

*Test Bank for College Algebra 12<sup>th</sup>  
Edition by Larson*

ISBN: 9798214407401

## Section 01.01 - Graphs of Equations

1. Determine which of the following points lies on the graph of the equation.

$$y = \sqrt{x + 62}$$

- a. (2, 10)
- b. (2, 9)
- c. (2, 8)
- d. (9, 8)
- e. (3, 8)

ANSWER: c

POINTS: 1

REFERENCES: 1.1.7

QUESTION TYPE: Multi-Mode (Multiple choice)

HAS VARIABLES: False

STUDENT ENTRY MODE: Basic

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2. Determine which of the following points lies on the graph of the equation.

$$y = |x - 2| + 4$$

- a. (5, 7)
- b. (5, 9)
- c. (5, 8)
- d. (8, 7)
- e. (6, 7)

ANSWER: a

POINTS: 1

REFERENCES: 1.1.11

QUESTION TYPE: Multi-Mode (Multiple choice)

HAS VARIABLES: False

STUDENT ENTRY MODE: Basic

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DATE MODIFIED: 11/13/2025 1:34 AM

3. Write the standard form of the equation of the circle with the given characteristics.

Endpoints of a diameter: (2, 2), (12, 2)

- a.  $(x - 7)^2 + (y - 2)^2 = 5$
- b.  $(x - 2)^2 + (y - 7)^2 = 25$
- c.  $(x + 2)^2 + (y + 7)^2 = 25$
- d.  $(x + 7)^2 + (y + 2)^2 = 25$
- e.  $(x - 7)^2 + (y - 2)^2 = 25$

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*ANSWER:* e  
*POINTS:* 1  
*REFERENCES:* 1.1.68  
*QUESTION TYPE:* Multi-Mode (Multiple choice)  
*HAS VARIABLES:* False  
*STUDENT ENTRY MODE:* Basic  
*DATE CREATED:* 11/13/2025 1:34 AM  
*DATE MODIFIED:* 5/6/2026 4:40 AM

4. Write the standard form of the equation of the circle with the given characteristics.

Center: (3, 1); Radius: 7

- a.  $(x - 3)^2 + (y - 1)^2 = 49$
- b.  $(x - 3)^2 + (y - 1)^2 = 7$
- c.  $(x - 3)^2 + (y - 1)^2 + 7 = 0$
- d.  $x^2 + y^2 = 0$
- e.  $(x - 3)^2 + (y - 1)^2 - 49 = 0$

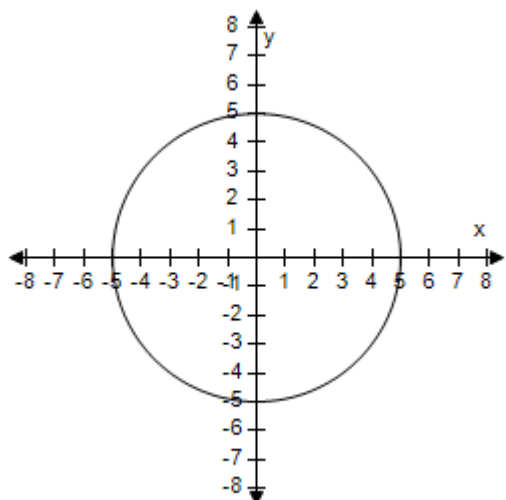
*ANSWER:* a  
*POINTS:* 1  
*REFERENCES:* 1.1.63  
*QUESTION TYPE:* Multi-Mode (Multiple choice)  
*HAS VARIABLES:* False  
*STUDENT ENTRY MODE:* Basic  
*DATE CREATED:* 11/13/2025 1:34 AM  
*DATE MODIFIED:* 5/6/2026 4:42 AM

5. Find the center and radius of the circle, and sketch its graph.

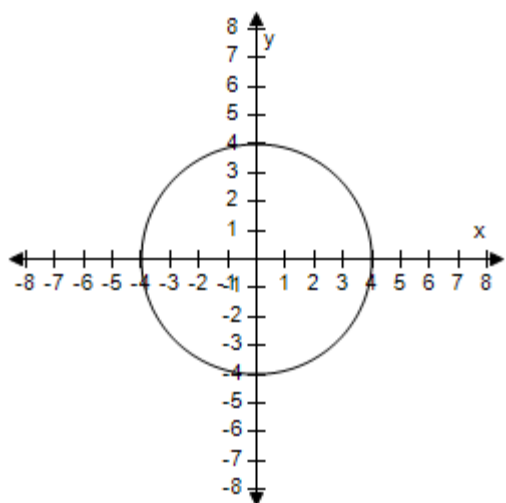
$$x^2 + y^2 = 16$$

- a. Center (0, 0), Radius 16
- b. Center (0, 0), Radius 4

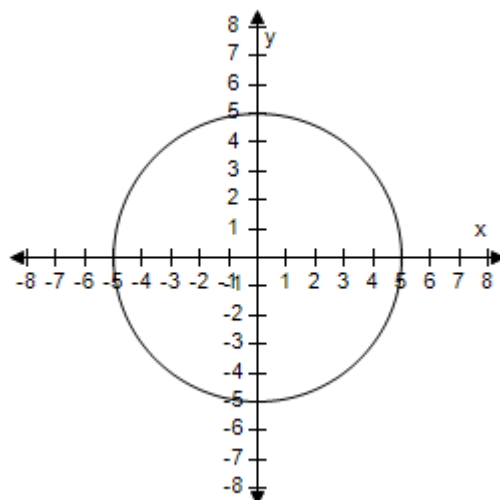
## Section 01.01 - Graphs of Equations



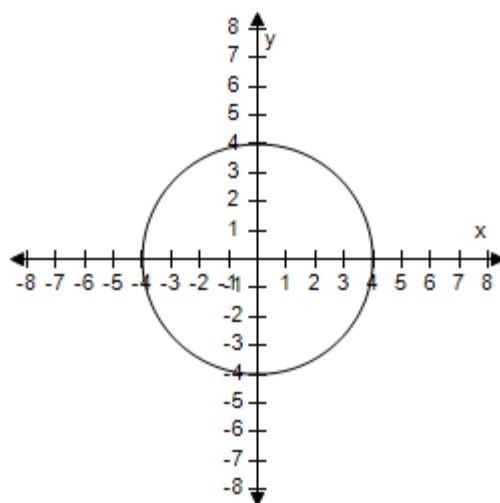
c. Center (0, 0), Radius 4



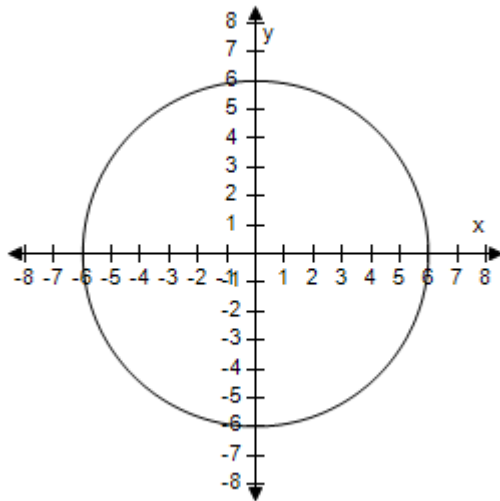
e. Center (0, 0), Radius 4



d. Center (0, 0), Radius 16



## Section 01.01 - Graphs of Equations

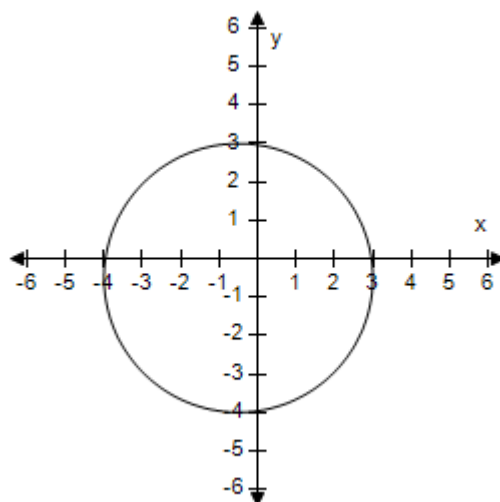


ANSWER: c  
 POINTS: 1  
 REFERENCES: 1.1.69  
 QUESTION TYPE: Multi-Mode (Multiple choice)  
 HAS VARIABLES: False  
 STUDENT ENTRY MODE: Basic  
 DATE CREATED: 11/13/2025 1:34 AM  
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6. Find the center and radius of the circle, and sketch its graph.

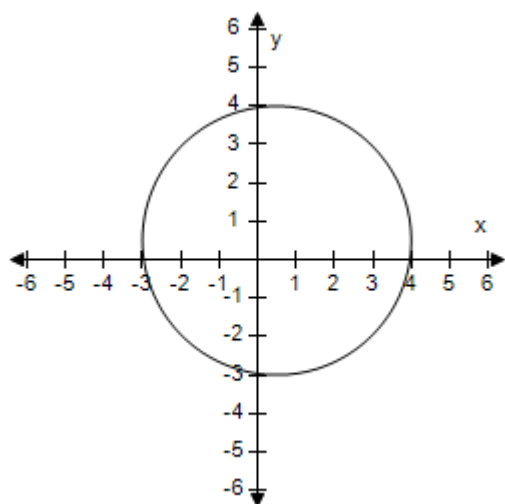
$$\left(x - \frac{1}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = \frac{49}{4}$$

a. Center  $\left(\frac{1}{2}, \frac{1}{2}\right)$ , Radius  $\frac{49}{4}$

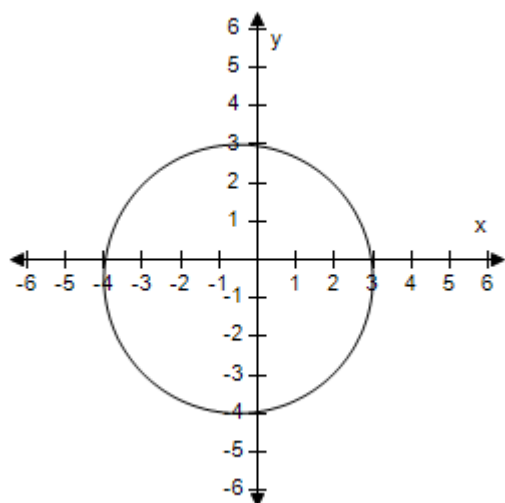


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- b. Center  $\left(\frac{1}{2}, \frac{1}{2}\right)$ , Radius  $\frac{49}{4}$

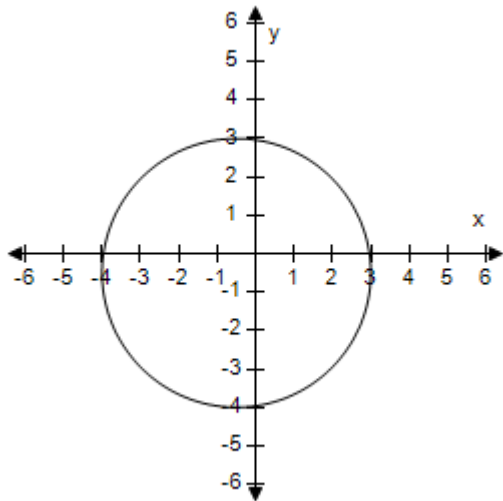


- c. Center  $\left(\frac{1}{2}, \frac{1}{2}\right)$ , Radius  $\frac{7}{2}$

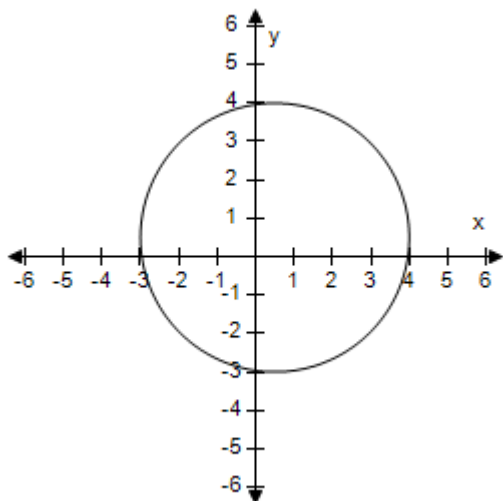


- d. Center  $\left(-\frac{1}{2}, -\frac{1}{2}\right)$ , Radius  $\frac{7}{4}$

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e. Center  $\left(\frac{1}{2}, \frac{1}{2}\right)$ , Radius  $\frac{7}{2}$



ANSWER: e  
 POINTS: 1  
 REFERENCES: 1.1.73  
 QUESTION TYPE: Multi-Mode (Multiple choice)  
 HAS VARIABLES: False  
 STUDENT ENTRY MODE: Basic  
 DATE CREATED: 11/13/2025 1:34 AM  
 DATE MODIFIED: 5/6/2026 4:45 AM

7. Identify any intercepts and test for symmetry. Then sketch the graph of the equation.

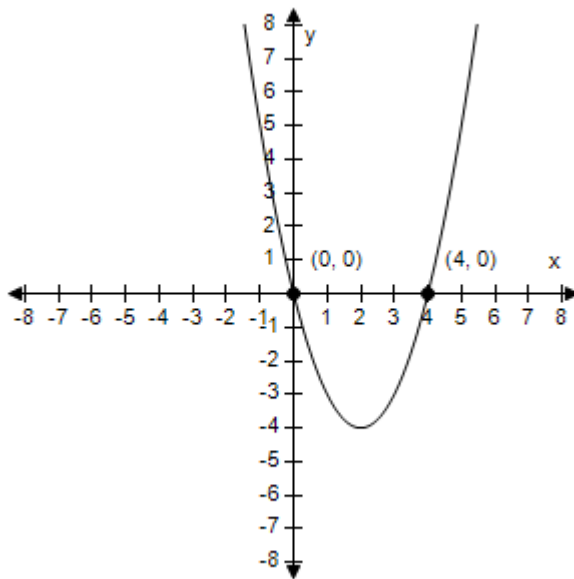
$$y = x^2 - 4x$$

a. x-intercepts :  $(0, 0)$ ,  $(4, 0)$

y-intercept :  $(0, 0)$

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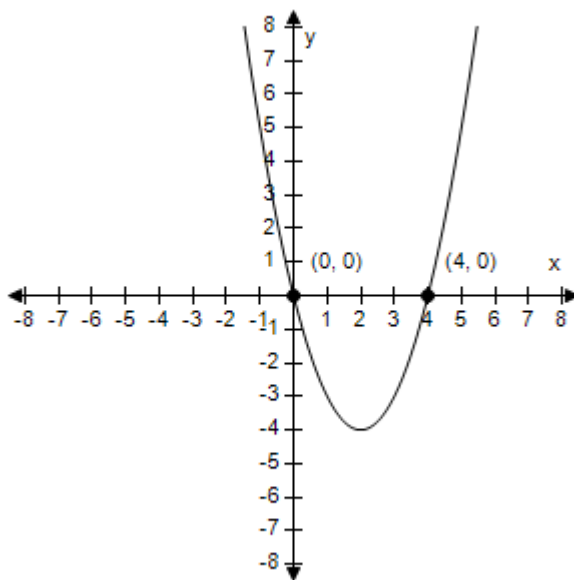
No symmetry



b.  $x$ -intercepts : (0, 0), (-4, 0)

$y$ -intercept : (0, 1)

No symmetry



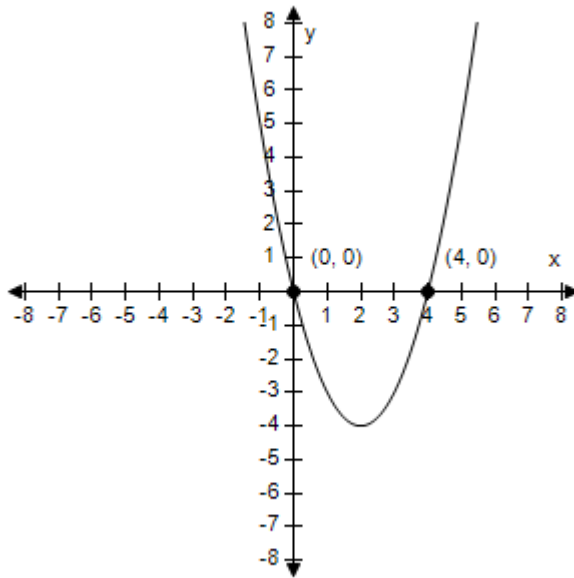
c.  $x$ -intercepts : (4, 0), (4, 0)

$y$ -intercept : (0, 1)

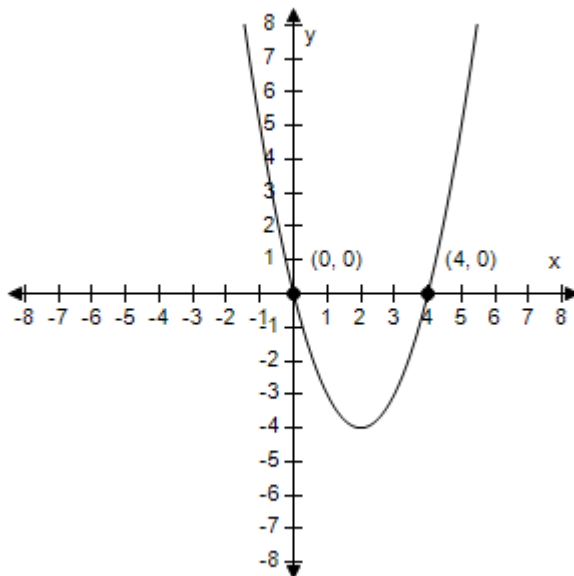
No symmetry



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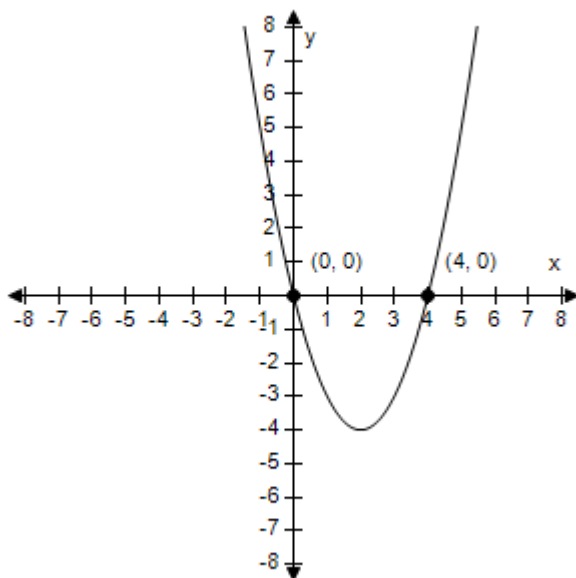


- d.  $x$ -intercepts :  $(0, 0)$ ,  $(4, 0)$   
 $y$ -intercept :  $(0, 1)$   
No symmetry



- e.  $x$ -intercepts :  $(0, 0)$ ,  $(4, 0)$   
 $y$ -intercept :  $(0, -1)$   
No symmetry

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ANSWER: a  
POINTS: 1  
REFERENCES: 1.1.39  
QUESTION TYPE: Multi-Mode (Multiple choice)  
HAS VARIABLES: False  
STUDENT ENTRY MODE: Basic  
DATE CREATED: 11/13/2025 1:34 AM  
DATE MODIFIED: 12/10/2025 12:33 AM

8. Write the standard form of the equation of the circle with the given characteristics.

Center: (6, 1); Solution point: (5, 9)

- a.  $(x + 6)^2 + (y + 1)^2 = 65$
- b.  $(x - 6)^2 + (y + 1)^2 - 65 = 0$
- c.  $(x + 6)^2 + (y + 1)^2 + 65 = 0$
- d.  $(x - 6)^2 + (y - 1)^2 = 65$
- e.  $(x - 1)^2 + (y - 6)^2 = 65$

ANSWER: d  
POINTS: 1  
REFERENCES: 1.1.66  
QUESTION TYPE: Multi-Mode (Multiple choice)  
HAS VARIABLES: False  
STUDENT ENTRY MODE: Basic  
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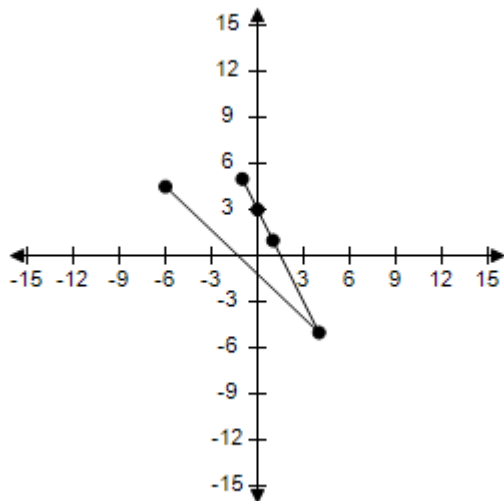
9. Complete the table. Use the resulting solution points to sketch the graph of the equation.

$$y = -2x + 3$$

|          |    |   |   |   |               |
|----------|----|---|---|---|---------------|
| $x$      | -1 | 0 | 1 | 4 | $\frac{9}{2}$ |
| $y$      |    |   |   |   |               |
| $(x, y)$ |    |   |   |   |               |

a.

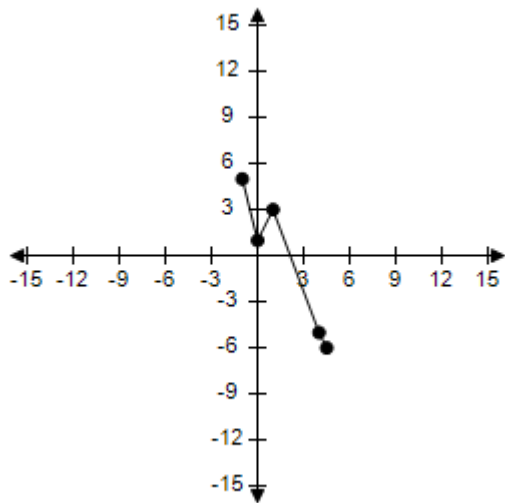
|          |           |          |          |           |                     |
|----------|-----------|----------|----------|-----------|---------------------|
| $x$      | -1        | 0        | 1        | 4         | $\frac{9}{2}$       |
| $y$      | 5         | 3        | 1        | -5        | -6                  |
| $(x, y)$ | $(-1, 5)$ | $(0, 3)$ | $(1, 1)$ | $(4, -5)$ | $(\frac{9}{2}, -6)$ |



b.

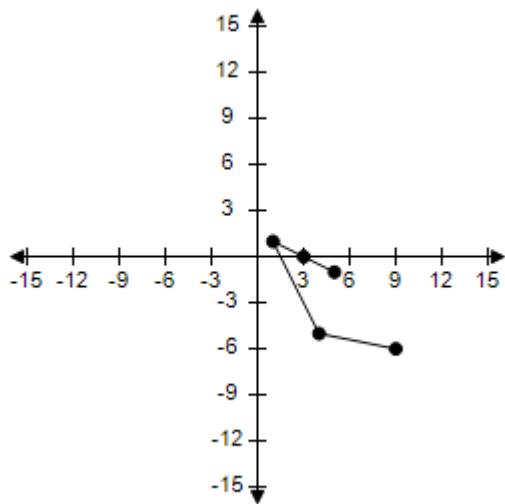
|          |           |          |          |           |                     |
|----------|-----------|----------|----------|-----------|---------------------|
| $x$      | -1        | 0        | 1        | 4         | $\frac{9}{2}$       |
| $y$      | 5         | 3        | 1        | -5        | -6                  |
| $(x, y)$ | $(-1, 5)$ | $(0, 1)$ | $(1, 3)$ | $(4, -5)$ | $(\frac{9}{2}, -6)$ |

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c.

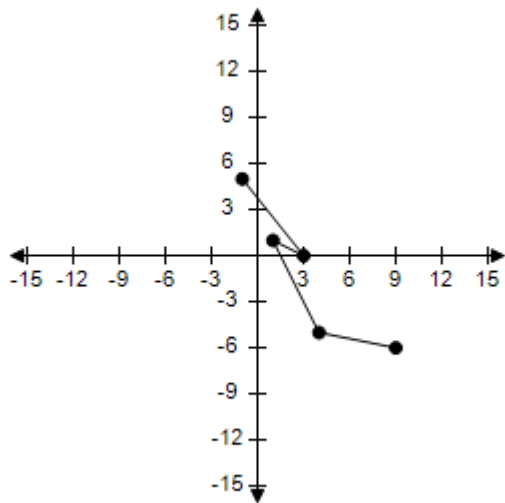
|          |         |        |        |         |                     |
|----------|---------|--------|--------|---------|---------------------|
| $x$      | -1      | 0      | 1      | 4       | $\frac{9}{2}$       |
| $y$      | 5       | 3      | 1      | -5      | -6                  |
| $(x, y)$ | (5, -1) | (3, 0) | (1, 1) | (4, -5) | $(\frac{9}{2}, -6)$ |



d.

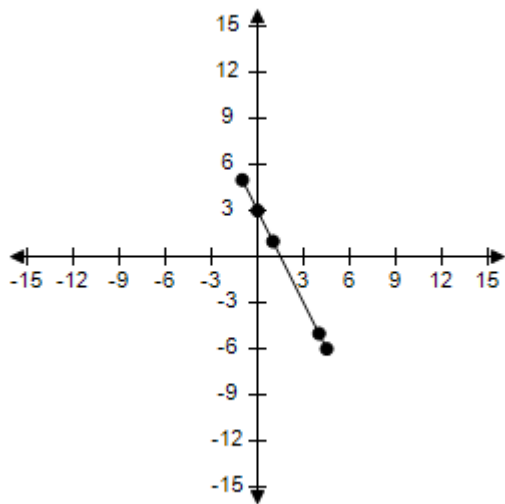
|          |         |        |        |         |                     |
|----------|---------|--------|--------|---------|---------------------|
| $x$      | -1      | 0      | 1      | 4       | $\frac{9}{2}$       |
| $y$      | 5       | 3      | 1      | -5      | -6                  |
| $(x, y)$ | (-1, 5) | (3, 0) | (1, 1) | (4, -5) | $(\frac{9}{2}, -6)$ |

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e.

|          |           |          |          |           |                     |
|----------|-----------|----------|----------|-----------|---------------------|
| $x$      | -1        | 0        | 1        | 4         | $\frac{9}{2}$       |
| $y$      | 5         | 3        | 1        | -5        | -6                  |
| $(x, y)$ | $(-1, 5)$ | $(0, 3)$ | $(1, 1)$ | $(4, -5)$ | $(\frac{9}{2}, -6)$ |



ANSWER: e  
POINTS: 1  
REFERENCES: 1.1.15  
QUESTION TYPE: Multi-Mode (Multiple choice)  
HAS VARIABLES: False  
STUDENT ENTRY MODE: Basic  
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