

Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & 10y + 11x = -31 \\ & -8x = 11y - 11 \end{aligned}$$

$$\begin{aligned} 2) \quad & 0 = -5y + 36 + 9x \\ & 18 = -6y + 4x \end{aligned}$$

$$\begin{aligned} 3) \quad & 7x = -4y + 30 \\ & -10y + 16 = -12x \end{aligned}$$

$$\begin{aligned} 4) \quad & 28 = 4y - 8x \\ & -5 = x - y \end{aligned}$$

$$\begin{aligned} 5) \quad & -18 + 12x = -14y \\ & -x = y \end{aligned}$$

$$\begin{aligned} 6) \quad & -9y - 1 = 10x \\ & -2 = 6x + 4y \end{aligned}$$

$$\begin{aligned} 7) \quad & -8y = 5x + 13 \\ & 36y - 12x = -24 \end{aligned}$$

$$\begin{aligned} 8) \quad & x - y = 0 \\ & \frac{1}{15}x = 1 - \frac{1}{10}y \end{aligned}$$

$$\begin{aligned} 9) \quad & 5y + 12 = -9x \\ & -24 - 3y = 11x \end{aligned}$$

$$\begin{aligned} 10) \quad & 0 = 63y + 9 + 9x \\ & 36x + 72 = -252y \end{aligned}$$

$$\begin{aligned} 11) \quad & -90x = -90y \\ & -1 - x + y = 0 \end{aligned}$$

$$\begin{aligned} 12) \quad & -32y - 32x = 0 \\ & 24y = -24x - 24 \end{aligned}$$

$$\begin{aligned} 13) \quad & \frac{8}{11}x = -y - \frac{3}{11} \\ & 15 + 40x + 55y = 0 \end{aligned}$$

$$\begin{aligned} 14) \quad & -8 = -24y - 32x \\ & -40x - 30y = 60 \end{aligned}$$

$$\begin{aligned} 15) \quad & -4x + 12 = -6y \\ & 5y + 10 - 5x = 0 \end{aligned}$$

$$\begin{aligned} 16) \quad & x = y + 4 \\ & 5x - 8y + 1 = 0 \end{aligned}$$

$$\begin{aligned} 17) \quad & -x + \frac{7}{12}y = \frac{7}{4} \\ & 9y = 8x + 27 \end{aligned}$$

$$\begin{aligned} 18) \quad & -16x + 24 = 14y \\ & -8y = 10x - 24 \end{aligned}$$

$$\begin{aligned} 19) \quad & 19 = -8x - 9y \\ & 0 = 6x + 17 + 7y \end{aligned}$$

$$\begin{aligned} 20) \quad & -6 = -6y - 12x \\ & -\frac{13}{4} + \frac{5}{4}x = -y \end{aligned}$$



$$\begin{aligned} 21) \quad & -6x + 3y = -27 \\ & 10x - 20y = -30 \end{aligned}$$

$$\begin{aligned} 23) \quad & 0 = -16 - 8x - 4y \\ & 8 + 10y = -12x \end{aligned}$$

$$\begin{aligned} 22) \quad & 9 - 9y = 3x \\ & -60 = 4x - 12y \end{aligned}$$

$$\begin{aligned} 24) \quad & -5y = 5 + 8x \\ & 0 = y + 1 + \frac{3}{4}x \end{aligned}$$



Answers to Assignment (ID: 1)

1) $(-11, 9)$

2) $(-9, -9)$

3) $(2, 4)$

4) $(-2, 3)$

5) $(-9, 9)$

6) $(-1, 1)$

7) $(-1, -1)$

8) $(6, 6)$

9) $(-3, 3)$

10) No solution

11) No solution

12) No solution

13) Infinite number of solutions

14) No solution

15) $(0, -2)$

16) $(11, 7)$

17) $(0, 3)$

18) $(12, -12)$

19) $(10, -11)$

20) $(-3, 7)$

21) $(7, 5)$

22) $(-6, 3)$

23) $(-4, 4)$

24) $(0, -1)$



Assignment

Solve each system by elimination.

$$1) \begin{aligned} -7 + 12x &= -5y \\ 8y &= -8x \end{aligned}$$

$$2) \begin{aligned} 0 &= -9y + 7x - 6 \\ 12y + 12 &= 9x \end{aligned}$$

$$3) \begin{aligned} x + \frac{11}{7} &= -\frac{5}{7}y \\ 12 - 12x - 12y &= 0 \end{aligned}$$

$$4) \begin{aligned} 0 &= y - \frac{10}{7} - \frac{9}{7}x \\ 4 + 2y &= 6x \end{aligned}$$

$$5) \begin{aligned} 12y &= 20 + 5x \\ 6x + 24 &= 10y \end{aligned}$$

$$6) \begin{aligned} -1 + \frac{5}{8}x &= \frac{7}{8}y \\ -y &= 1 - \frac{7}{10}x \end{aligned}$$

$$7) \begin{aligned} 7x &= -7 + 11y \\ 3x &= 3y + 9 \end{aligned}$$

$$8) \begin{aligned} 0 &= -x - \frac{5}{3} - \frac{2}{3}y \\ 0 &= -10 - 11x - 9y \end{aligned}$$

$$9) \begin{aligned} 0 &= 8x + 9y + 3 \\ 36 + 6y &= 6x \end{aligned}$$

$$10) \begin{aligned} -14y &= 22x + 52 \\ -27 - 7x &= -6y \end{aligned}$$

$$11) \begin{aligned} 28 + 2y - 2x &= 0 \\ 5x - 30 &= -3y \end{aligned}$$

$$12) \begin{aligned} -8y + 8x &= 0 \\ 10 + 10y - 11x &= 0 \end{aligned}$$

$$13) \begin{aligned} 10x &= -34 + 7y \\ 8 - 6x - 10y &= 0 \end{aligned}$$

$$14) \begin{aligned} -18x - 72 &= 24y \\ -2y - \frac{8}{7}x &= \frac{22}{7} \end{aligned}$$

$$15) \begin{aligned} x + \frac{26}{3} &= \frac{7}{3}y \\ -7x + 9y &= 24 \end{aligned}$$

$$16) \begin{aligned} 7y &= 5x - 2 \\ -27y + 72 + 6x &= 0 \end{aligned}$$

$$17) \begin{aligned} 20x &= -16y - 4 \\ x + \frac{4}{5}y + \frac{1}{5} &= 0 \end{aligned}$$

$$18) \begin{aligned} 10y &= -22x + 14 \\ 15y + 12 &= -33x \end{aligned}$$

$$19) \begin{aligned} 40x &= -60y \\ 0 &= 84x + 126y \end{aligned}$$

$$20) \begin{aligned} 12 + 84y &= -96x \\ 0 &= -22 - 154y - 176x \end{aligned}$$



$$\begin{aligned} 21) \quad & 4x = 11 - 11y \\ & 9 + 5x = 9y \end{aligned}$$

$$\begin{aligned} 22) \quad & -5y = 15 - 5x \\ & 12x = 4y - 28 \end{aligned}$$

$$\begin{aligned} 23) \quad & -12x = 24 + 12y \\ & 11x - 5 + 8y = 0 \end{aligned}$$

$$\begin{aligned} 24) \quad & -\frac{22}{13}x - \frac{24}{13}y = 2 \\ & 10y = -28 + 8x \end{aligned}$$



Answers to Assignment (ID: 2)

- | | | | |
|----------------------------------|-----------------|----------------------------------|----------------|
| 1) $(1, -1)$ | 2) $(-12, -10)$ | 3) $(-8, 9)$ | 4) $(2, 4)$ |
| 5) $(-4, 0)$ | 6) $(10, 6)$ | 7) $(10, 7)$ | 8) $(-5, 5)$ |
| 9) $(3, -3)$ | 10) $(-3, 1)$ | 11) $(9, -5)$ | 12) $(10, 10)$ |
| 13) $(-2, 2)$ | 14) $(-8, 3)$ | 15) $(3, 5)$ | 16) $(6, 4)$ |
| 17) Infinite number of solutions | 18) No solution | 19) Infinite number of solutions | |
| 20) Infinite number of solutions | 21) $(0, 1)$ | 22) $(-5, -8)$ | |
| 23) $(7, -9)$ | 24) $(1, -2)$ | | |



Assignment

Solve each system by elimination.

$$1) \begin{aligned} -21y - 12x &= -87 \\ 4 &= -10x + 8y \end{aligned}$$

$$2) \begin{aligned} -7y &= -10x + 8 \\ -3y - 3x &= 18 \end{aligned}$$

$$3) \begin{aligned} -7x - 10y - 7 &= 0 \\ -12 &= -11y + 12x \end{aligned}$$

$$4) \begin{aligned} x + \frac{7}{4}y - \frac{19}{4} &= 0 \\ 11x + 34 &= -2y \end{aligned}$$

$$5) \begin{aligned} -8y + 4x &= -8 \\ -3x + 27 &= 5y \end{aligned}$$

$$6) \begin{aligned} -6x + 7y &= 2 \\ 46 &= -10y + 14x \end{aligned}$$

$$7) \begin{aligned} x - \frac{9}{10}y - \frac{11}{10} &= 0 \\ -9 &= -8x + 7y \end{aligned}$$

$$8) \begin{aligned} -8y + 9x &= 10 \\ 31 &= 11y + 10x \end{aligned}$$

$$9) \begin{aligned} 12 + 10x - 8y &= 0 \\ 18 &= 9y - 9x \end{aligned}$$

$$10) \begin{aligned} -11y &= 8x - 3 \\ 36 &= -4y - 6x \end{aligned}$$

$$11) \begin{aligned} 4 + 12x &= -2y \\ \frac{33}{5} &= -y - \frac{7}{5}x \end{aligned}$$

$$12) \begin{aligned} 50 &= 10y + 10x \\ 7y + 4x &= 20 \end{aligned}$$

$$13) \begin{aligned} -15y - 63 + 33x &= 0 \\ -1 &= -3x - y \end{aligned}$$

$$14) \begin{aligned} y &= \frac{13}{12} - \frac{5}{12}x \\ -7y + 7 &= 3x \end{aligned}$$

$$15) \begin{aligned} 10y + 5 &= -5x \\ 36y &= 18x + 18 \end{aligned}$$

$$16) \begin{aligned} 3y - 2x &= 30 \\ -17 - 7y &= 5x \end{aligned}$$

$$17) \begin{aligned} 0 &= 2x + 16 - 11y \\ -5x - 7y &= -29 \end{aligned}$$

$$18) \begin{aligned} -21x &= -18y - 36 \\ 5y + 10 &= 2x \end{aligned}$$

$$19) \begin{aligned} -33 &= 12x - 27y \\ -10y + 5x &= -10 \end{aligned}$$

$$20) \begin{aligned} -5y &= -2x - 16 \\ -9x &= -27 - 6y \end{aligned}$$

$$21) \begin{aligned} \frac{3}{8}y - \frac{1}{2}x &= -1 \\ -27 &= -9x + 6y \end{aligned}$$

$$22) \begin{aligned} 0 &= -20y + 28 - 4x \\ -1 + x &= -5y \end{aligned}$$



$$\begin{aligned} 23) \quad 0 &= 48y - 12 + 60x \\ -25x - 20y &= -5 \end{aligned}$$

$$\begin{aligned} 24) \quad -12x &= -4y - 28 \\ -2 &= -\frac{10}{19}x + \frac{18}{19}y \end{aligned}$$



Answers to Assignment (ID: 3)

- | | | | |
|--------------|-----------------|----------------------------------|-------------|
| 1) (2, 3) | 2) (-2, -4) | 3) (-1, 0) | 4) (-4, 5) |
| 5) (4, 3) | 6) (9, 8) | 7) (2, 1) | 8) (2, 1) |
| 9) (2, 4) | 10) (-12, 9) | 11) (1, -8) | 12) (5, 0) |
| 13) (1, -2) | 14) (-7, 4) | 15) (-1, 0) | 16) (-9, 4) |
| 17) (3, 2) | 18) (0, -2) | 19) (4, 3) | 20) (7, 6) |
| 21) (11, 12) | 22) No solution | 23) Infinite number of solutions | |
| 24) (2, -1) | | | |



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & 108x - 54 - 126y = 0 \\ & 0 = -98y + 84x + 42 \end{aligned}$$

$$\begin{aligned} 2) \quad & -84 - 126y = -147x \\ & 20 = 35x - 30y \end{aligned}$$

$$\begin{aligned} 3) \quad & 1 = 4y - 3x \\ & -24 + 96y = 72x \end{aligned}$$

$$\begin{aligned} 4) \quad & y = \frac{8}{3}x + \frac{29}{3} \\ & -7x = 4 - 5y \end{aligned}$$

$$\begin{aligned} 5) \quad & 18 = -7y + 3x \\ & -3y = -x + 10 \end{aligned}$$

$$\begin{aligned} 6) \quad & -12 = -2y + 3x \\ & 0 = 6 - 6y + 4x \end{aligned}$$

$$\begin{aligned} 7) \quad & -15 - 9x = 3y \\ & -4y + 2 = -10x \end{aligned}$$

$$\begin{aligned} 8) \quad & 11x = 3y + 36 \\ & 5 - 10y = 5x \end{aligned}$$

$$\begin{aligned} 9) \quad & 8y + 9x = -18 \\ & 48 + 10x = -12y \end{aligned}$$

$$\begin{aligned} 10) \quad & -3x - 6y + 15 = 0 \\ & -14 + 10y = -4x \end{aligned}$$

$$\begin{aligned} 11) \quad & -8x = -60 - 6y \\ & -2y = -9x + 20 \end{aligned}$$

$$\begin{aligned} 12) \quad & 5x = -4y - 32 \\ & -19 - 7x = -3y \end{aligned}$$

$$\begin{aligned} 13) \quad & -4 + 8y + 11x = 0 \\ & 30 + 10x = -14y \end{aligned}$$

$$\begin{aligned} 14) \quad & 0 = -6x - 6y + 6 \\ & y - \frac{9}{5} + \frac{7}{5}x = 0 \end{aligned}$$

$$\begin{aligned} 15) \quad & -x + \frac{1}{2} = \frac{3}{2}y \\ & 24 = -33y - 27x \end{aligned}$$

$$\begin{aligned} 16) \quad & 18 + 6y = -4x \\ & -36 + 5y = -9x \end{aligned}$$

$$\begin{aligned} 17) \quad & -18x + 22y = 58 \\ & -96 + 30y = 33x \end{aligned}$$

$$\begin{aligned} 18) \quad & 10 = -x - y \\ & -4y = 7 - 7x \end{aligned}$$

$$\begin{aligned} 19) \quad & -3y = 3x + 6 \\ & 0 = 11x + 5y + 34 \end{aligned}$$

$$\begin{aligned} 20) \quad & 4 = 12x + 7y \\ & -10x = -16 + 9y \end{aligned}$$

$$\begin{aligned} 21) \quad & 4 - 10y - 8x = 0 \\ & 3 = 9x + 11y \end{aligned}$$

$$\begin{aligned} 22) \quad & \frac{1}{2}y + \frac{3}{2}x = -1 \\ & 2y = -10 - 8x \end{aligned}$$



$$23) \begin{aligned} 4x &= -18 + 5y \\ 99 + 21x &= 24y \end{aligned}$$

$$24) \begin{aligned} 1 - \frac{1}{6}x &= -\frac{5}{12}y \\ 0 &= 5 + 7y + 9x \end{aligned}$$



Answers to Assignment (ID: 4)

1) No solution

4) $(-7, -9)$

8) $(3, -1)$

12) $(-4, -3)$

16) $(9, -9)$

20) $(-2, 4)$

24) $(1, -2)$

2) Infinite number of solutions

5) $(-8, -6)$

9) $(6, -9)$

13) $(4, -5)$

17) $(-2, 1)$

21) $(-7, 6)$

3) Infinite number of solutions

6) $(-6, -3)$

10) $(11, -3)$

14) $(2, -1)$

18) $(-3, -7)$

22) $(-3, 7)$

7) $(-1, -2)$

11) $(0, -10)$

15) $(-7, 5)$

19) $(-4, 2)$

23) $(-7, -2)$



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & 15 = -5x - 4y \\ & 0 = -5y - 31 + 6x \end{aligned}$$

$$\begin{aligned} 2) \quad & 14 = -5x + 9y \\ & 2 = -8x + 11y \end{aligned}$$

$$\begin{aligned} 3) \quad & -15 = 8y - 9x \\ & 5 - 11x = -12y \end{aligned}$$

$$\begin{aligned} 4) \quad & \frac{1}{4} = -y - \frac{3}{4}x \\ & -15x = 30y - 15 \end{aligned}$$

$$\begin{aligned} 5) \quad & -7x = -11y + 28 \\ & 24y + 24 = -6x \end{aligned}$$

$$\begin{aligned} 6) \quad & -2y - 4x = 0 \\ & -6x - 3y = 0 \end{aligned}$$

$$\begin{aligned} 7) \quad & 16 = -16x - 144y \\ & -21x - 42 - 189y = 0 \end{aligned}$$

$$\begin{aligned} 8) \quad & 0 = 20 - 20y + 30x \\ & -8y + 12x = -8 \end{aligned}$$

$$\begin{aligned} 9) \quad & -21x - 21 = 21y \\ & 9y = -18 - 9x \end{aligned}$$

$$\begin{aligned} 10) \quad & 8x = 33 - 9y \\ & 108 - 36x = 36y \end{aligned}$$

$$\begin{aligned} 11) \quad & 0 = 2 - 2y - 5x \\ & 0 = -12x + 5 - 5y \end{aligned}$$

$$\begin{aligned} 12) \quad & 4x = 6y + 16 \\ & 15 = -10y + 5x \end{aligned}$$

$$\begin{aligned} 13) \quad & -1 + \frac{7}{29}y = \frac{9}{29}x \\ & 22 = 11y - 12x \end{aligned}$$

$$\begin{aligned} 14) \quad & -\frac{11}{2}x = y + 16 \\ & 14y - 60 = -6x \end{aligned}$$

$$\begin{aligned} 15) \quad & 0 = 12y - 32 - 8x \\ & 11y = 24 + 10x \end{aligned}$$

$$\begin{aligned} 16) \quad & \frac{9}{5} + \frac{3}{5}y = -x \\ & 15 - 7x = -5y \end{aligned}$$

$$\begin{aligned} 17) \quad & x + \frac{8}{9}y = -\frac{1}{3} \\ & 0 = -6 - 8x - 6y \end{aligned}$$

$$\begin{aligned} 18) \quad & 2y + \frac{10}{7}x = \frac{58}{7} \\ & 32 + 8y = -22x \end{aligned}$$

$$\begin{aligned} 19) \quad & -\frac{6}{5}x = y + 2 \\ & 24 = -14y - 16x \end{aligned}$$

$$\begin{aligned} 20) \quad & 0 = 1 + \frac{9}{31}x - \frac{7}{31}y \\ & 16x + 72 - 4y = 0 \end{aligned}$$

$$\begin{aligned} 21) \quad & x + \frac{17}{4} + \frac{9}{4}y = 0 \\ & -24 - 6x = 12y \end{aligned}$$

$$\begin{aligned} 22) \quad & -1 - \frac{2}{3}x = -\frac{1}{3}y \\ & 1 + \frac{11}{21}x - \frac{2}{7}y = 0 \end{aligned}$$



$$23) \begin{aligned} 0 &= -2x + 7y + 21 \\ 10y + 30 &= 9x \end{aligned}$$

$$24) \begin{aligned} 1 + \frac{3}{10}x &= -\frac{1}{6}y \\ -7x - 4y - 22 &= 0 \end{aligned}$$



Answers to Assignment (ID: 5)

1) $(1, -5)$

2) $(8, 6)$

3) $(7, 6)$

4) $(-3, 2)$

5) $(-4, 0)$

6) Infinite number of solutions

7) No solution

8) Infinite number of solutions

9) No solution

10) $(-6, 9)$

11) $(0, 1)$

12) $(7, 2)$

13) $(-11, -10)$

14) $(-4, 6)$

15) $(2, 4)$

16) $(0, -3)$

17) $(-3, 3)$

18) $(-4, 7)$

19) $(-5, 4)$

20) $(-5, -2)$

21) $(-2, -1)$

22) $(3, 9)$

23) $(0, -3)$

24) $(-10, 12)$



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & -16 - 6y = 11x \\ & 21y + 15 = -18x \end{aligned}$$

$$\begin{aligned} 2) \quad & 12y = 10x - 8 \\ & -7x + 20 + 10y = 0 \end{aligned}$$

$$\begin{aligned} 3) \quad & -30x + 102 + 24y = 0 \\ & -12x - 21 - 11y = 0 \end{aligned}$$

$$\begin{aligned} 4) \quad & -9y = -8x - 25 \\ & 0 = 3x + 8y - 2 \end{aligned}$$

$$\begin{aligned} 5) \quad & -2 - 8x = 9y \\ & -6y = 3x + 6 \end{aligned}$$

$$\begin{aligned} 6) \quad & -20 + 2y = -2x \\ & -3y + 5x + 30 = 0 \end{aligned}$$

$$\begin{aligned} 7) \quad & 18 = -2y - 9x \\ & 0 = -4x - 5y + 29 \end{aligned}$$

$$\begin{aligned} 8) \quad & 12 - 12x - 12y = 0 \\ & 11x + 13 + 5y = 0 \end{aligned}$$

$$\begin{aligned} 9) \quad & -10x = 5y \\ & 4y + 4 = -6x \end{aligned}$$

$$\begin{aligned} 10) \quad & -9x + 25 = -2y \\ & -2 = 22y - 8x \end{aligned}$$

$$\begin{aligned} 11) \quad & 0 = -y - x \\ & -20 + 7y = -5x \end{aligned}$$

$$\begin{aligned} 12) \quad & 18y = -9x \\ & -12y - 6x = 0 \end{aligned}$$

$$\begin{aligned} 13) \quad & 28 + 4y - 4x = 0 \\ & 25 + 5y = 10x \end{aligned}$$

$$\begin{aligned} 14) \quad & 24x = -24y \\ & 80y = -80x \end{aligned}$$

$$\begin{aligned} 15) \quad & -24 = -12x + 8y \\ & -33 + 33x = 22y \end{aligned}$$

$$\begin{aligned} 16) \quad & 0 = -51 - 21x + 15y \\ & 0 = 9x + 27 - 6y \end{aligned}$$

$$\begin{aligned} 17) \quad & 21 = -14y - 35x \\ & -1 - \frac{5}{3}x = \frac{2}{3}y \end{aligned}$$

$$\begin{aligned} 18) \quad & 8y + 1 + 3x = 0 \\ & 7x - 13 = -11y \end{aligned}$$

$$\begin{aligned} 19) \quad & x + \frac{5}{4}y = -\frac{27}{4} \\ & 0 = -3x - 3y - 15 \end{aligned}$$

$$\begin{aligned} 20) \quad & -12x + 7y = 3 \\ & 3 = 9y - 15x \end{aligned}$$

$$\begin{aligned} 21) \quad & 5 = 5x + 5y \\ & -11x - 9y = -15 \end{aligned}$$

$$\begin{aligned} 22) \quad & -52 = -6y + 22x \\ & 20 + 2y + 2x = 0 \end{aligned}$$



$$23) -6y = 10 + 4x$$

$$\frac{13}{4} + \frac{9}{4}x = -y$$

$$24) -5y = 2x - 21$$

$$-14 + 4y + 3x = 0$$



Answers to Assignment (ID: 6)

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|----------------------------------|------------------|----------------------------------|---------------|
| 1) $(-2, 1)$ | 2) $(-10, -9)$ | 3) $(1, -3)$ | 4) $(-2, 1)$ |
| 5) $(2, -2)$ | 6) $(0, 10)$ | 7) $(-4, 9)$ | 8) $(-3, 4)$ |
| 9) $(2, -4)$ | 10) $(3, 1)$ | 11) $(-10, 10)$ | |
| 12) Infinite number of solutions | 13) $(-2, -9)$ | 14) Infinite number of solutions | |
| 15) No solution | 16) $(-11, -12)$ | 17) Infinite number of solutions | |
| 18) $(5, -2)$ | 19) $(2, -7)$ | 20) $(-2, -3)$ | 21) $(3, -2)$ |
| 22) $(-4, -6)$ | 23) $(-1, -1)$ | 24) $(-2, 5)$ | |



Assignment

Solve each system by elimination.

$$1) \begin{aligned} -9 - 9x + 8y &= 0 \\ 12 &= -12x - 6y \end{aligned}$$

$$2) \begin{aligned} -1 + \frac{10}{19}y &= -\frac{11}{19}x \\ -21y &= -93 - 30x \end{aligned}$$

$$3) \begin{aligned} 6 + 10x - 4y &= 0 \\ y - \frac{34}{7} + \frac{6}{7}x &= 0 \end{aligned}$$

$$4) \begin{aligned} 9x &= -2y + 31 \\ \frac{22}{3}x - \frac{68}{3} &= -2y \end{aligned}$$

$$5) \begin{aligned} 5y - 36 &= 4x \\ 12 &= -5x - 2y \end{aligned}$$

$$6) \begin{aligned} 3y &= 3x + 21 \\ -8x &= 20 - 5y \end{aligned}$$

$$7) \begin{aligned} -72 &= -6y - 24x \\ 22 &= -18x - 14y \end{aligned}$$

$$8) \begin{aligned} -3y &= 9 - 6x \\ -4y &= -10x + 24 \end{aligned}$$

$$9) \begin{aligned} -6y &= -22 + 10x \\ -6x &= -5y + 4 \end{aligned}$$

$$10) \begin{aligned} 6x &= -8y - 22 \\ 6y &= -7x - 19 \end{aligned}$$

$$11) \begin{aligned} -\frac{35}{9} - \frac{2}{9}x &= -y \\ -\frac{20}{11} &= -y + \frac{7}{11}x \end{aligned}$$

$$12) \begin{aligned} -11y + 14 + 8x &= 0 \\ 6x - 9y &= -18 \end{aligned}$$

$$13) \begin{aligned} -y - \frac{2}{3}x + \frac{4}{3} &= 0 \\ 5x + 5y &= 5 \end{aligned}$$

$$14) \begin{aligned} 0 &= y + x - 1 \\ -5y &= -25 + 7x \end{aligned}$$

$$15) \begin{aligned} 16 &= 14x + 12y \\ -18x &= 18y - 36 \end{aligned}$$

$$16) \begin{aligned} 0 &= 5 + 7y + 8x \\ -11 + 4x &= y \end{aligned}$$

$$17) \begin{aligned} 0 &= -6y - 21 + 3x \\ 0 &= 8y - 35 + 5x \end{aligned}$$

$$18) \begin{aligned} -10 &= 5y + 10x \\ 3y - 7x &= -6 \end{aligned}$$

$$19) \begin{aligned} -96y &= -96x \\ -36y + 36x &= 0 \end{aligned}$$

$$20) \begin{aligned} -180x &= -120y - 60 \\ -28y &= -42x + 14 \end{aligned}$$



$$\begin{aligned} 21) \quad 0 &= -y - 2x + 1 \\ -36x - 36 &= 18y \end{aligned}$$

$$\begin{aligned} 22) \quad -27 - 54y &= -27x \\ -60 - 120y + 60x &= 0 \end{aligned}$$

$$\begin{aligned} 23) \quad 20y &= 10x \\ 16y &= -8 + 8x \end{aligned}$$

$$\begin{aligned} 24) \quad -3y &= -5x - 6 \\ -6x - 16 &= -8y \end{aligned}$$



Answers to Assignment (ID: 7)

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|----------------------------------|-----------------|----------------------------------|----------------|
| 1) $(-1, 0)$ | 2) $(-1, 3)$ | 3) $(1, 4)$ | 4) $(5, -7)$ |
| 5) $(-4, 4)$ | 6) $(5, 12)$ | 7) $(5, -8)$ | 8) $(6, 9)$ |
| 9) $(1, 2)$ | 10) $(-1, -2)$ | 11) $(5, 5)$ | 12) $(12, 10)$ |
| 13) $(-1, 2)$ | 14) $(10, -9)$ | 15) $(-4, 6)$ | 16) $(2, -3)$ |
| 17) $(7, 0)$ | 18) $(0, -2)$ | 19) Infinite number of solutions | |
| 20) Infinite number of solutions | 21) No solution | 22) Infinite number of solutions | |
| 23) No solution | 24) $(0, 2)$ | | |



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & 0 = -2y - 8 + 10x \\ & 20 + 5y = 9x \end{aligned}$$

$$\begin{aligned} 2) \quad & -3y + 19 + 4x = 0 \\ & 0 = 7x - 10y \end{aligned}$$

$$\begin{aligned} 3) \quad & -7y = 11 + 4x \\ & -y - x = -1 \end{aligned}$$

$$\begin{aligned} 4) \quad & 0 = -36 - 6x - 4y \\ & -1 - \frac{1}{6}x = -\frac{3}{8}y \end{aligned}$$

$$\begin{aligned} 5) \quad & 24x + 24y = -72 \\ & -23 = 6y + 11x \end{aligned}$$

$$\begin{aligned} 6) \quad & -9y - 3x = -33 \\ & -2y = 6 + 4x \end{aligned}$$

$$\begin{aligned} 7) \quad & -2y + 1 - \frac{11}{5}x = 0 \\ & 0 = 1 + \frac{3}{25}x + \frac{8}{25}y \end{aligned}$$

$$\begin{aligned} 8) \quad & 23 + 5x + 9y = 0 \\ & 0 = -22 - 6x - 8y \end{aligned}$$

$$\begin{aligned} 9) \quad & -5x + 11y = -25 \\ & 0 = 12 + 6y - 3x \end{aligned}$$

$$\begin{aligned} 10) \quad & -3x = y + 9 \\ & 0 = 2y - 2x - 6 \end{aligned}$$

$$\begin{aligned} 11) \quad & 0 = -12x + 10y - 22 \\ & -6y = -5x + 11 \end{aligned}$$

$$\begin{aligned} 12) \quad & x + 1 = -y \\ & 36 - 6y = 12x \end{aligned}$$

$$\begin{aligned} 13) \quad & 0 = 52 - 18y + 22x \\ & 12x = 6 + 6y \end{aligned}$$

$$\begin{aligned} 14) \quad & -11y = -22 + 11x \\ & 0 = 36 + 6y - 6x \end{aligned}$$

$$\begin{aligned} 15) \quad & -10y = -22 - 3x \\ & -6y + 36 = 2x \end{aligned}$$

$$\begin{aligned} 16) \quad & -10 = -6y - 22x \\ & -78 + 15x + 12y = 0 \end{aligned}$$

$$\begin{aligned} 17) \quad & -3x - 17 - 7y = 0 \\ & 0 = 8y - 5x + 11 \end{aligned}$$

$$\begin{aligned} 18) \quad & x = 1 - \frac{5}{3}y \\ & 9y + 8x = 8 \end{aligned}$$

$$\begin{aligned} 19) \quad & -81 - 36x = 27y \\ & 8x + 7y = -9 \end{aligned}$$

$$\begin{aligned} 20) \quad & 10 + 11x = 10y \\ & -11 = -6x - 11y \end{aligned}$$



$$\begin{aligned} 21) \quad & 14x - 34 = 8y \\ & -15 - 6x = -33y \end{aligned}$$

$$\begin{aligned} 22) \quad & -10x = -2 - 12y \\ & -10y - 19 = 9x \end{aligned}$$

$$\begin{aligned} 23) \quad & -35 - 11x + 6y = 0 \\ & -52 + 16y = -12x \end{aligned}$$

$$\begin{aligned} 24) \quad & 0 = 32 + 3x - 7y \\ & -2x = -22 + 4y \end{aligned}$$



Answers to Assignment (ID: 8)

1) $(0, -4)$

5) $(-1, -2)$

9) $(-6, -5)$

13) $(5, 9)$

17) $(-1, -2)$

21) $(3, 1)$

2) $(-10, -7)$

6) $(-4, 5)$

10) $(-3, 0)$

14) $(4, -2)$

18) $(1, 0)$

22) $(-1, -1)$

3) $(6, -5)$

7) $(5, -5)$

11) $(-11, -11)$

15) $(6, 4)$

19) $(-9, 9)$

23) $(-1, 4)$

4) $(-6, 0)$

8) $(-1, -2)$

12) $(7, -8)$

16) $(-2, 9)$

20) $(0, 1)$

24) $(1, 5)$



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad & 9y = 27 + 7x \\ & 0 = -2x - 11y + 33 \end{aligned}$$

$$\begin{aligned} 2) \quad & 14y = 21 - 7x \\ & 6 - 2x - 4y = 0 \end{aligned}$$

$$\begin{aligned} 3) \quad & -x + y = 0 \\ & -20x + 20y = 0 \end{aligned}$$

$$\begin{aligned} 4) \quad & -12 - 6y = -4x \\ & -10y + 68 = -14x \end{aligned}$$

$$\begin{aligned} 5) \quad & 9 - 9x = -4y \\ & -6x + 6 = 6y \end{aligned}$$

$$\begin{aligned} 6) \quad & 12x = 12 + 6y \\ & -3 + 3x - \frac{3}{2}y = 0 \end{aligned}$$

$$\begin{aligned} 7) \quad & \frac{1}{2} = -x + \frac{1}{2}y \\ & 27y - 54x = 54 \end{aligned}$$

$$\begin{aligned} 8) \quad & 12x = -48 + 12y \\ & 10y = -25 - 3x \end{aligned}$$

$$\begin{aligned} 9) \quad & -24 = 9x - 6y \\ & \frac{4}{5}x = 3 + y \end{aligned}$$

$$\begin{aligned} 10) \quad & 0 = 12y + 8x - 32 \\ & 0 = 29 - 9y - 5x \end{aligned}$$

$$\begin{aligned} 11) \quad & 11 = -9x - 8y \\ & -6y + 30 = -6x \end{aligned}$$

$$\begin{aligned} 12) \quad & 0 = -5 + 7x + 6y \\ & -1 - \frac{8}{15}x = \frac{11}{15}y \end{aligned}$$

$$\begin{aligned} 13) \quad & 21 = 11y - 10x \\ & 0 = 72 - 16x + 8y \end{aligned}$$

$$\begin{aligned} 14) \quad & -27y - 45 = 15x \\ & 12 = 5y - 4x \end{aligned}$$

$$\begin{aligned} 15) \quad & 24y - 18 = 21x \\ & -24y = -12x \end{aligned}$$

$$\begin{aligned} 16) \quad & 9x = 18 + 10y \\ & -6y + 5x = 10 \end{aligned}$$

$$\begin{aligned} 17) \quad & -2x - 22 = -2y \\ & -9x - 1 = 5y \end{aligned}$$

$$\begin{aligned} 18) \quad & -2 - \frac{10}{7}y = x \\ & 12x = -6y - 24 \end{aligned}$$

$$\begin{aligned} 19) \quad & 5x = 3y + 7 \\ & -16x = -32 - 8y \end{aligned}$$

$$\begin{aligned} 20) \quad & -4y = 11x - 25 \\ & -y - \frac{7}{11}x = \frac{1}{11} \end{aligned}$$

$$\begin{aligned} 21) \quad & 5y = -8x + 12 \\ & -20x - 4y = 4 \end{aligned}$$

$$\begin{aligned} 22) \quad & 18 + 9x + 9y = 0 \\ & -2y + \frac{2}{3}x = 12 \end{aligned}$$



$$23) -x - \frac{9}{8}y = -\frac{5}{4}$$
$$0 = 7x + 4y - 1$$

$$24) -35 = -12x + 7y$$
$$\frac{15}{7}y + \frac{75}{7} = 3x$$



Answers to Assignment (ID: 9)

- | | | | |
|----------------|---------------------------------|---------------------------------|-------------|
| 1) (0, 3) | 2) Infinite number of solutions | 3) Infinite number of solutions | |
| 4) (-12, -10) | 5) (1, 0) | 6) Infinite number of solutions | |
| 7) No solution | 8) (-5, -1) | 9) (-10, -11) | 10) (-5, 6) |
| 11) (-3, 2) | 12) (5, -5) | 13) (10, 11) | 14) (-3, 0) |
| 15) (-2, -1) | 16) (2, 0) | 17) (-4, 7) | 18) (-2, 0) |
| 19) (5, 6) | 20) (3, -2) | 21) (-1, 4) | 22) (3, -5) |
| 23) (-1, 2) | 24) (0, -5) | | |



Assignment

Solve each system by elimination.

$$\begin{aligned} 1) \quad 0 &= -12 - 4x - 11y \\ 33 &= -11x - 5y \end{aligned}$$

$$\begin{aligned} 2) \quad 8 &= 7y - 10x \\ 9x &= -18 + 9y \end{aligned}$$

$$\begin{aligned} 3) \quad -1 + \frac{1}{7}x &= -\frac{2}{21}y \\ 3y &= 8x - 6 \end{aligned}$$

$$\begin{aligned} 4) \quad 4x - 3 &= 5y \\ -7 &= 7y - 6x \end{aligned}$$

$$\begin{aligned} 5) \quad 5y + 24 + 6x &= 0 \\ -3y - 11x + 30 &= 0 \end{aligned}$$

$$\begin{aligned} 6) \quad 3 &= \frac{6}{7}x + \frac{9}{7}y \\ 0 &= -9x - 5y - 28 \end{aligned}$$

$$\begin{aligned} 7) \quad -27y &= 27x - 27 \\ -23 &= -5x + 4y \end{aligned}$$

$$\begin{aligned} 8) \quad 10y &= -4x + 2 \\ -12y - 7x &= 13 \end{aligned}$$

$$\begin{aligned} 9) \quad -36 + 20y &= -24x \\ 45 &= 90x + 75y \end{aligned}$$

$$\begin{aligned} 10) \quad -9 + 18y &= -9x \\ 14x + 28y &= 14 \end{aligned}$$

$$\begin{aligned} 11) \quad -110y - 11 &= -33x \\ 3x &= 1 + 10y \end{aligned}$$

$$\begin{aligned} 12) \quad 80y - 30x &= 30 \\ 0 &= -x + \frac{2}{3} + \frac{8}{3}y \end{aligned}$$

$$\begin{aligned} 13) \quad 30 - 3x &= 7y \\ 0 &= 2x + 21 - 9y \end{aligned}$$

$$\begin{aligned} 14) \quad -4x &= -4y \\ 5y + 2 - 6x &= 0 \end{aligned}$$

$$\begin{aligned} 15) \quad -10y + 32 &= 4x \\ y + \frac{3}{2}x + \frac{9}{2} &= 0 \end{aligned}$$

$$\begin{aligned} 16) \quad 10y - 17 &= -11x \\ 9 - 2x &= 3y \end{aligned}$$

$$\begin{aligned} 17) \quad -10x + 27 &= 9y \\ 4x &= -y + 3 \end{aligned}$$

$$\begin{aligned} 18) \quad 0 &= 6 - 8y - 11x \\ 8x - 15 &= -7y \end{aligned}$$

$$\begin{aligned} 19) \quad x &= 3 + 2y \\ 7y + 15 - 4x &= 0 \end{aligned}$$

$$\begin{aligned} 20) \quad 7x + 6y &= 30 \\ -8y &= 10x - 40 \end{aligned}$$



$$\begin{aligned} 21) \quad & -16 = 7y - 10x \\ & 4y = 8x - 32 \end{aligned}$$

$$\begin{aligned} 22) \quad & 24 + 10y = -8x \\ & 34 + 7y = 3x \end{aligned}$$

$$\begin{aligned} 23) \quad & -9y + 15 = -12x \\ & -5y + 7x = -10 \end{aligned}$$

$$\begin{aligned} 24) \quad & 6y = 9x \\ & -12x = -24 - 4y \end{aligned}$$



Answers to Assignment (ID: 10)

- | | | | |
|-----------------|----------------------------------|----------------------------------|----------------|
| 1) $(-3, 0)$ | 2) $(2, 4)$ | 3) $(3, 6)$ | 4) $(7, 5)$ |
| 5) $(6, -12)$ | 6) $(-7, 7)$ | 7) $(3, -2)$ | 8) $(-7, 3)$ |
| 9) No solution | 10) Infinite number of solutions | 11) Infinite number of solutions | |
| 12) No solution | 13) $(3, 3)$ | 14) $(2, 2)$ | 15) $(-7, 6)$ |
| 16) $(-3, 5)$ | 17) $(0, 3)$ | 18) $(-6, 9)$ | 19) $(9, 3)$ |
| 20) $(0, 5)$ | 21) $(10, 12)$ | 22) $(2, -4)$ | 23) $(-5, -5)$ |
| 24) $(4, 6)$ | | | |

