



Answer Key: Page 4-6

Solve the Systems by the Substitution Method

1. $x + y = -14$
 $x - y = 0$

7. $3x + y = 14$
 $3x + 3y = 120$

2. $x - 4y = 7$
 $x + 4y = 7$

8. $12x - 7y = 94$
 $12x - 3y = 102$

3. $-10x - 9y + 7 = -70$
 $3x + 15y - 10 = 50$

9. $-3x + 12y - 9 = 0$
 $12x - 30y = 0$

4. $12x + 14y = 24$
 $3x - y = 24$

10. $-3x - 7y = 21$
 $3x + 10y = -30$

5. $10x + 8y + 24 = 50$
 $5x + 7y + 15 = 34$

11. $25x + 15y - 10 = 0$
 $-15x - 15y + 48 = 0$

6. $2x + 3y = 5$
 $-2x + 9y = 7$

12. $-9x - 9y = -81$
 $5x + 4y = 20$

13. $12x - 24y - 24 = 0$
 $-18x + 12y - 12 = 0$

17. $-15x + 10y + 25 = 0$
 $15x + 40y + 50 = 0$

14. $10x + 50y = 120$
 $40x + 10y = 100$

18. $7x - 15y = -80$
 $10x + 18y = 280$

15. $x + y = 7$
 $x - y = 7$

19. $-7x + 4y = -70$
 $4x + 7y = 105$

16. $30x - 40y = 10$
 $30x - 120y = -390$

20. $5x - 7y + 8 = -30$
 $3x + 5y - 10 = 50$

Solve by Elimination Method.

21. $3x + 15 = 3y + 3$
 $2x + 7 = y + 13$

24. $y + 7 = 2(x + 5)$
 $y + 1 = .5(x + 3)$

22. $-14y + 4 = -5x - 2y$
 $9y - (x + 9) = 5$

25. $2x + 3y = 8$
 $3x + 2y = 12$

23. $8(x + y) + 24 = -32$
 $3 - (x + y) = 2 - 2x$

26. $x - 2y = y$
 $x + 2y = y$

27. $-3x + y = -7 + x$
 $-2x + y = -3(y)$

28. $8x - 4(y + 2) = 40$
 $4(x + 7) = 10y$

29. $3x + 2y = -15$
 $3x + 7y = 10$

30. $-12x + y = 10$
 $12x - 4y = 10$

31. $3x - 3y = 9$
 $4x + 2y = -9$

32. $x - y = 2$
 $x + 8 = 3y - 2$

33. $2x + 3 - y + 12 = 4(y)$
 $2x + 10 - y - 1 = 14$

34. $y + 1 - x - 5 = 4$
 $y - 1 + x + 5 = 4$

Answer Key

Solve the Systems by the Substitution Method

1.
$$\begin{cases} x + y = -14 \\ x - y = 0 \end{cases} \quad (-7, -7)$$

7.
$$\begin{cases} 3x + y = 14 \\ 3x + 3y = 120 \end{cases} \quad (-13, 53)$$

2.
$$\begin{cases} x - 4y = 7 \\ x + 4y = 7 \end{cases} \quad (7, 0)$$

8.
$$\begin{cases} 12x - 7y = 94 \\ 12x - 3y = 102 \end{cases} \quad (9, 2)$$

3.
$$\begin{cases} -10x - 9y + 7 = -70 \\ 3x + 15y - 10 = 50 \end{cases} \quad (5, 3)$$

9.
$$\begin{cases} -3x + 12y - 9 = 0 \\ 12x - 30y = 0 \end{cases} \quad (5, 2)$$

4.
$$\begin{cases} 12x + 14y = 24 \\ 3x - y = 24 \end{cases} \quad (20/3, -4)$$

10.
$$\begin{cases} -3x - 7y = 21 \\ 3x + 10y = -30 \end{cases} \quad (0, -3)$$

5.
$$\begin{cases} 10x + 8y + 24 = 50 \\ 5x + 7y + 15 = 34 \end{cases} \quad (1, 2)$$

11.
$$\begin{cases} 25x + 15y - 10 = 0 \\ -15x - 15y + 48 = 0 \end{cases} \quad (-19/5, 7)$$

6.
$$\begin{cases} 2x + 3y = 5 \\ -2x + 9y = 7 \end{cases} \quad (1, 1)$$

12.
$$\begin{cases} -9x - 9y = -81 \\ 5x + 4y = 20 \end{cases} \quad (-16, 25)$$

13. $12x - 24y - 24 = 0$
 $-18x + 12y - 12 = 0$ **(-2, -2)**

17. $-15x + 10y + 25 = 0$
 $15x + 40y + 50 = 0$ **(2/3, -3/2)**

14. $10x + 50y = 120$
 $40x + 10y = 100$ **(2, 2)**

18. $7x - 15y = -80$
 $10x + 18y = 280$ **(10, 10)**

15. $x + y = 7$
 $x - y = 7$ **(7, 0)**

19. $-7x + 4y = -70$
 $4x + 7y = 105$ **(14, 7)**

16. $30x - 40y = 10$
 $30x - 120y = -390$ **(7, 5)**

20. $5x - 7y + 8 = -30$
 $3x + 5y - 10 = 50$ **(5, 9)**

Solve by Elimination Method.

21. $3x + 15 = 3y + 3$
 $2x + 7 = y + 13$ **(10, 14)**

25. $2x + 3y = 8$
 $3x + 2y = 12$ **(4, 0)**

22. $-14y + 4 = -5x - 2y$
 $9y - (x + 9) = 5$ **(4, 2)**

26. $x - 2y = y$
 $x + 2y = y$ **(0, 0)**

23. $8(x + y) + 24 = -32$
 $3 - (x + y) = 2 - 2x$ **(-4, -3)**

27. $-3x + y = -7 + x$
 $-2x + y = -3(y)$ **(2, 1)**

24. $y + 7 = 2(x + 5)$
 $y + 1 = .5(x + 3)$ **(-5/3, -1/3)**

28. $8x - 4(y + 2) = 40$
 $4(x + 7) = 10y$ **(10, 8)**

29.
$$\begin{aligned} 3x + 2y &= -15 \\ 3x + 7y &= 10 \end{aligned}$$
 $(-25/3, 5)$

32.
$$\begin{aligned} x - y &= 2 \\ x + 8 &= 3y - 2 \end{aligned}$$
 $(8, 6)$

30.
$$\begin{aligned} -12x + y &= 10 \\ 12x - 4y &= 10 \end{aligned}$$
 $(-25/18, -20/3)$

33.
$$\begin{aligned} 2x + 3 - y + 12 &= 4(y) \\ 2x + 10 - y - 1 &= 14 \end{aligned}$$
 $(5, 5)$

31.
$$\begin{aligned} 3x - 3y &= 9 \\ 4x + 2y &= -9 \end{aligned}$$
 $(-1/2, -7/2)$

34.
$$\begin{aligned} y + 1 - x - 5 &= 4 \\ y - 1 + x + 5 &= 4 \end{aligned}$$
 $(-4, 4)$