Sistemas de ecuaciones

1. Resuelve el sistema:

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

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

9. $\begin{cases} 2x+3y=7 \\ 3x-2y=4 \end{cases}$ **10.** $\begin{cases} 2x+3y=1 \\ 3x+2y=4 \end{cases}$ **11.** $\begin{cases} 3x+3y=1 \\ 2x-5y=3 \end{cases}$ **12.** $\begin{cases} 2x+4y=5 \\ 3x-5y=2 \end{cases}$

13. $\begin{cases} 3(x+y)=2y+1 \\ 2(x-y)-1=5 \end{cases}$ **14.** $\begin{cases} 3(x+y)=1+y \\ 5(x-y)=9-y \end{cases}$ **15.** $\begin{cases} 2(x-y)=y+1 \\ 3x=2(y+2) \end{cases}$ **16.** $\begin{cases} 2(x+2)=y+3 \\ 3(3x+y)=1-3y \end{cases}$

17. $\begin{cases} 2(x+y)=2-y \\ 3(x+2y)=2 \end{cases}$ **18.** $\begin{cases} 2(x+y)=2+y \\ 4(x+y)=7-2x \end{cases}$ **19.** $\begin{cases} 2(x+y)=3-2x \\ 3(x+1)=5-y \end{cases}$ **20.** $\begin{cases} 2(x+y)=1-y \\ 9(2x+3y)=7-3y \end{cases}$

21. $\begin{cases} 3x+2(y-2)-1=2x-4 \\ 3(x-1)-y+3=2(x-y) \end{cases}$ **22.** $\begin{cases} x+y-2(x-1)=1+2y \\ x+2(y+1)=3-2x \end{cases}$ **23.** $\begin{cases} 1-y-2(x+1)=3y-2 \\ 1-x-2(y+1)=2x-y \end{cases}$ **24.** $\begin{cases} 1-2y-2(2x-1)=x+2 \\ x-2-2(y-1)=2x-y \end{cases}$

25. $\begin{cases} 2(x-1)-2(y-1)=1-y \\ 2(x+1)-2(y+1)=1-x \end{cases}$ **26.** $\begin{cases} 3(x-1)-2(y-1)=3-y \\ 2(x+1)-3(y+1)=1-2y \end{cases}$ **27.** $\begin{cases} 3(x+1)-2(y-1)=4-5y \\ 2(x-1)-2(y+1)=y-1 \end{cases}$ **28.** $\begin{cases} 3(x-1)+2(y+1)=y-5 \\ 2(x+1)-2(y-1)=3-6y \end{cases}$

29. $\begin{cases} 2(x-y+1)+y=2(y+1)-1 \\ 3(x-y+2)-y=2(3-y)-4 \end{cases}$ **30.** $\begin{cases} 2(x-y)-2(y-5)=3-y \\ 2(x+y)-3(x-2)=2(1-2x) \end{cases}$ **31.** $\begin{cases} 2(x-y-1)-2(y-1)=1-(x+y) \\ 2(x-2y)-2(y-1)=y+1 \end{cases}$ **32.** $\begin{cases} 2(x+y)+3(y+1)=y+4 \\ 5(x+y)-3(x-1)=5-x \end{cases}$

2. Resuelve el sistema:

1. $\begin{cases} x+2y=1 \\ \frac{x}{3}+\frac{y}{2}=\frac{1}{6} \end{cases}$ **2.** $\begin{cases} 2x+y=2 \\ \frac{x}{2}+\frac{y}{6}=\frac{2}{3} \end{cases}$ **3.** $\begin{cases} x+2y=3 \\ \frac{x}{2}-\frac{y}{3}=\frac{5}{6} \end{cases}$ **4.** $\begin{cases} \frac{x}{2}+y=\frac{1}{6} \\ 2x+3y=\frac{1}{6} \end{cases}$ **5.** $\begin{cases} \frac{x}{2}-\frac{y}{4}=1 \\ \frac{x}{3}-\frac{y}{2}=0 \end{cases}$

6. $\begin{cases} \frac{x}{3}+\frac{y}{2}=-\frac{1}{6} \\ \frac{x}{2}+y=0 \end{cases}$ **7.** $\begin{cases} \frac{1}{3}x+\frac{1}{2}y=\frac{1}{3} \\ \frac{1}{3}x-\frac{1}{4}y=\frac{1}{12} \end{cases}$ **8.** $\begin{cases} \frac{1}{3}x-\frac{1}{2}y=\frac{1}{6} \\ \frac{3}{4}x-\frac{3}{2}y=\frac{1}{8} \end{cases}$ **9.** $\begin{cases} \frac{x}{6}-\frac{y-6}{3}=3 \\ x-\frac{y+4}{2}=1 \end{cases}$ **10.** $\begin{cases} \frac{x}{2}-\frac{y-4}{4}=2 \\ x-\frac{2-y}{4}=0 \end{cases}$

11. $\begin{cases} \frac{x}{2}+\frac{y+2}{3}=\frac{3}{4} \\ \frac{x-1}{4}-\frac{y}{2}=\frac{1}{8} \end{cases}$ **12.** $\begin{cases} \frac{x}{2}+\frac{y+1}{3}=\frac{1}{3} \\ \frac{x+1}{2}+\frac{y}{4}=\frac{7}{12} \end{cases}$ **13.** $\begin{cases} \frac{x}{2}-\frac{4x+3y}{12}=1 \\ x-\frac{2x+y}{4}=2 \end{cases}$ **14.** $\begin{cases} \frac{x}{2}-\frac{3x-2y}{12}=1 \\ \frac{2x}{3}-\frac{3x-y}{9}=1 \end{cases}$ **15.** $\begin{cases} \frac{3x}{2}-\frac{2y+3x}{3}=\frac{1}{6} \\ \frac{x+2y}{2}-\frac{5y}{4}=\frac{3}{8} \end{cases}$

3. Resuelve el sistema:

1. $\begin{cases} 2x+y-z=1 \\ x-2y+2z=3 \\ 3x-2y+z=2 \end{cases}$ **2.** $\begin{cases} x+y-z=1 \\ 2x+2y-3z=1 \\ 4x-2y-z=1 \end{cases}$ **3.** $\begin{cases} x+y+z=2 \\ 2x-2y-z=2 \\ 3x+5y+2z=2 \end{cases}$ **4.** $\begin{cases} x-y-z=0 \\ x+2y-5z=2 \\ 3x-2y-4z=1 \end{cases}$ **5.** $\begin{cases} 6x-6y+8z=3 \\ 3x-6y+6z=1 \\ 12x-12y+12z=5 \end{cases}$

6. $\begin{cases} 2(x+y)+z=x+1 \\ 2(x-y)-z=y+1 \\ 3(x+z)+2y=y-2 \end{cases}$ **7.** $\begin{cases} x+z=y \\ 2(x+z)=3y-1 \\ 2(y+z)=3(1-x-z) \end{cases}$ **8.** $\begin{cases} x+2y=z+1 \\ 3x=2(y+z) \\ 3(x+z)=4(y+1) \end{cases}$ **9.** $\begin{cases} 3(x+z)=1-y \\ 2(y-z)=3-x \\ 2(x-y)=z-1 \end{cases}$ **10.** $\begin{cases} 2(x+y)=1-z \\ 2(x-z)=2+y \\ y+z=1-4x \end{cases}$

11. $\begin{cases} \frac{x}{3}+\frac{3y+z}{6}=-1 \\ \frac{x}{2}+\frac{y+2z}{4}=-1 \\ \frac{x}{3}-\frac{y-z}{6}=-1 \end{cases}$ **12.** $\begin{cases} \frac{x}{4}-\frac{y}{8}-\frac{z}{2}=1 \\ \frac{x}{3}-\frac{y+z}{2}=\frac{8}{3} \\ \frac{x-y}{6}-\frac{z}{3}=1 \end{cases}$ **13.** $\begin{cases} \frac{x+y+7}{3}-\frac{z}{2}=0 \\ \frac{x-z}{4}+\frac{y}{8}+1=0 \\ \frac{z}{2}-\frac{2x+y}{6}-\frac{5}{3}=0 \end{cases}$ **14.** $\begin{cases} \frac{y+6}{2}-\frac{x-z}{3}=1 \\ \frac{y+6}{3}-\frac{x-z}{6}=1 \\ \frac{x-2y-5}{3}-\frac{z}{2}=1 \end{cases}$ **15.** $\begin{cases} \frac{x+3y}{6}-\frac{z+1}{3}=y \\ 2+z+\frac{x-4z}{4}=y \\ \frac{x-5}{5}-\frac{z-y}{2}=y \end{cases}$

4. Resuelve el sistema:

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

6. $\begin{cases} x-y=3 \\ x^2+y^2=5 \end{cases}$ **7.** $\begin{cases} x-y=1 \\ x^2-2y^2=2 \end{cases}$ **8.** $\begin{cases} 2x-y=2 \\ 2x^2-y^2=2 \end{cases}$ **9.** $\begin{cases} 2x-3y=0 \\ x^2-2y^2=1 \end{cases}$ **10.** $\begin{cases} x-2y=1 \\ 2x^2-y^2=1 \end{cases}$

11. $\begin{cases} x^2-y=3 \\ x^2+y^2=5 \end{cases}$ **12.** $\begin{cases} 3x-y^2=2 \\ 3x^2-2y^2=4 \end{cases}$ **13.** $\begin{cases} x^2-y=6 \\ 2x^2+y^2=27 \end{cases}$ **14.** $\begin{cases} 2x+y^2=2 \\ 4x^2+6y^2=7 \end{cases}$ **15.** $\begin{cases} 2x^2+y=3 \\ 16(x^2-1)+y^2=1 \end{cases}$

16. $\begin{cases} xy-x+y=4 \\ xy-y=2 \end{cases}$ **17.** $\begin{cases} xy-x+2y=3 \\ xy+x+3=0 \end{cases}$ **18.** $\begin{cases} xy+2x+y=0 \\ x-xy=2 \end{cases}$ **19.** $\begin{cases} xy+x-y=1 \\ 2xy-x-y=0 \end{cases}$ **20.** $\begin{cases} xy-x+y=1 \\ 2xy+2x-y=1 \end{cases}$

5. Resuelve el sistema:

1. $\begin{cases} xy-2y=1 \\ xy+x+y^2=1 \end{cases}$ **2.** $\begin{cases} x^2+y^2-2x=1 \\ x^2+y^2+2y=3 \end{cases}$ **3.** $\begin{cases} x^2+y^2-x-y=2 \\ x^2+y^2-2x+y=2 \end{cases}$ **4.** $\begin{cases} x^2+y^2+2x=1 \\ x^2-y^2+2y=1 \end{cases}$ **5.** $\begin{cases} x^2+y^2-2xy=4 \\ x^2-y^2-xy=5 \end{cases}$

6. $\begin{cases} \frac{1}{x}+\frac{1}{y}=\frac{3}{2} \\ \frac{2}{x}-\frac{2}{y}=1 \end{cases}$ **7.** $\begin{cases} \frac{1}{x}+\frac{4}{y}+1=0 \\ \frac{1}{x}+y+1=0 \end{cases}$ **8.** $\begin{cases} \frac{1}{x}-\frac{1}{y}=1 \\ \frac{1}{3x}+\frac{1}{2y}=2 \end{cases}$ **9.** $\begin{cases} \frac{2}{x}-\frac{1}{y}=1 \\ \frac{3}{2x}-\frac{2}{3y}=1 \end{cases}$ **10.** $\begin{cases} \frac{1}{x}+y=1 \\ 3x-\frac{1}{y}=4 \end{cases}$

11. $\begin{cases} y-\frac{2}{x}=1 \\ x-\frac{2}{y}=1 \end{cases}$ **12.** $\begin{cases} \frac{1}{x}-\frac{1}{y}=3 \\ x+y^2-xy=1 \end{cases}$ **13.** $\begin{cases} x-y=1 \\ \sqrt{x+2}-y=1 \end{cases}$ **14.** $\begin{cases} x+y=2 \\ x+\sqrt{y-1}=1 \end{cases}$ **15.** $\begin{cases} 2x+3y=1 \\ \sqrt{x+2}+y=1 \end{cases}$

16. $\begin{cases} x+y=2 \\ \sqrt{x+3}-\sqrt{y}=1 \end{cases}$ **17.** $\begin{cases} x-y=1 \\ \sqrt{x+1}-\sqrt{y-1}=1 \end{cases}$ **18.** $\begin{cases} 3x+y-1=0 \\ \sqrt{2x-1}-\sqrt{2-y}+1=0 \end{cases}$ **19.** $\begin{cases} \sqrt{2x-1}+\sqrt{y+2}=2 \\ 2\sqrt{2x-1}+y=1 \end{cases}$ **20.** $\begin{cases} \sqrt{x-1}+\sqrt{y}=2 \\ \frac{1}{\sqrt{x-1}}+\frac{1}{\sqrt{y}}=2 \end{cases}$

Soluciones

1.1. (1,2) **1.2.** (1,-1) **1.3.** $\left(\frac{1}{2},\frac{-1}{2}\right)$ **1.4.** $\left(\frac{-1}{3},\frac{1}{3}\right)$ **1.5.** (1,1) **1.6.** (2,2) **1.7.** $\left(\frac{2}{3},\frac{-1}{3}\right)$ **1.8.** $\left(\frac{3}{2},\frac{-1}{2}\right)$ **1.9.** (2,1) **1.10.** (2,-1) **1.11.** $\left(\frac{2}{3},\frac{-1}{3}\right)$ **1.12.** $\left(\frac{3}{2},\frac{1}{2}\right)$ **1.13.** (1,-2) **1.14.** (1,-1) **1.15.** (2,1) **1.16.** $\left(\frac{1}{3},\frac{-1}{3}\right)$ **1.17.** $\left(2,\frac{-2}{3}\right)$ **1.18.** $\left(\frac{1}{2},1\right)$ **1.19.** $\left(\frac{1}{2},\frac{1}{2}\right)$ **1.20.** $\left(\frac{3}{2},\frac{-2}{3}\right)$ **1.21.** (-1,1) **1.22.** (-1,2) **1.23.** $\left(\frac{-1}{2},\frac{1}{2}\right)$ **1.24.** $\left(\frac{1}{3},\frac{-1}{3}\right)$ **1.25.** (1,1) **1.26.** (2,2) **1.27.** $\left(\frac{-2}{3},\frac{1}{3}\right)$ **1.28.** $\left(\frac{-3}{2},\frac{1}{2}\right)$ **1.29.** (-2,-1) **1.30.** (-2,1) **1.31.** $\left(\frac{2}{3},\frac{1}{3}\right)$ **1.32.** $\left(\frac{3}{2},\frac{-1}{2}\right)$ **2.1.** (-1,1) **2.2.** (2,-2) **2.3.** $\left(2,\frac{1}{2}\right)$ **2.4.** $\left(\frac{-2}{3},\frac{1}{2}\right)$ **2.5.** (3,2) **2.6.** (-2,1) **2.7.** $\left(\frac{1}{2},\frac{1}{3}\right)$ **2.8.** $\left(\frac{3}{2},\frac{2}{3}\right)$ **2.9.** (2,-2) **2.10.** (1,-2) **2.11.** $\left(\frac{1}{2},\frac{-1}{2}\right)$ **2.12.** $\left(\frac{2}{3},-1\right)$ **2.13.** (3,-2) **2.14.** (2,3) **2.15.** $\left(1,\frac{1}{2}\right)$ **3.1.** (1,2,3) **3.2.** (1,1,1) **3.3.** (1,-1,2) **3.4.** (3,2,1) **3.5.** $\left(\frac{1}{2},\frac{1}{3},\frac{1}{4}\right)$ **3.6.** (1,1,-2) **3.7.** (2,1,-1) **3.8.** $\left(1,\frac{1}{2},1\right)$ **3.9.** $\left(\frac{1}{3},1,\frac{-1}{3}\right)$ **3.10.** $\left(\frac{1}{3},\frac{2}{3},-1\right)$ **3.11.** (-4,0,2) **3.12.** (2,-4,0) **3.13.** (0,-4,2) **3.14.** (2,0,-4) **3.15.** (0,2,-4) **4.1.** (1,0), (-3,-2) **4.2.** (1,-2), (-4,13) **4.3.** (1,1), $\left(\frac{3}{4},\frac{1}{2}\right)$ **4.4.** (2,-1), $\left(\frac{-2}{3},\frac{7}{9}\right)$ **4.5.** (-1,4), $\left(\frac{-1}{3},\frac{5}{9}\right)$ **4.6.** (2,-1), (1,-2) **4.7.** (2,1) **4.8.** (1,0), (3,4) **4.9.** (3,2), (-3,-2) **4.10.** (-1,-1), $\left(\frac{5}{7},\frac{-1}{7}\right)$ **4.11.** (1,-2), (-1,-2), (2,1), (-2,1) **4.12.** (2,2); (2,-2) **4.13.** (1,-5), (-1,-5), (3,3), (-3,3) **4.14.** $\left(\frac{1}{2},1\right)$, $\left(\frac{1}{2},-1\right)$ **4.15.** (1,1), (-1,1) **4.16.** (2,2), $\left(-3,\frac{-1}{2}\right)$ **4.17.** (-1,2), (-3,0) **4.18.** (1,-1), $\left(\frac{-2}{3},4\right)$ **4.19.** (1,1), $\left(\frac{1}{3},-1\right)$ **4.20.** (-1,-1), $\left(\frac{1}{2},1\right)$ **5.1.** (1,-1) **5.2.** (0,1), (2,-1) **5.3.** (2,1), $\left(\frac{-4}{5},\frac{-2}{5}\right)$ **5.4.** (0,1), (-2,-1) **5.5.** (3,1), (-3,-1) **5.6.** (1,2) **5.7.** (1,-2), $\left(\frac{-1}{3},2\right)$ **5.8.** $\left(\frac{1}{3},\frac{1}{2}\right)$ **5.9.** $\left(\frac{1}{2},\frac{1}{3}\right)$ **5.10.** $\left(2,\frac{1}{2}\right)$, $\left(\frac{2}{3},\frac{-1}{2}\right)$ **5.11.** (-1,-1), (2,2) **5.12.** $\left(\frac{1}{4},1\right)$ **5.13.** (2,1) **5.14.** (0,2), (1,1) **5.15.** (2,-1) **5.16.** (1,1) **5.17.** (3,2) **5.18.** (1,-2), (5,-14) **5.19.** (1,-1) **5.20.** (2,1)