?

- A. $y = 3x + 5$ B. $y = -\frac{3}{4}x + 8$
 C. $y = \frac{4}{3}x - 3$ D. $y = -\frac{4}{3}x + 12$

32. What is the slope of a line parallel to the line below?



- A. $-\frac{3}{2}$ B. $-\frac{2}{3}$ C. $\frac{2}{3}$ D. $\frac{3}{2}$
33. What is the slope of a line parallel to the line $y = \frac{1}{3}x + 2$?
- A. -3 B. $-\frac{1}{3}$ C. $\frac{1}{3}$ D. 2
34. What is the slope of the line that is perpendicular to the line whose equation is $3x - 2y = -8$?
- A. $\frac{3}{2}$ B. $\frac{2}{3}$ C. $-\frac{2}{3}$ D. $-\frac{3}{2}$

coordinate Geometry and circles XXXX-XX-XX

- | | |
|-----------------------|-----------------------|
| 1.
Answer: D | 21.
Answer: A |
| 2.
Answer: C | 22.
Answer: B |
| 3.
Answer: D | 23.
Answer: A |
| 4.
Answer: C | 24.
Answer: A |
| 5.
Answer: A | 25.
Answer: B |
| 6.
Answer: B | 26.
Answer: B |
| 7.
Answer: D | 27.
Answer: A |
| 8.
Answer: | 28.
Answer: A |
| 9.
Answer: B | 29.
Answer: B |
| 10.
Answer: B | 30.
Answer: B |
| 11.
Answer: B | 31.
Answer: D |
| 12.
Answer: B | 32.
Answer: A |
| 13.
Answer: A | 33.
Answer: C |
| 14.
Answer: D | 34.
Answer: |
| 15.
Answer: A | |
| 16.
Answer: | |
| 17.
Answer: | |
| 18.
Answer: B | |
| 19.
Answer: A | |
| 20.
Answer: | |