

Unit 3.2 Example Solving systems using elimination

Solve each system by elimination.

1)
$$\begin{aligned} 3x - 4y &= 14 \\ -3x + y &= -8 \end{aligned}$$

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

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

4)
$$\begin{aligned} -2x - 5y &= 1 \\ -10x - 5y &= 25 \end{aligned}$$

5)
$$\begin{aligned} 7x + 7y &= -28 \\ 4x - y &= 4 \end{aligned}$$

6)
$$\begin{aligned} -9x + 4y &= -23 \\ 4x - 2y &= 8 \end{aligned}$$

7)
$$\begin{aligned} 100x + 10y &= 1 \\ 60x + 6y &= 6 \end{aligned}$$

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

$$\begin{aligned} 9) \quad 3y - 3x - 24 &= 0 \\ 6y &= -12 - 6x \end{aligned}$$

$$\begin{aligned} 10) \quad 27 + 12y &= 15x \\ 9 - 3x &= -6y \end{aligned}$$

$$\begin{aligned} 11) \quad 6 + 5x &= 7y \\ 0 &= 4 + 2x - 2y \end{aligned}$$

$$\begin{aligned} 12) \quad 14 - 3x &= 2y \\ 0 &= -5y + 10x \end{aligned}$$

$$\begin{aligned} 13) \quad -7y - 9 - 2x &= 0 \\ 5x &= -4y + 18 \end{aligned}$$

$$\begin{aligned} 14) \quad -26 &= -4y - 9x \\ 3y + 8 - 7x &= 0 \end{aligned}$$

$$\begin{aligned} 15) \quad x + \frac{2}{3}y &= \frac{1}{3} \\ 0 &= -2 + 3x + 2y \end{aligned}$$

$$\begin{aligned} 16) \quad 9y + 6 &= -4x \\ 7y + 22 &= -6x \end{aligned}$$

$$\begin{aligned} 17) \quad \frac{1}{2}x + \frac{7}{4}y &= 1 \\ 0 &= 8y - 29 + 5x \end{aligned}$$

$$\begin{aligned} 18) \quad 3x &= -19 - 8y \\ -7y - 18 &= 4x \end{aligned}$$

Unit 3.2 Example Solving systems using elimination

Solve each system by elimination.

1) $3x - 4y = 14$
 $-3x + y = -8$

 $(2, -2)$

2) $6x + 3y = -6$
 $4x - 3y = -4$

 $(-1, 0)$

3) $4x - 9y = -6$
 $4x - 9y = -6$

Infinite number of solutions

4) $-2x - 5y = 1$
 $-10x - 5y = 25$

 $(-3, 1)$

5) $7x + 7y = -28$
 $4x - y = 4$

 $(0, -4)$

6) $-9x + 4y = -23$
 $4x - 2y = 8$

 $(7, 10)$

7) $100x + 10y = 1$
 $60x + 6y = 6$

No solution

8) $10x + 6y = -24$
 $-8x - 9y = -6$

 $(-6, 6)$

$$9) \begin{aligned} 3y - 3x - 24 &= 0 \\ 6y &= -12 - 6x \end{aligned}$$

$$(-5, 3)$$

$$10) \begin{aligned} 27 + 12y &= 15x \\ 9 - 3x &= -6y \end{aligned}$$

$$(1, -1)$$

$$11) \begin{aligned} 6 + 5x &= 7y \\ 0 &= 4 + 2x - 2y \end{aligned}$$

$$(-4, -2)$$

$$12) \begin{aligned} 14 - 3x &= 2y \\ 0 &= -5y + 10x \end{aligned}$$

$$(2, 4)$$

$$13) \begin{aligned} -7y - 9 - 2x &= 0 \\ 5x &= -4y + 18 \end{aligned}$$

$$(6, -3)$$

$$14) \begin{aligned} -26 &= -4y - 9x \\ 3y + 8 - 7x &= 0 \end{aligned}$$

$$(2, 2)$$

$$15) \begin{aligned} x + \frac{2}{3}y &= \frac{1}{3} \\ 0 &= -2 + 3x + 2y \end{aligned}$$

No solution

$$16) \begin{aligned} 9y + 6 &= -4x \\ 7y + 22 &= -6x \end{aligned}$$

$$(-6, 2)$$

$$17) \begin{aligned} \frac{1}{2}x + \frac{7}{4}y &= 1 \\ 0 &= 8y - 29 + 5x \end{aligned}$$

$$(9, -2)$$

$$18) \begin{aligned} 3x &= -19 - 8y \\ -7y - 18 &= 4x \end{aligned}$$

$$(-1, -2)$$