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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
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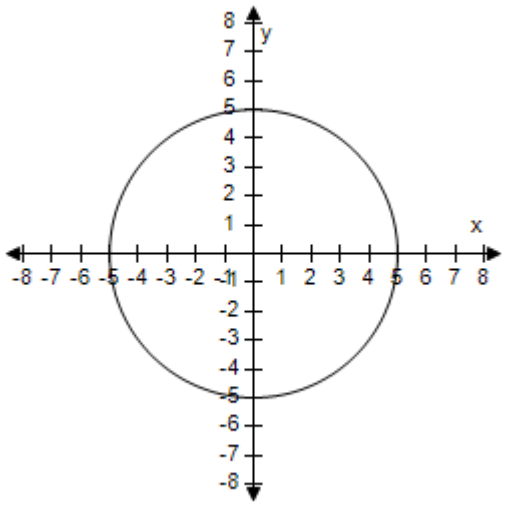
5. Find the center and radius of the circle, and sketch its graph.
$x^2+y^2=16$

a. Center (0, 0), Radius 16

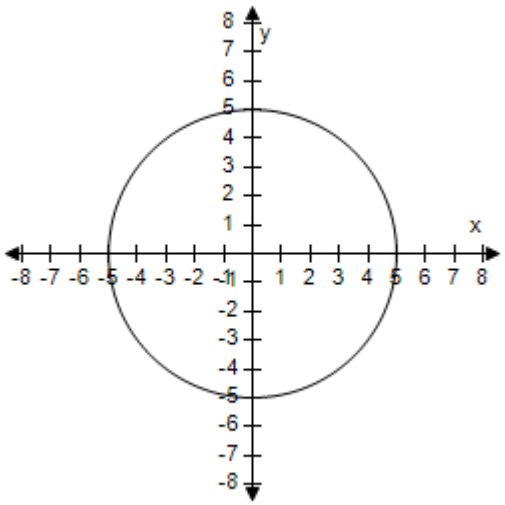
b. Center (0, 0), Radius 4

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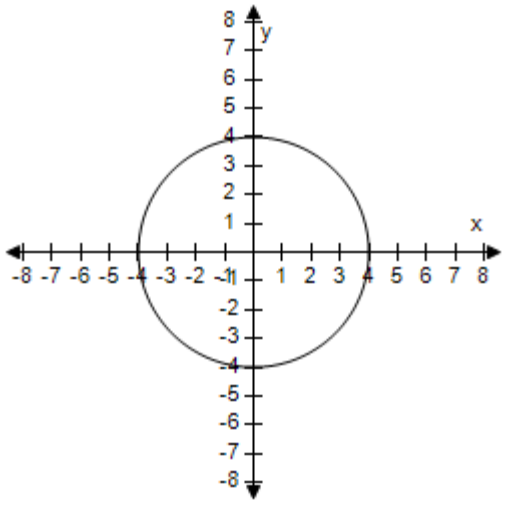
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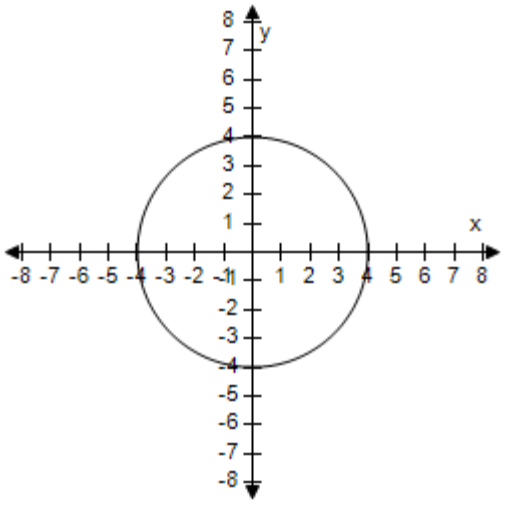
c. Center (0, 0), Radius 4



d. Center (0, 0), Radius 16

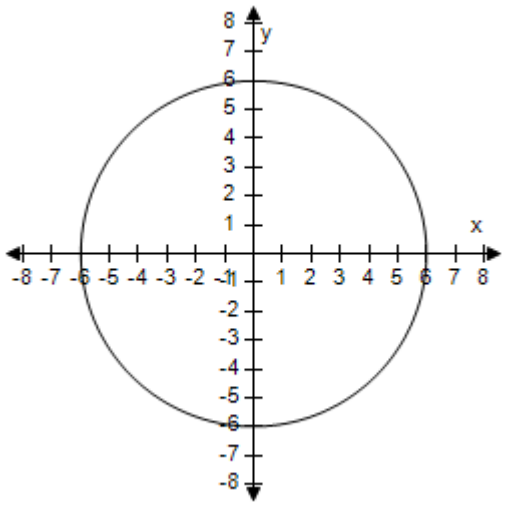


e. Center (0, 0), Radius 4



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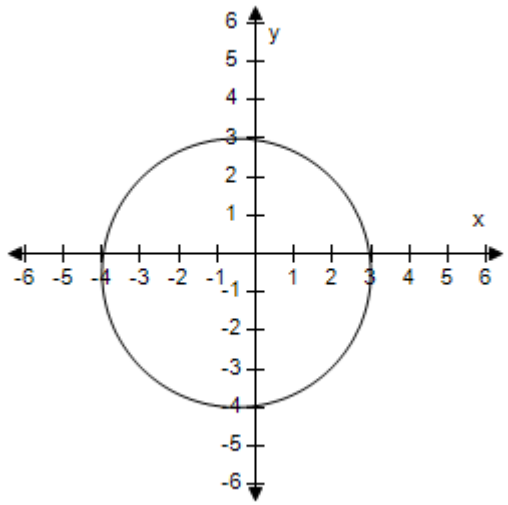


ANSWER: c
POINTS: 1
REFERENCES: 1.1.69
QUESTION TYPE: Multi-Mode (Multiple choice)
HAS VARIABLES: False
STUDENT ENTRY MODE: Basic
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6. Find the center and radius of the circle, and sketch its graph.

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

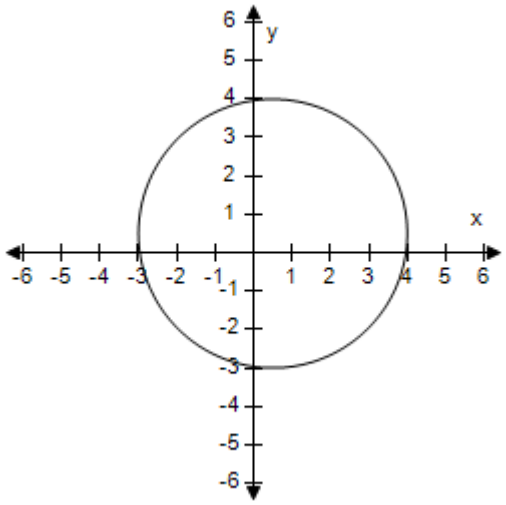
a. Center $\left(\frac{1}{2},\frac{1}{2}\right)$, Radius $\frac{49}{4}$



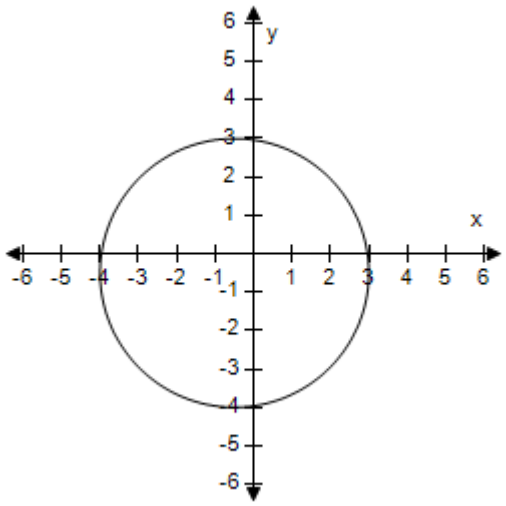
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b. Center $\left(\frac{1}{2}, \frac{1}{2}\right)$, Radius $\frac{49}{4}$



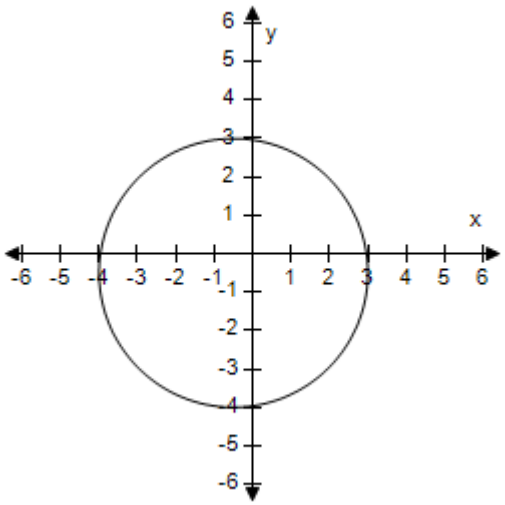
c. Center $\left(\frac{1}{2}, \frac{1}{2}\right)$, Radius $\frac{7}{2}$



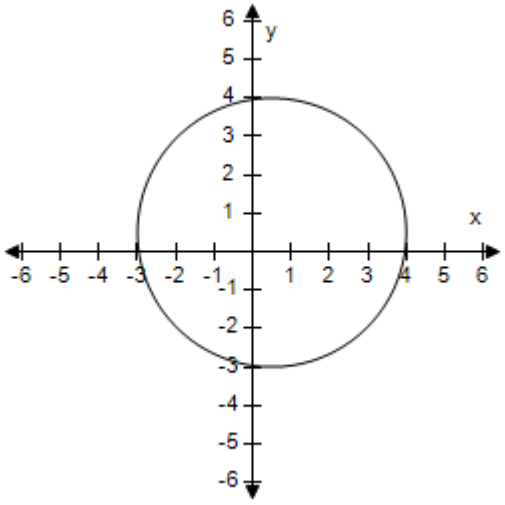
d. Center $\left(-\frac{1}{2}, -\frac{1}{2}\right)$, Radius $\frac{7}{4}$

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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
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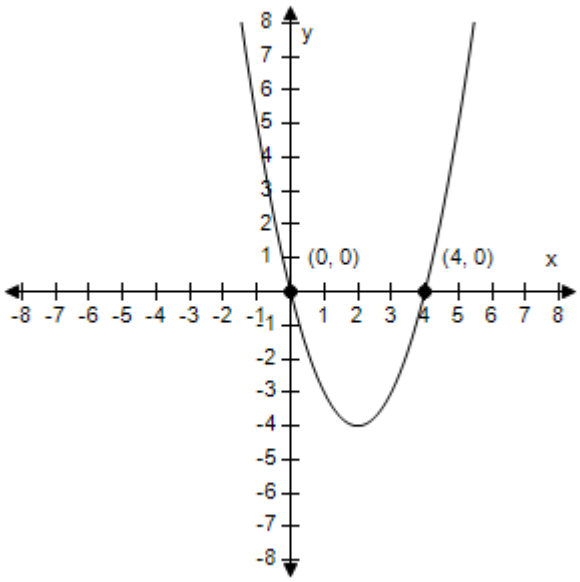
7. Identify any intercepts and test for symmetry. Then sketch the graph of the equation.
$y = x^2 - 4x$

a. x-intercepts : (0, 0), (4, 0)
y-intercept : (0, 0)

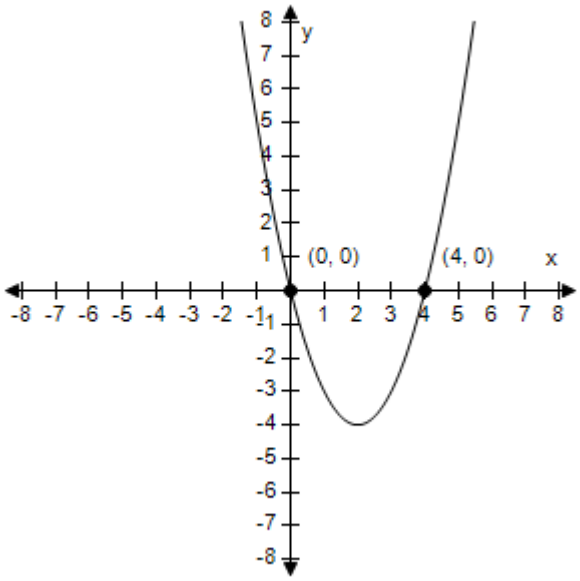
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No symmetry



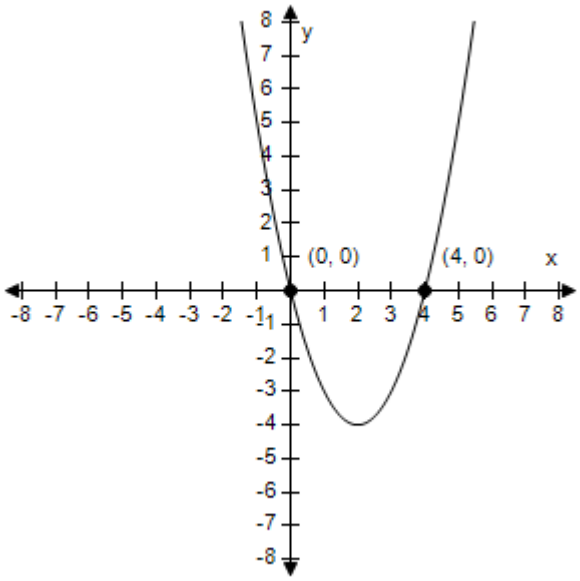
b. *x*-intercepts : (0, 0), (–4, 0)
y-intercept : (0, 1)
No symmetry



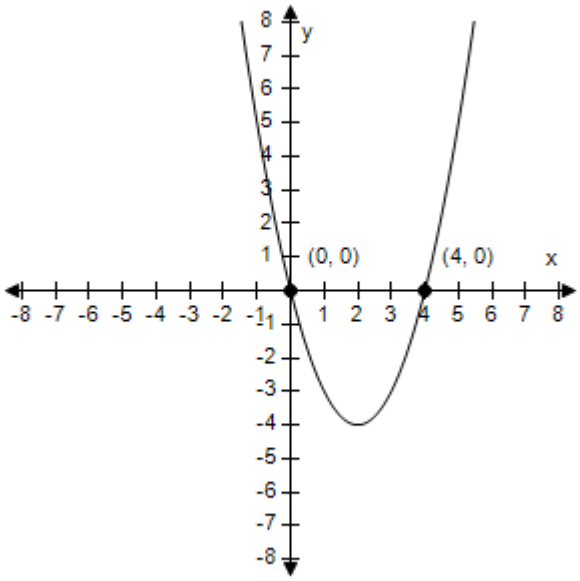
c. *x*-intercepts : (4, 0), (4, 0)
y-intercept : (0, 1)
No symmetry

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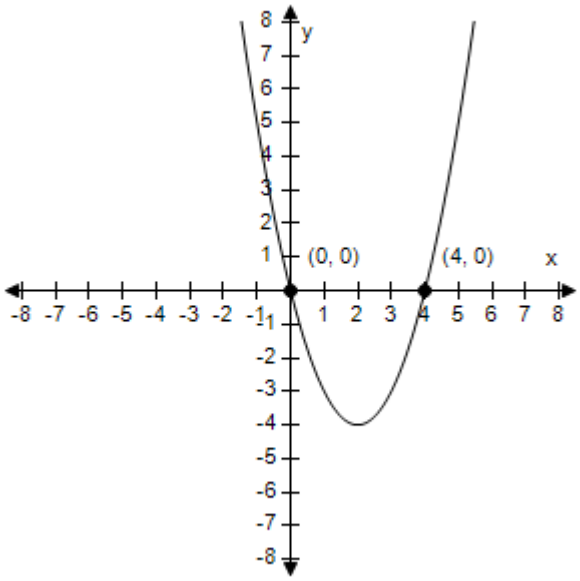
d. *x*-intercepts : (0, 0), (4, 0)
y-intercept : (0, 1)
No symmetry



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
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HAS VARIABLES: False
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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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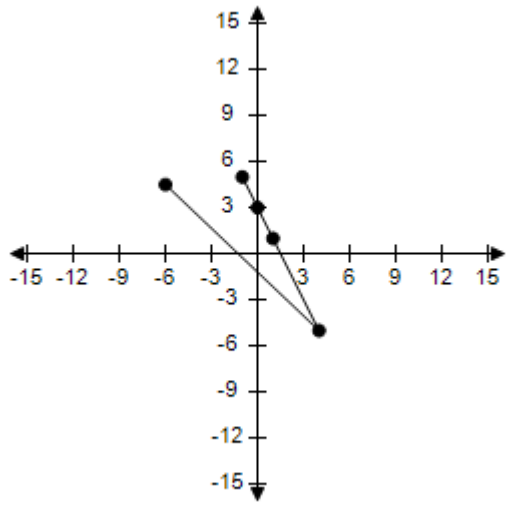
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9. Complete the table. Use the resulting solution points to sketch the graph of the equation.
$y = -2x + 3$

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)	$(\frac{9}{2}, 9)$

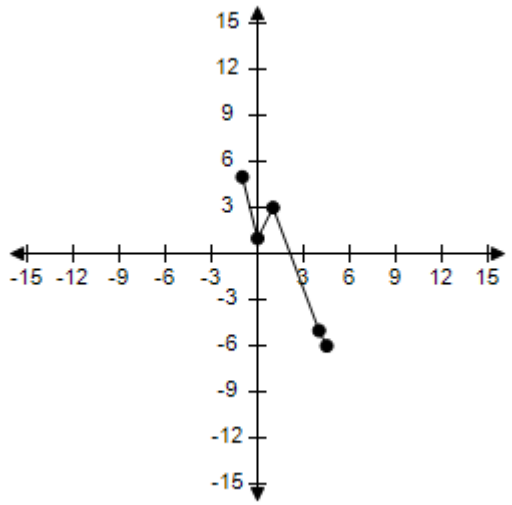


b.

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

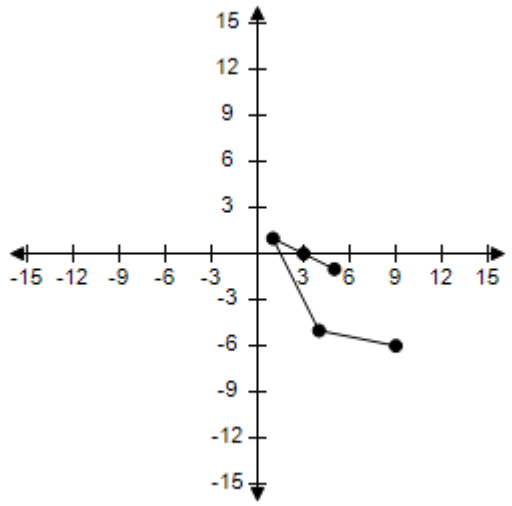
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c.

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

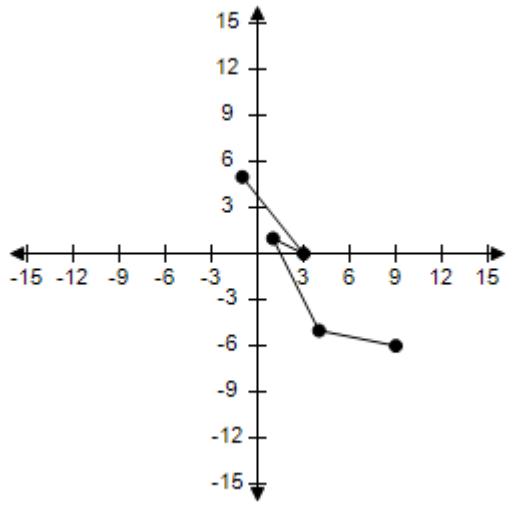


d.

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

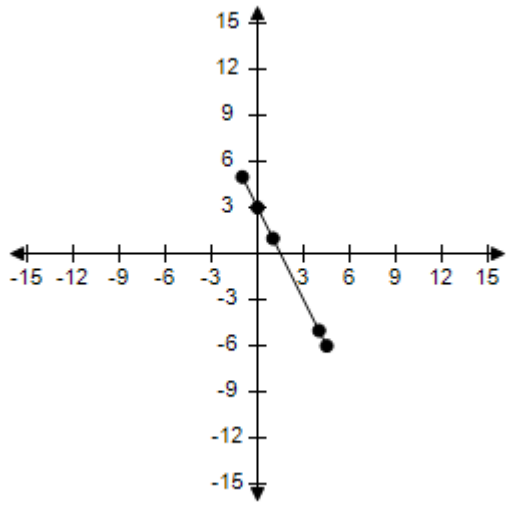
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e.

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)
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