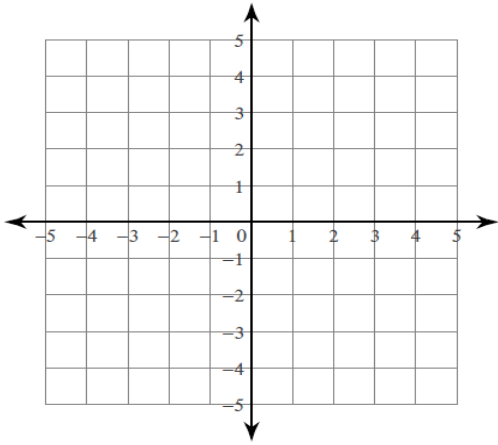


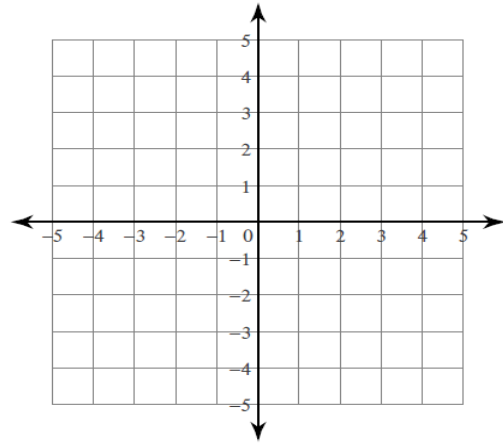
# Systems of Equations ... All Methods

Solve each system by graphing.

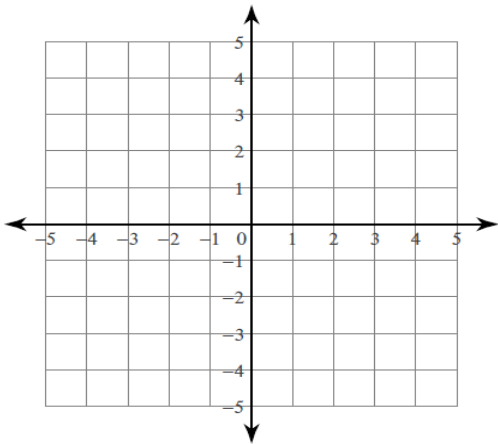
1)  $y = -3x + 4$   
 $y = 3x - 2$



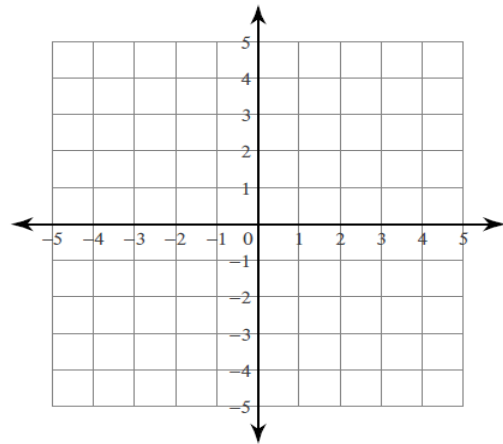
2)  $y = x + 2$   
 $x = -3$



3)  $x - y = 3$   
 $7x - y = -3$



4)  $4x + y = 2$   
 $x - y = 3$



Solve each system by substitution.

5)  $y = 4x - 9$   
 $y = x - 3$

6)  $4x + 2y = 10$   
 $x - y = 13$

7)  $y = -5$   
 $5x + 4y = -20$

8)  $x + 7y = 0$   
 $2x - 8y = 22$

## Systems of Equations ... All Methods

$$\begin{aligned} 9) \quad & 6x + 8y = -22 \\ & y = -5 \end{aligned}$$

$$\begin{aligned} 10) \quad & -7x + 2y = 18 \\ & 6x + 6y = 0 \end{aligned}$$

$$\begin{aligned} 11) \quad & 7x + 2y = -19 \\ & -x + 2y = 21 \end{aligned}$$

$$\begin{aligned} 12) \quad & 3x - 5y = 17 \\ & y = -7 \end{aligned}$$

$$\begin{aligned} 13) \quad & -7x + 4y = 24 \\ & 4x - 4y = 0 \end{aligned}$$

$$\begin{aligned} 14) \quad & 4x - y = 20 \\ & -2x - 2y = 10 \end{aligned}$$

**Solve each system by elimination.**

$$\begin{aligned} 15) \quad & 8x - 6y = -20 \\ & -16x + 7y = 30 \end{aligned}$$

$$\begin{aligned} 16) \quad & 6x - 12y = 24 \\ & -x - 6y = 4 \end{aligned}$$

$$\begin{aligned} 17) \quad & -8x - 10y = 24 \\ & 6x + 5y = 2 \end{aligned}$$

$$\begin{aligned} 18) \quad & -24 - 8x = 12y \\ & 1 + \frac{5}{9}y = -\frac{7}{18}x \end{aligned}$$

$$\begin{aligned} 19) \quad & -4y - 11x = 36 \\ & 20 = -10x - 10y \end{aligned}$$

$$\begin{aligned} 20) \quad & -9 + 5y = -4x \\ & -11x = -20 + 9y \end{aligned}$$

$$\begin{aligned} 21) \quad & 0 = -2y + 10 - 6x \\ & 14 - 22y = 18x \end{aligned}$$

$$\begin{aligned} 22) \quad & -16y = 22 + 6x \\ & -11y - 4x = 15 \end{aligned}$$

$$\begin{aligned} 23) \quad & -16 + 20x - 8y = 0 \\ & 36 = -18y - 22x \end{aligned}$$

$$\begin{aligned} 24) \quad & -\frac{5}{7} - \frac{11}{7}x = -y \\ & 2y = 7 + 5x \end{aligned}$$

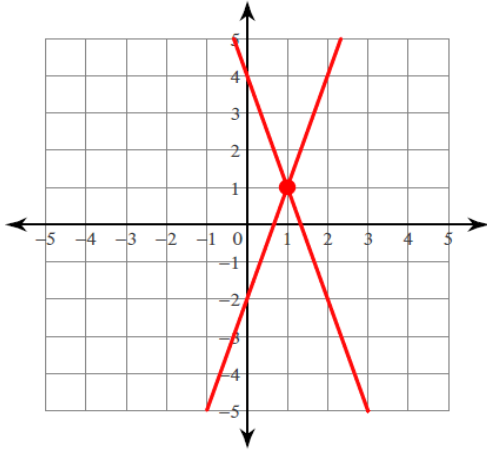
**Critical thinking questions:**

25) Write a system of equations with the solution  $(4, -3)$ .

# Systems of Equations ... All Methods

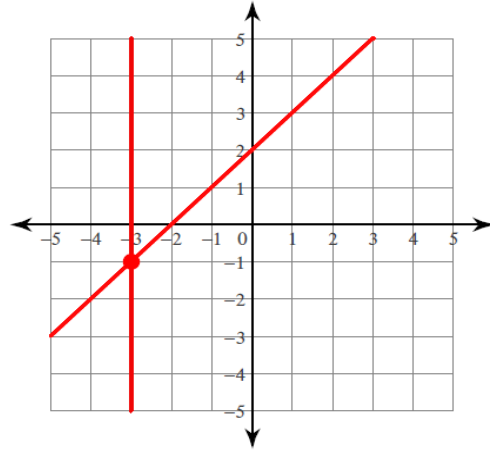
## Answers

1)  $y = -3x + 4$   
 $y = 3x - 2$



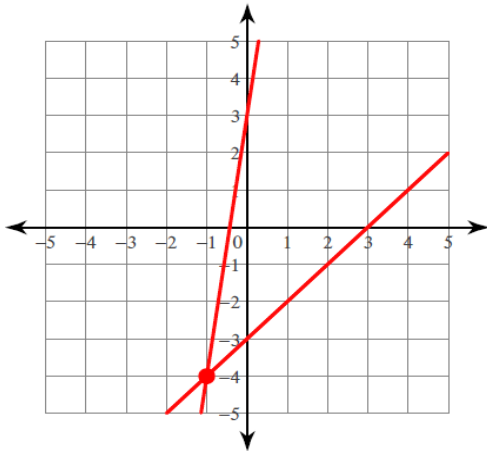
(1, 1)

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



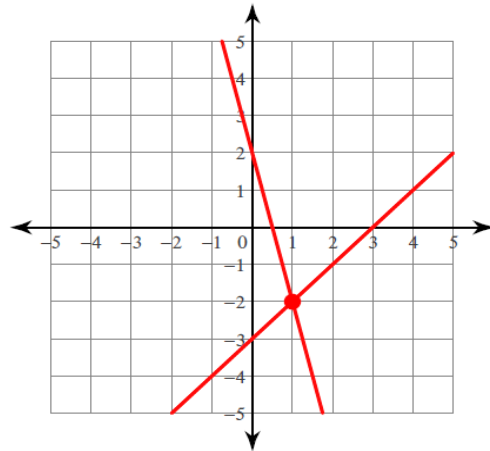
(-3, -1)

3)  $x - y = 3$   
 $7x - y = -3$



(-1, -4)

4)  $4x + y = 2$   
 $x - y = 3$



(1, -2)

**Solve each system by substitution.**

5)  $y = 4x - 9$   
 $y = x - 3$

(2, -1)

6)  $4x + 2y = 10$   
 $x - y = 13$

(6, -7)

7)  $y = -5$   
 $5x + 4y = -20$

(0, -5)

8)  $x + 7y = 0$   
 $2x - 8y = 22$

(7, -1)

## Systems of Equations ... All Methods

9)  $6x + 8y = -22$

$$y = -5$$

$$(3, -5)$$

11)  $7x + 2y = -19$

$$-x + 2y = 21$$

$$(-5, 8)$$

13)  $-7x + 4y = 24$

$$4x - 4y = 0$$

$$(-8, -8)$$

10)  $-7x + 2y = 18$

$$6x + 6y = 0$$

$$(-2, 2)$$

12)  $3x - 5y = 17$

$$y = -7$$

$$(-6, -7)$$

14)  $4x - y = 20$

$$-2x - 2y = 10$$

$$(3, -8)$$

**Solve each system by elimination.**

15)  $8x - 6y = -20$

$$-16x + 7y = 30$$

$$(-1, 2)$$

16)  $6x - 12y = 24$

$$-x - 6y = 4$$

$$(2, -1)$$

17)  $-8x - 10y = 24$

$$6x + 5y = 2$$

$$(7, -8)$$

18)  $-24 - 8x = 12y$

$$1 + \frac{5}{9}y = -\frac{7}{18}x$$

$$(6, -6)$$

19)  $-4y - 11x = 36$

$$20 = -10x - 10y$$

$$(-4, 2)$$

20)  $-9 + 5y = -4x$

$$-11x = -20 + 9y$$

$$(1, 1)$$

21)  $0 = -2y + 10 - 6x$

$$14 - 22y = 18x$$

$$(2, -1)$$

22)  $-16y = 22 + 6x$

$$-11y - 4x = 15$$

$$(-1, -1)$$

23)  $-16 + 20x - 8y = 0$

$$36 = -18y - 22x$$

$$(0, -2)$$

24)  $-\frac{5}{7} - \frac{11}{7}x = -y$

$$2y = 7 + 5x$$

$$(-3, -4)$$

**Critical thinking questions:**

25) Write a system of equations with the solution  $(4, -3)$ .

Many answers. Ex:  $x + y = 1$ ,  $2x + y = 5$