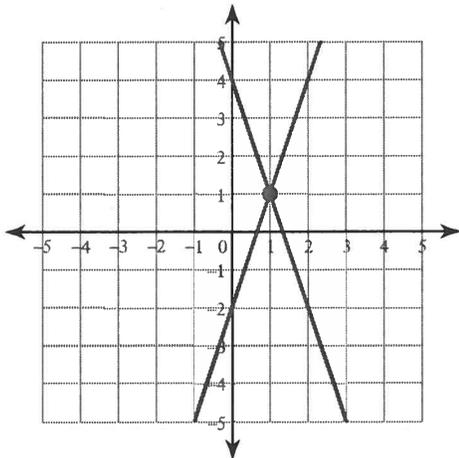


## Systems of Two Equations

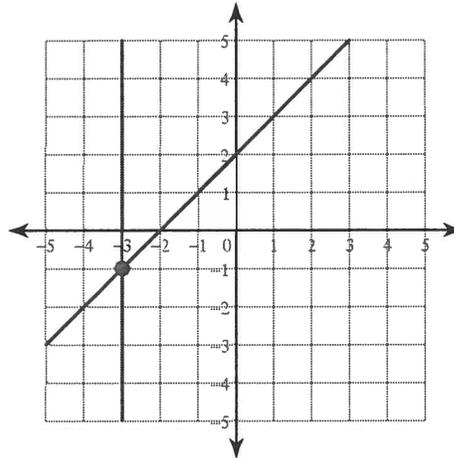
Solve each system by graphing.

$$1) \begin{aligned} y &= -3x + 4 \\ y &= 3x - 2 \end{aligned}$$



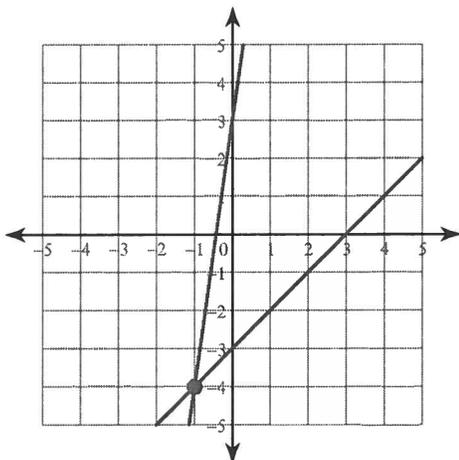
(1, 1)

$$2) \begin{aligned} y &= x + 2 \\ x &= -3 \end{aligned}$$



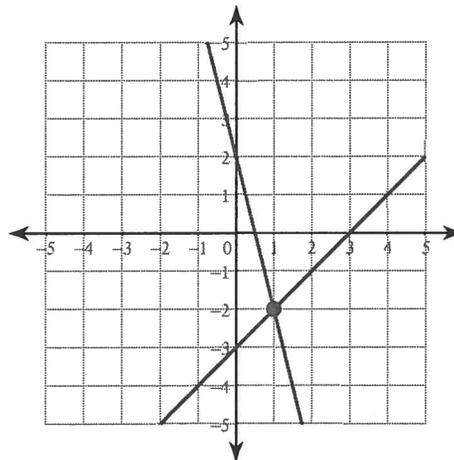
(-3, -1)

$$3) \begin{aligned} x - y &= 3 \\ 7x - y &= -3 \end{aligned}$$



(-1, -4)

$$4) \begin{aligned} 4x + y &= 2 \\ x - y &= 3 \end{aligned}$$



(1, -2)

Solve each system by substitution.

$$5) \begin{aligned} y &= 4x - 9 \\ y &= x - 3 \end{aligned}$$

(2, -1)

$$6) \begin{aligned} 4x + 2y &= 10 \\ x - y &= 13 \end{aligned}$$

(6, -7)

$$7) \begin{aligned} y &= -5 \\ 5x + 4y &= -20 \end{aligned}$$

(0, -5)

$$8) \begin{aligned} x + 7y &= 0 \\ 2x - 8y &= 22 \end{aligned}$$

(7, -1)

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:  $x + y = 1$ ,  $2x + y = 5$