

Warm Up:

Determine whether each ordered pair is a solution of $y = 3x$, a solution of $y = 2x - 2$, a solution of both equations or a solution of neither equation.

1. $(2, 2)$
2. $(-2, -6)$
3. $(2, 6)$
4. $(1, 4)$

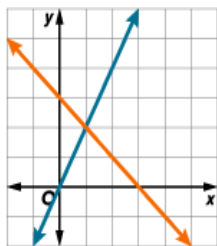
Speak Like A Mathematician

system of equations: a set of two or more _____ with the same _____.

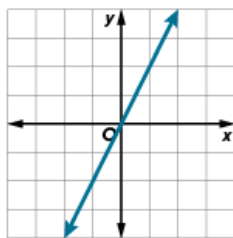
consistent: a system of equations with _____ ordered pair that satisfies _____ equations.

inconsistent: a system of equations with _____ ordered pairs that satisfies _____ equations.

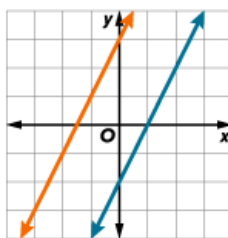
Graphs of Systems of Equations



$$y = 2x$$
$$y = -x + 3$$



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



$$y = 2x - 2$$
$$y = 2x + 3$$

3 Ways to Solve Systems:

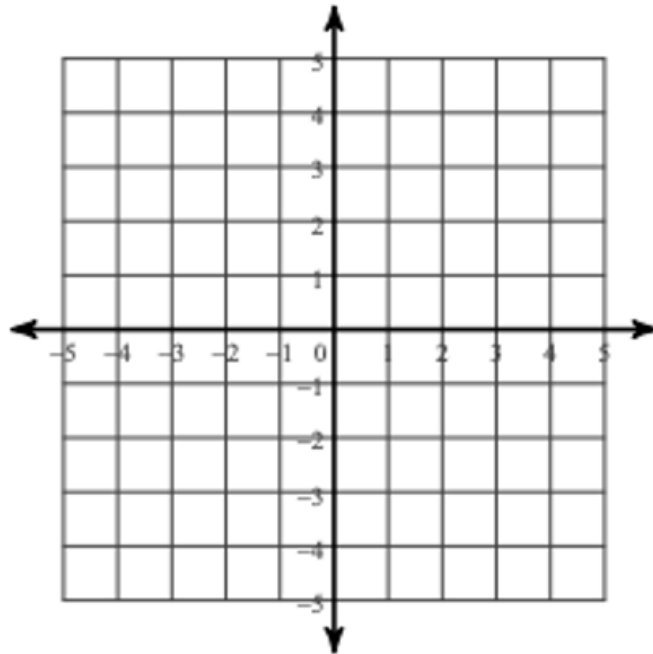
- 1.
- 2.
- 3.

Example 1: Solving Consistent Systems by Graphing

Graph each system in the coordinate plane. Then, identify and check the solution.

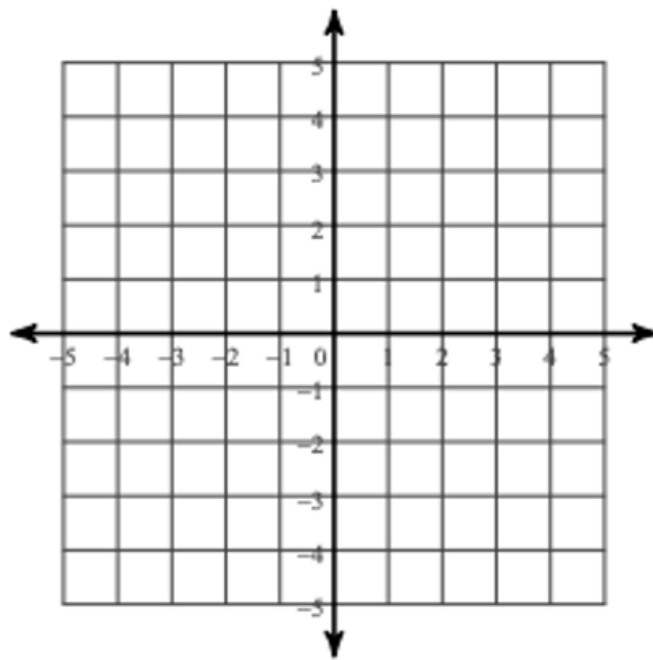
$$y = -3x + 1$$

$$y = x - 3$$



$$y = -2x - 5$$

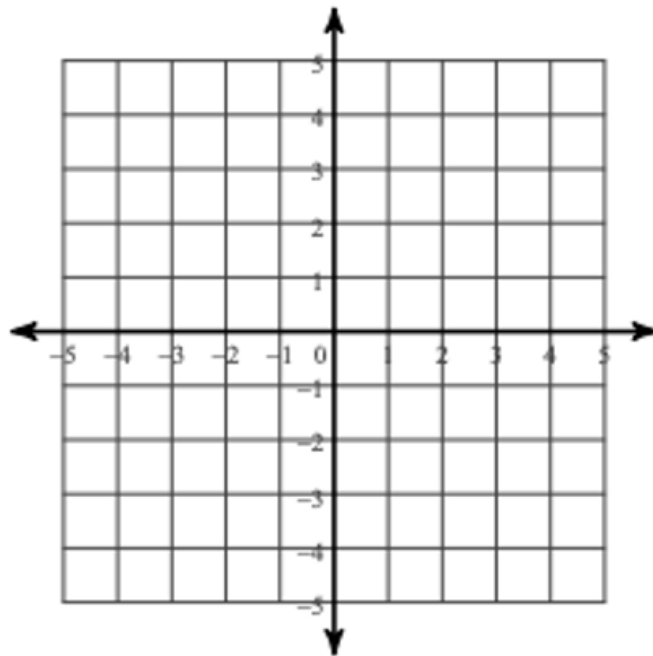
$$y = x - 5$$



Example 2: Inconsistent Systems

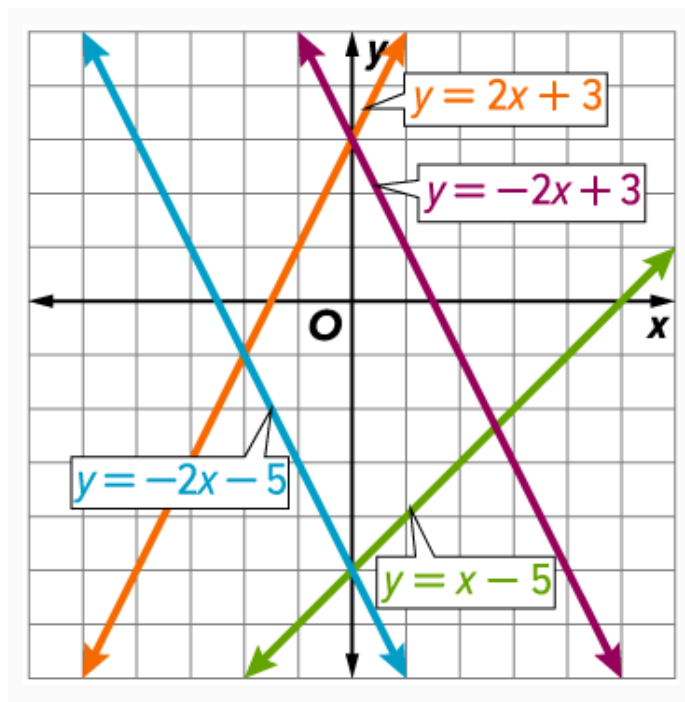
$$y = \frac{1}{2}x + 2$$

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



Complete the system with another line from the graph so that it is inconsistent.

$$y = -2x - 5$$



Example 3: Number of Solutions

Determine the number of solutions each system has.

a) $y = 8x + 3$

$$y = -8x + 5$$

b) $y = 2x - 7$

$$y = 2x + 1$$

c) $4y - 6x = 16$

$$9x - 6y = -24$$

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

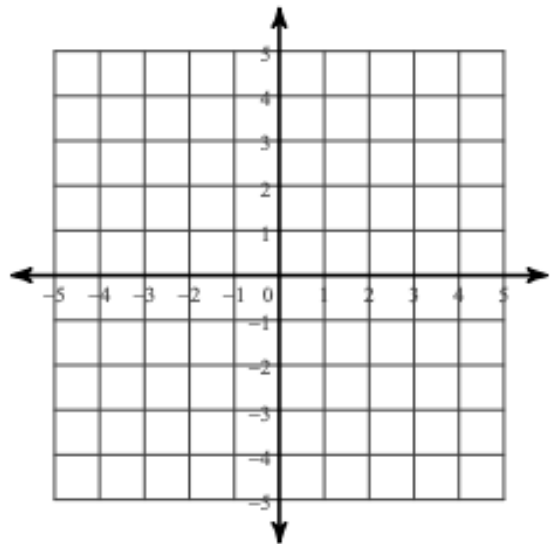
$$6y - 4x = 9$$

Practice:

Solve each system by graphing.

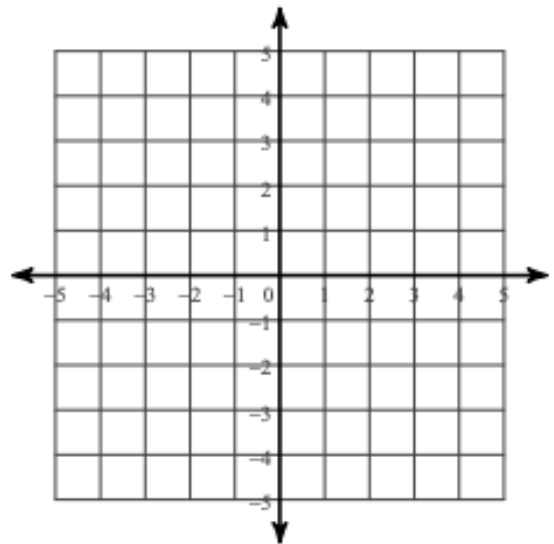
1) $y = 2x - 3$

$y = -3x + 2$



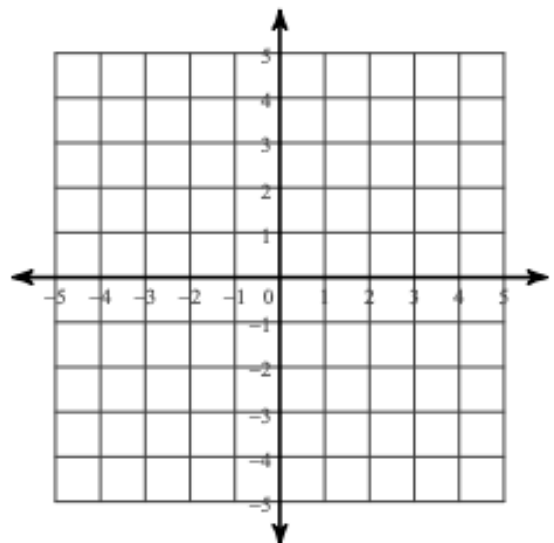
2) $y = -\frac{5}{3}x + 1$

$y = -\frac{1}{3}x - 3$



3) $5x + y = 4$

$x - y = 2$

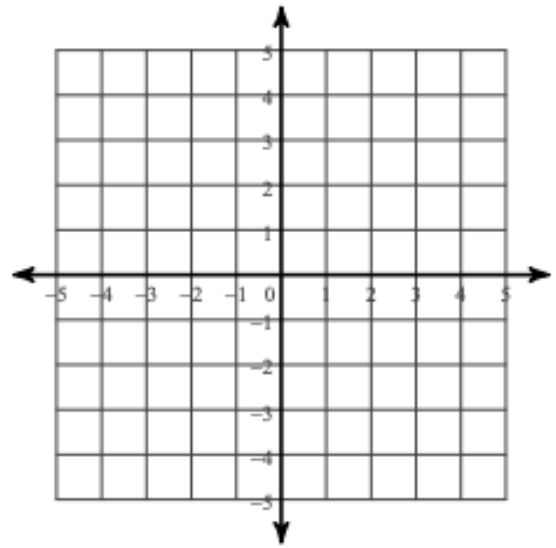


SC Algebra 1
7.1 Graphing Systems of Equations

Solve each system by graphing.

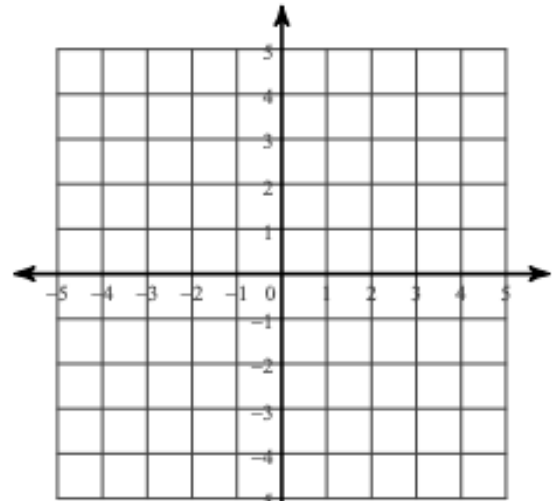
4) $x - 4y = -4$

$5x - 4y = 12$



5) $-2x - y = 1$

$-6x = 3y + 3$



6) $x - 2y + 8 = 0$

$-6 - 2y = -x$

