# Ejercicios de Sistemas de Ecuaciones de 2x2

Resolver los siguientes sistemas de ecuaciones, usando cualquier método conocido.

1. $\begin{cases} 5x + 7y = 50 \\ 9x + 14y = 97 \end{cases}$

2. $\begin{cases} 12x - 13y = 9 \\ -4x + 17y = 35 \end{cases}$

3. $\begin{cases} 8x - 5y = 49 \\ 7x + 15y = 101 \end{cases}$

4. $\begin{cases} 10x + 3y = 23 \\ -2x + 5y = 1 \end{cases}$

5. $\begin{cases} 2x + 5y = 1 \\ 6x + 7y = 3 \end{cases}$

6. $\begin{cases} 7x + 3y = 100 \\ 3x - 7y = 20 \end{cases}$

7. $\begin{cases} 8x - 15y = -30 \\ 2x + 3y = 15 \end{cases}$

8. $\begin{cases} 7x - 3y = 27 \\ 5x - 6y = 0 \end{cases}$

9. $\begin{cases} 7x - 3y = 15 \\ 5x + 6y = 27 \end{cases}$

10. $\begin{cases} 3x - 4y = 11 \\ 5x - 3y = 33 \end{cases}$

11. $\begin{cases} 7x + 2y = 42 \\ 3x - 2y = 1 \end{cases}$

12. $\begin{cases} 3x + 4y = 43 \\ 4x + 7y = 69 \end{cases}$

13. $\begin{cases} 7x - 3y = 23 \\ 3x + 4y = 31 \end{cases}$

14. $\begin{cases} 5x - 7y = -4 \\ 9x + 11y = 40 \end{cases}$

15. $\begin{cases} x + y = 100 \\ x - y = 12 \end{cases}$

16. $\begin{cases} 9x + 14y = 83 \\ 39x - 35y = -23 \end{cases}$

17. $\begin{cases} 2x - 11y = -95 \\ x - 3y = 0 \end{cases}$

18. $\begin{cases} 3x - 30y = 15 \\ 2x + 10y = 40 \end{cases}$

19. $\begin{cases} 13x - 11y = 131 \\ 19x - 24y = 33 \end{cases}$

20. $\begin{cases} 8x + 3y = 37 \\ 8x - 3y = 50 \end{cases}$

21. $\begin{cases} x - 5y = 4 \\ 3x + 5y = 32 \end{cases}$

22. $\begin{cases} 16x - 15y = 18 \\ 2x + 5y = 16 \end{cases}$

23. $\begin{cases} 4x - 7y = -5 \\ 5x + y = \frac{7}{2} \end{cases}$

24. $\begin{cases} \frac{1}{3}x + \frac{1}{4}y = 6 \\ 3x - 4y = 4 \end{cases}$

25. $\begin{cases} 1{,}5x - 2y = 1 \\ 2{,}5x - 3y = 6 \end{cases}$

26. $\begin{cases} \frac{3}{4}x - 2y = 1 \\ \frac{1}{3}x - y = 0 \end{cases}$

27. $\begin{cases} 4{,}9x - 3{,}2y = 1{,}9 \\ 3{,}5x - 2{,}4y = 0{,}9 \end{cases}$

28. $\begin{cases} 1{,}5x - 1{,}1y = 0{,}01 \\ 2x - 1{,}7y = 0{,}08 \end{cases}$

Resolver los sistemas de ecuaciones complejas siguientes:

1. $\begin{cases} 9y = 2x - 31 \\ 9y = 5 - 16x \end{cases}$

2. $\begin{cases} x + 4y - 37 = 0 \\ 2x = 53 - 5y \end{cases}$

3. $\begin{cases} 3y = 100 - 7x \\ 3x = 20 + y \end{cases}$

4. $\begin{cases} 5x + 3y + 2 = 0 \\ 3x + 2y + 1 = 0 \end{cases}$

5. $\begin{cases} 10x + 7y + 4 = 0 \\ 6x + 5y + 2 = 0 \end{cases}$

6. $\begin{cases} \frac{1}{3}x + \frac{1}{4}y - 6 = 0 \\ -4y = -3x + 4 \end{cases}$

7. $\begin{cases} 5x - 4{,}9y - 1 = 0 \\ -2{,}9y = 1 - 3x \end{cases}$

8. $\begin{cases} 9x = 83 - 14y \\ 39x = 35y - 23 \end{cases}$

9. $\begin{cases} -10y = -7x + 0{,}1 \\ 11x = 0{,}1 + 16y \end{cases}$

10. $\begin{cases} 2{,}3x + 4{,}7y - 70 = 0 \\ 3{,}4x + 5{,}6y - 10 = 80 \end{cases}$

11. $\begin{cases} \frac{2x}{15} + \frac{7y}{12} = 3 \\ \frac{7x}{25} - \frac{5y}{16} = \frac{3}{20} \end{cases}$

12. $\begin{cases} \frac{x+3}{2} + \frac{y+5}{3} = 7 \\ \frac{x+4}{3} - \frac{2y-3}{5} = 2 \end{cases}$

13. $\begin{cases} \frac{3x+2}{4} - \frac{6y-1}{5} = 1 \\ \frac{5x-3}{7} + \frac{9y+1}{2} = 6 \end{cases}$

14. $\begin{cases} \frac{x+4}{2} - \frac{y+7}{8} = 3 \\ \frac{2x-1}{3} - \frac{3y+4}{4} = \frac{7}{12} \end{cases}$

15. $\begin{cases} \frac{5}{x+2y} = \frac{7}{2x+y} \\ \frac{7}{3x-2} = \frac{5}{6y-7} \end{cases}$

16. $\begin{cases} \frac{1}{3x+1} = \frac{2}{5y+4} \\ \frac{1}{4x-3} = \frac{2}{7y-6} \end{cases}$

17. $\begin{cases} \frac{x+3y}{x-7} = 8 \\ \frac{7x-13}{3y-5} = 4 \end{cases}$

18. $\begin{cases} \frac{15x+1}{45-y} = 8 \\ \frac{12y+19}{x-10} = 25 \end{cases}$

19. $\begin{cases} \frac{3x+1}{4-2y} = \frac{4}{3} \\ x + y = 1 \end{cases}$

20. $\begin{cases} \frac{7-2x}{5-3y} = \frac{3}{2} \\ y - x = 4 \end{cases}$

21. $\begin{cases} \frac{x-3}{y+2} = \frac{2}{3} \\ \frac{x+1}{y-2} = \frac{3}{2} \end{cases}$

22. $\begin{cases} \frac{x+2y+1}{2x-y+1} = 2 \\ \frac{3x-y+1}{x-y+3} = 5 \end{cases}$

23. $\begin{cases} \frac{x+3y+13}{4x+5y-25} = 3 \\ \frac{8x+y+6}{5x+3y-23} = 5 \end{cases}$

24. $\begin{cases} \frac{x+1}{3} - \frac{y+2}{4} = \frac{2(x-y)}{5} \\ \frac{x-3}{4} - \frac{y-3}{3} = 2y - x \end{cases}$

25. $\begin{cases} \frac{3x-2y}{5} + \frac{5x-3y}{3} = x + 1 \\ \frac{2x-3y}{3} + \frac{4x-3y}{2} = y + 1 \end{cases}$

26. $\begin{cases} 5(x+2) - 3(y+1) = 23 \\ 3(x-2) + 5(y-1) = 19 \end{cases}$

27. $\begin{cases} 3(2x-y) + 4(x-2y) = 87 \\ 2(3x-y) - 3(x-y) = 82 \end{cases}$

28. $\begin{cases} (x-4)(y+7) = (x-3)(y+4) \\ (x+5)(y-2) = (x+2)(y-1) \end{cases}$

29. $\begin{cases} (x+3)(y+5) = (x+1)(y+8) \\ (2x-3)(5y+7) = 2(5x-6)(y+1) \end{cases}$

30. $\begin{cases} x : y = 3 : 4 \\ (x-1) : (y+2) = 1 : 2 \end{cases}$

31. $\begin{cases} (x+4) : (y+1) = 2 : 3 \\ (x+2) : (y-1) = 3 : 1 \end{cases}$

32. $\begin{cases} (x+1) : (y+1) : (x+y) = 3 : 4 : 5 \end{cases}$

# Bibliografía

[1] Schultze, Arthur. Elementary and Intermediate Algebra.