

# Algebra I

## MidChapter Review

(Lessons 7-1 to 7-3)

### Go Wolves!



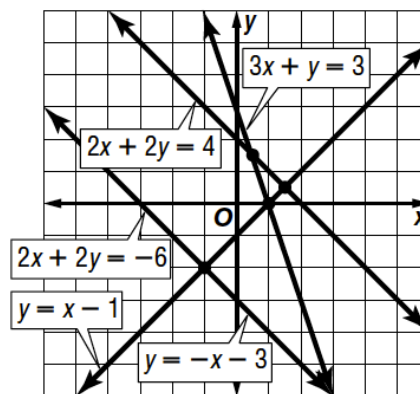
Use the graph at the right to determine whether each system has *no* solution, *one* solution, or *infinitely many* solutions.

$$\begin{aligned} y &= -x - 3 \\ y &= x - 1 \end{aligned} \quad \text{one solution}$$

$$\begin{aligned} 2x + 2y &= -6 \\ y &= -x - 3 \end{aligned} \quad \text{infinitely many solutions}$$

$$\begin{aligned} y &= -x - 3 \\ 2x + 2y &= 4 \end{aligned} \quad \text{no solution}$$

$$\begin{aligned} 2x + 2y &= -6 \\ 3x + y &= 3 \end{aligned} \quad \text{one solution}$$

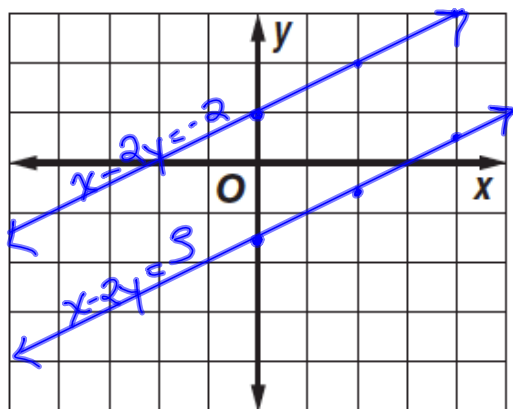
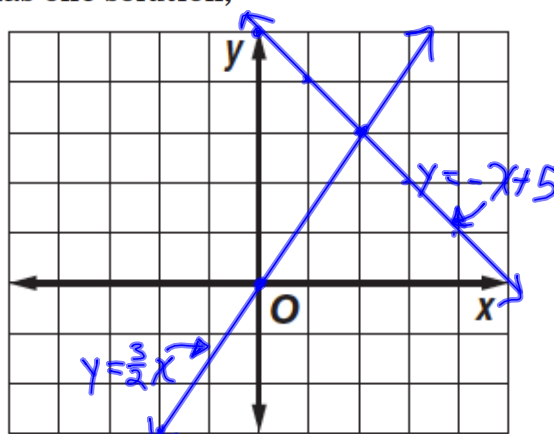


Graph each system of equations. Then determine whether the system has *no* solution, *one* solution, or *infinitely many* solutions. If the system has one solution, name it.

$(2, 3)$

$$y = \frac{3}{2}x$$

$$y = -x + 5$$



$$x - 2y = -2$$

$$x - 2y = 3$$

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

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

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

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

no solution

Use substitution to solve each system of equations. If the system does not have exactly one solution, state whether it has *no* solutions or *infinitely many* solutions.

$$3x - 2y = -7$$

$$y = x + 4$$

$$3x + 2(x + 4) = -7$$

$$3x + 2x + 8 = -7$$

$$x + 8 = -7$$

$$\begin{array}{r} +8 \\ +8 \end{array}$$

$$x = 1$$

$$y = 1 + 4$$

$$y = 5$$

$$(1, 5)$$

$$-6x - 2y = -20$$

$$y = -3x + 10$$

$$-6x + 2(-3x + 10) = -20$$

$$-6x + 6x + 20 = -20$$

$$20 = -20$$

Infinitely many solutions



If  $x - 2y = 7$  and  $3x - 2y = 1$ , what is the value of  $y$ ?

$$\begin{array}{r} x - 2y = 7 \\ (-) 3x - 2y = 1 \\ \hline -2x = 6 \\ \frac{-2x}{-2} = \frac{6}{-2} \\ x = -3 \end{array} \quad (-5)$$
$$\begin{array}{r} -3 - 2y = 7 \\ +3 \quad \quad +3 \\ \hline -2y = 10 \\ \frac{-2y}{-2} = \frac{10}{-2} \\ y = -5 \end{array}$$

## Assignment:

Chapter 7 MidChapter Test Tomorrow