21 Graph Equations

SOL 8.16

Example

Which ordered pair is part of the line of the equation $3x + y = 6$?

A (0, 4)
B (1, 3)
C (2, 2)
D (3, 1)

Thinking It Through

Solve —***Test It***: ***Eliminate Wrong Answers*** Go through the answer choices to determine the correct ordered pair.

Substitute a value for x and then solve for y.

A $(3 \times 0) + y = 6$
$y = 6$: the ordered pair would be (0, 6).

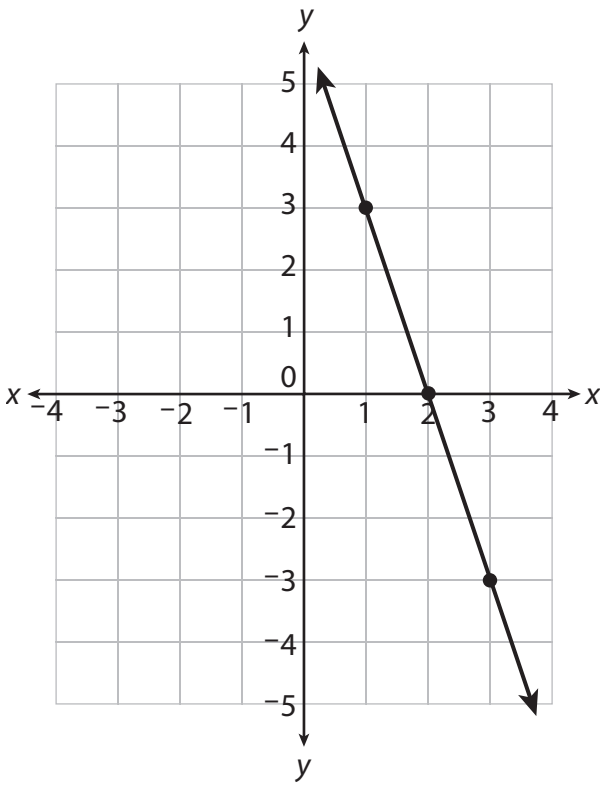
B $(3 \times 1) + y = 6$
$3 + y = 6$
$y = 3$, so the ordered pair is (1, 3).

The correct answer is *(1, 3), answer B*.

Review

- To graph a **linear equation** with two variables, substitute values for one variable to find values for the other variable.
- A linear equation will form a straight line when it is graphed.
- If you were to graph the equation in the *Example* using the domain {1, 2, 3}, it would have the following ordered pairs: (1,3), (2,0), and (3,⁻3). The graph of the equation is shown at right.
- You can also construct a table to show ordered pairs from the graph of the equation:

x	*y*
1	3
2	0
3	⁻3



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DIRECTIONS Read and solve each question. Then circle the letter of the best answer.

1 **Which is *not* an ordered pair of the equation $3x - 2y = 12$?**

A $(^{-}2, ^{-}12)$

B $(0, ^{-}6)$

C $(3, ^{-}1.5)$

D (5, 1.5)

Substitute values of x to find corresponding values of y.

2 **Susan said that (4, 0) is a point on the line created by the equation $2x + 4y = 8$. Barry said that $(^{-}2, 3)$ is also a point on this line. Who is correct?**

F Susan only

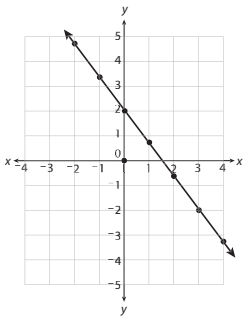
G Barry only

H Both are correct.

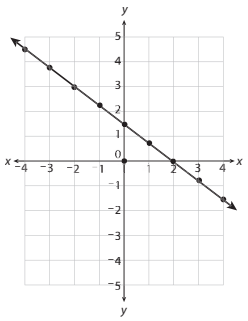
J Neither is correct.

3 **Which graph corresponds to the equation $3x + 4y = 6$?**

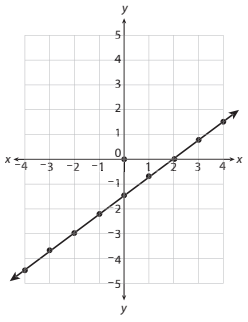
A



B



C



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