

Sistemi di primo grado

Risolvi i seguenti sistemi di primo grado.

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

$$[x = 1, y = 1]$$

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

$$[x = 1, y = 2]$$

$$3. \begin{cases} x - 4y = -6 \\ 2x - y = 2 \end{cases}$$

$$[x = 2, y = 2]$$

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

[impossibile]

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

$$[x = -1, y = 1]$$

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

$$[x = -1, y = 3]$$

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

$$[x = \frac{3}{5}, y = -\frac{9}{5}]$$

$$8. \begin{cases} -1 + 3(5x + y) = 5x - y \\ 4x - 2(y + 3) + 1 = y \end{cases}$$

$$[x = \frac{1}{2}, y = -1]$$

$$9. \begin{cases} x + 10 - (x - y) = 2x - y \\ 2(x + y - 4) - 21 = x + y \end{cases}$$

$$[x = 17, y = 12]$$

$$10. \begin{cases} \frac{x-2}{3} + y = \frac{x+2}{2} \\ \frac{x+2}{3} = y + \frac{x-2}{2} \end{cases}$$

$$[x = 0, y = \frac{5}{3}]$$

$$11. \begin{cases} 2x - \frac{1}{4}(2x - 3y) = x - 2y \\ x + 2y = 2x + y + 52 \end{cases}$$

$$[x = -44, y = 8]$$

$$12. \begin{cases} 2\sqrt{2}x + \sqrt{2}y = 6\sqrt{3} \\ \sqrt{2}x + 2\sqrt{2}y = 6\sqrt{3} \end{cases}$$

$$[x = \sqrt{6}, y = \sqrt{6}]$$

$$13. \begin{cases} \sqrt{3}x - 2\sqrt{3}(x - 4y) = 9\sqrt{2} \\ \sqrt{3}y + 2\sqrt{3}(x - 4y) = 9\sqrt{2} \end{cases}$$

$$[x = 5\sqrt{6}, y = \sqrt{6}]$$

$$14. \begin{cases} x + 2(x + y) - 3y = 4 \\ 4x - 3(x - y) - 2y = 1 \end{cases}$$

$$[x = \frac{5}{4}, y = -\frac{1}{4}]$$

$$15. \begin{cases} x - 3y = 2(\frac{1}{2} - y) + y + 1 \\ \frac{2}{5}(1 - x - y) = \frac{1}{5}(2 - 3x) \end{cases}$$

[impossibile]

$$16. \begin{cases} x + y = 0 \\ (x + y)^2 - x^2 = x + 2xy + (y + 1)(y - 1) \end{cases}$$

$$[x = 1, y = -1]$$

$$17. \begin{cases} -\frac{1}{2}x - 2(x - \frac{1}{2}y + 36) + \frac{1}{3}y = 4 \\ -x + 3(\frac{1}{2}x - 6 + y) - 2y = 1 \end{cases}$$

$$[x = -16, y = 27]$$

$$18. \begin{cases} (-\frac{1}{3})^2 x - 2y + \frac{4}{9}(x + y) = -x \\ -\frac{2}{3}x + \frac{14}{3}(-\frac{1}{3}x + \frac{17}{3} + y) - \frac{5}{9}y = 0 \end{cases}$$

$$[x = -14, y = -14]$$

$$19. \begin{cases} (x - \frac{1}{3})^2 - \frac{2}{3}y - \frac{1}{3}(2x - 3y) = (x + 1)(x - 1) \\ \frac{3x - 2y}{3} - \frac{1}{3}y - (-\frac{2}{3}y - \frac{1}{3}x) - \frac{2}{3}y = 0 \end{cases}$$

$$[x = \frac{50}{39}, y = \frac{70}{39}]$$

$$20. \begin{cases} -(2x + \frac{1}{\sqrt{2}}) - \frac{1}{4}x + \frac{1}{2}(x + \frac{1}{2}y) = -3x - (x - \frac{7}{\sqrt{2}}) \\ \frac{1}{2}x + \frac{1}{4}(x + y) + x - \frac{1}{2}x = y + \frac{x - 14\sqrt{2}}{3} + 2x \end{cases}$$

$$[x = -2\sqrt{2}, y = 34\sqrt{2}]$$