

Test Bank for College Algebra 12th Larson

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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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
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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. $(x - 3)^2 + (y - 1)^2 - 49 = 0$

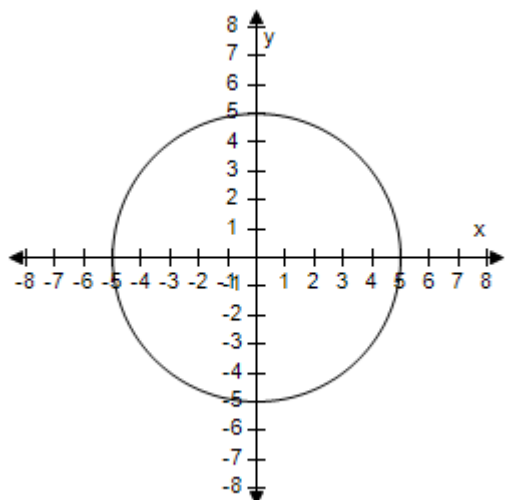
ANSWER: a
POINTS: 1
REFERENCES: 1.1.63
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
DATE CREATED: 11/13/2025 1:34 AM
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5. Find the center and radius of the circle, and sketch its graph.

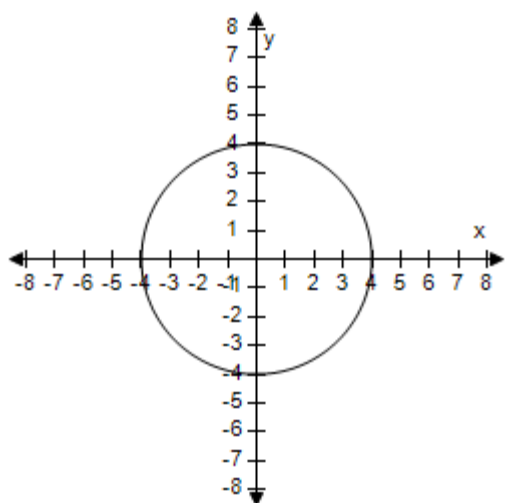
$$x^2 + y^2 = 16$$

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

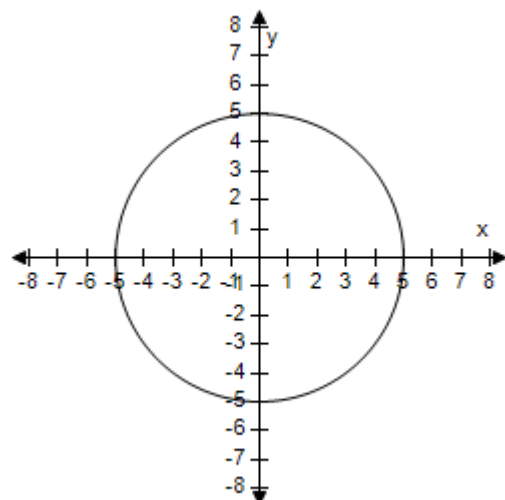
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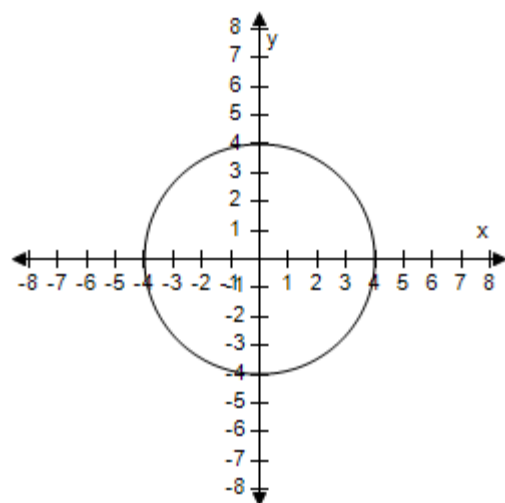
c. Center (0, 0), Radius 4



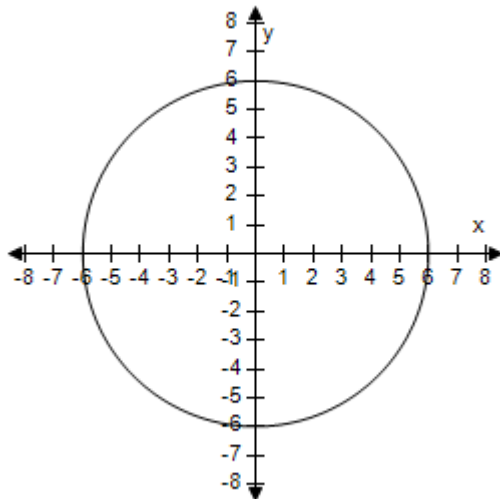
e. Center (0, 0), Radius 4



d. Center (0, 0), Radius 16



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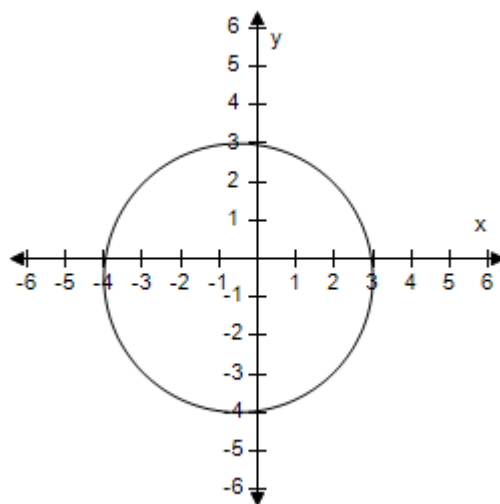


ANSWER: c
 POINTS: 1
 REFERENCES: 1.1.69
 QUESTION TYPE: Multi-Mode (Multiple choice)
 HAS VARIABLES: False
 STUDENT ENTRY MODE: Basic
 DATE CREATED: 11/13/2025 1:34 AM
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6. Find the center and radius of the circle, and sketch its graph.

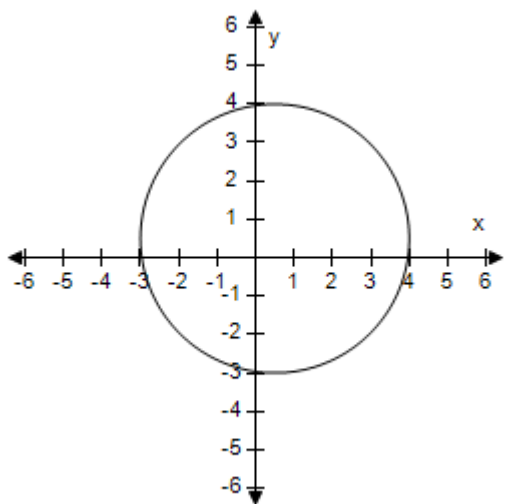
$$\left(x - \frac{1}{2}\right)^2 + \left(y - \frac{1}{2}\right)^2 = \frac{49}{4}$$

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

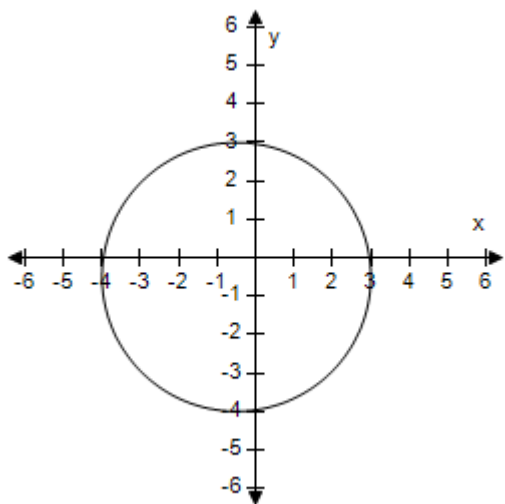


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b. Center $\left(\frac{1}{2}, \frac{1}{2}\right)$, Radius $\frac{49}{4}$

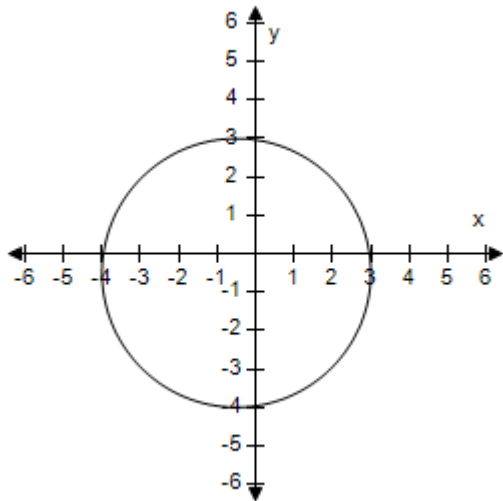


c. Center $\left(\frac{1}{2}, \frac{1}{2}\right)$, Radius $\frac{7}{2}$

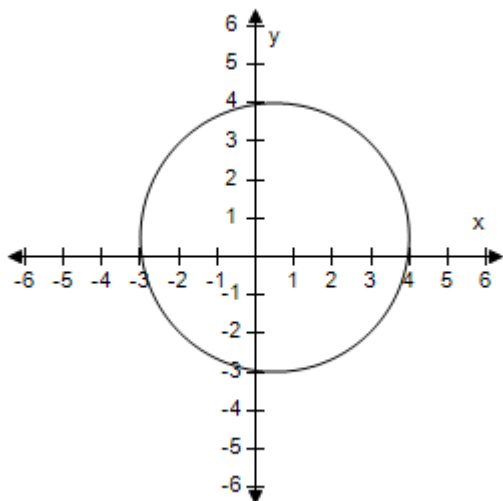


d. Center $\left(-\frac{1}{2}, -\frac{1}{2}\right)$, Radius $\frac{7}{4}$

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

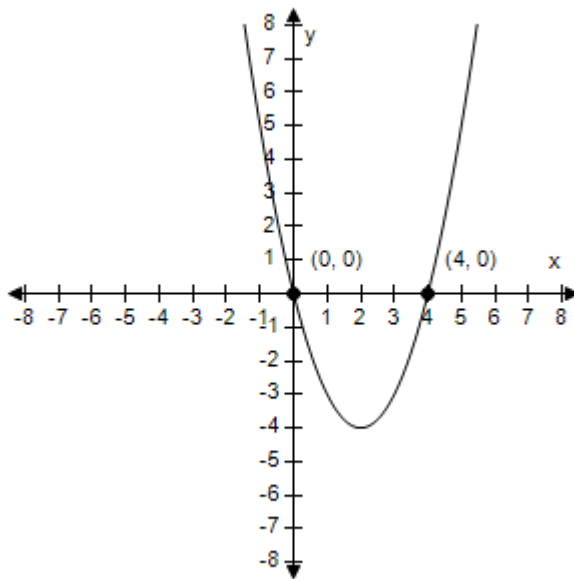
$$y = x^2 - 4x$$

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

y-intercept : $(0, 0)$

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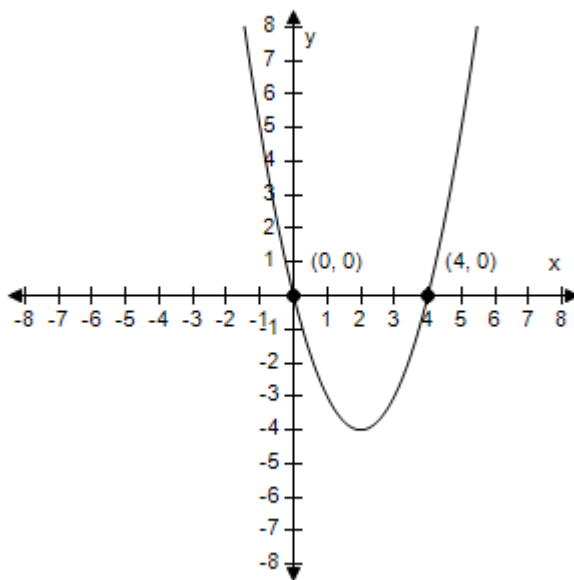
No symmetry



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

y -intercept : (0, 1)

No symmetry

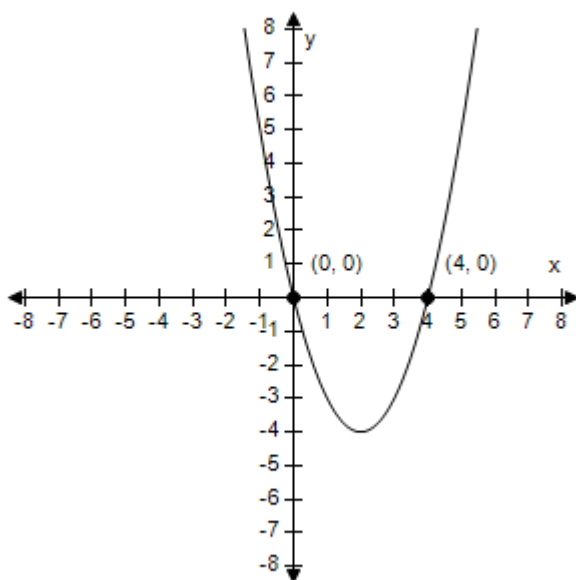


c. x -intercepts : (4, 0), (4, 0)

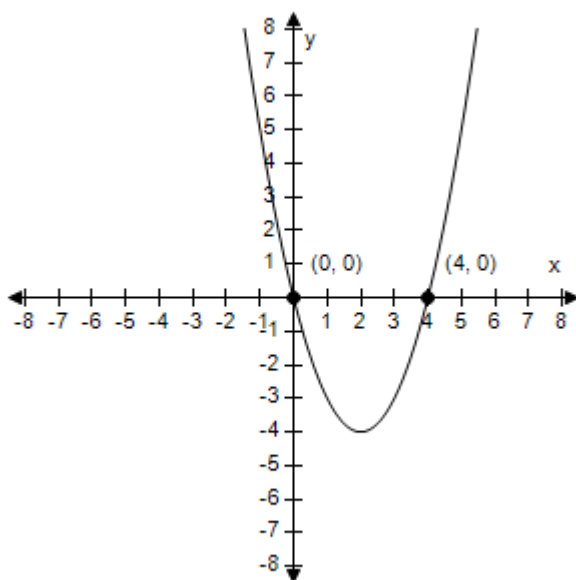
y -intercept : (0, 1)

No symmetry

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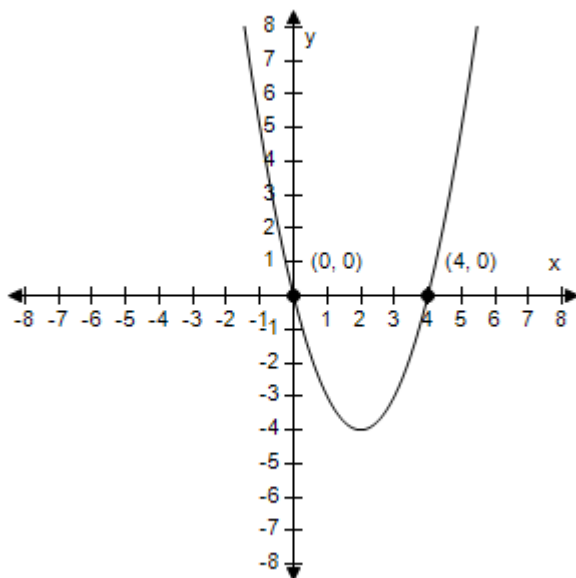


- d. x -intercepts : $(0, 0)$, $(4, 0)$
 y -intercept : $(0, 1)$
No symmetry



- 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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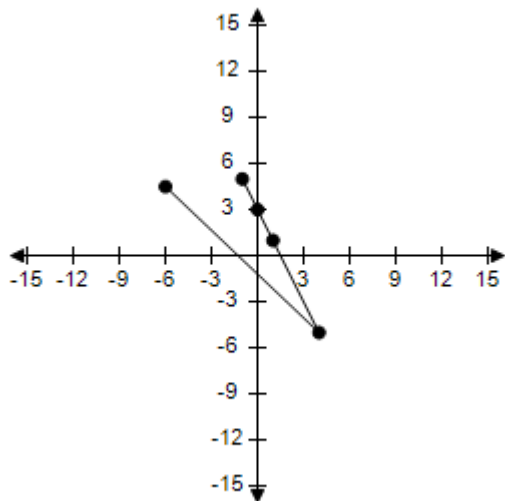
9. Complete the table. Use the resulting solution points to sketch the graph of the equation.

$$y = -2x + 3$$

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

a.

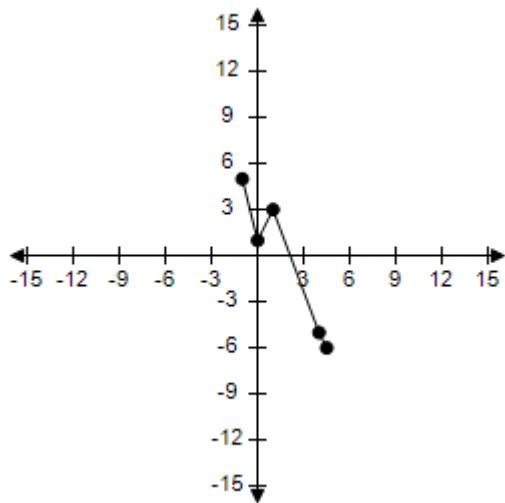
x	-1	0	1	4	$\frac{9}{2}$
y	5	3	1	-5	-6
(x, y)	$(-1, 5)$	$(0, 3)$	$(1, 1)$	$(4, -5)$	$(\frac{9}{2}, -6)$



b.

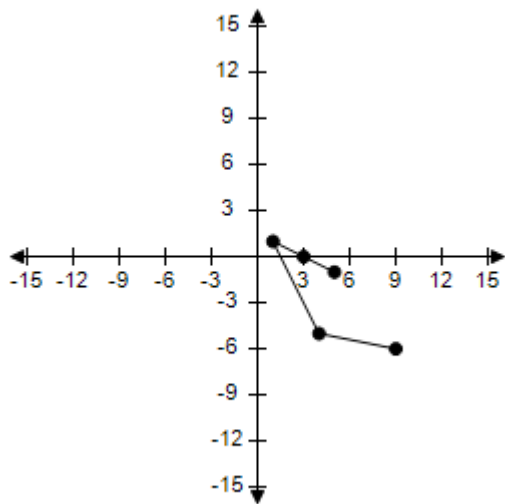
x	-1	0	1	4	$\frac{9}{2}$
y	5	3	1	-5	-6
(x, y)	$(-1, 5)$	$(0, 1)$	$(1, 3)$	$(4, -5)$	$(\frac{9}{2}, -6)$

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c.

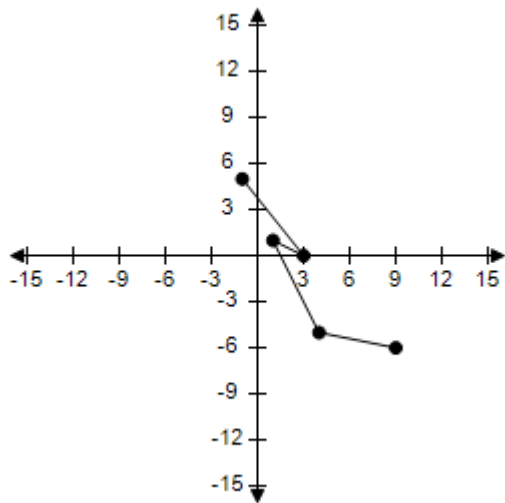
x	-1	0	1	4	$\frac{9}{2}$
y	5	3	1	-5	-6
(x, y)	(-1, 5)	(0, 3)	(1, 1)	(4, -5)	$(\frac{9}{2}, -6)$



d.

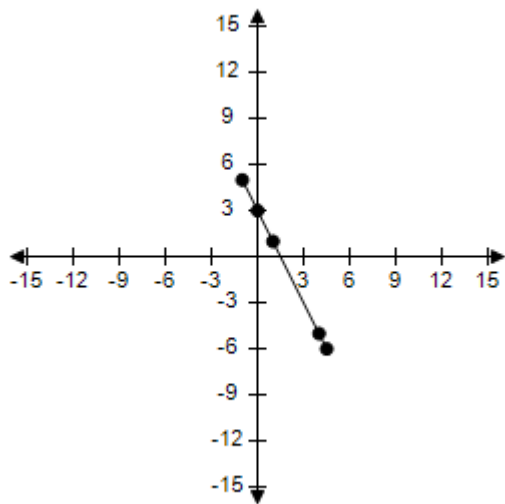
x	-1	0	1	4	$\frac{9}{2}$
y	5	3	1	-5	-6
(x, y)	(-1, 5)	(0, 3)	(1, 1)	(4, -5)	$(\frac{9}{2}, -6)$

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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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