Exercises - Solving Systems of Linear Equations

1

$$y = 2x + 4$$
$$x - y = -1$$

Which ordered pair (x, y) satisfies the system of equations shown above?

A) $(-2, -3)$

B) $(-3, -2)$

C) $(-1, 2)$

D) $(-2, 0)$

2

$$\frac{1}{2}x + y = 1$$
$$-2x - y = 5$$

If (x, y) is a solution to the system of equations above, what is the value of $x + y$?

A) -2

B) -1

C) 1

D) 2

3

$$2x - ky = 14$$
$$5x - 2y = 5$$

In the system of equations above, k is a constant and x and y are variables. For what values of k will the system of equations have no solution?

4

Which of the following systems of equations has infinitely many solutions?

A) $x + y = 1$
$x - y = 1$

B) $-2x + y = 1$
$-2x + y = 5$

C) $\frac{1}{2}x - \frac{1}{3}y = 1$
$3x - 2y = 6$

D) $2x + 3y = 1$
$3x - 2y = 1$

5

$$ax - y = 0$$
$$x - by = 1$$

In the system of equations above, a and b are constants and x and y are variables. If the system of equations above has no solution, what is the value of $a \cdot b$?

6

$$2x - \frac{1}{2}y = 15$$
$$ax - \frac{1}{3}y = 10$$

In the system of equations above, a is a constant and x and y are variables. For what values of a will the system of equations have infinitely many solution?