

# ECUACIONES DE PRIMER GRADO

## ECUACIONES SENCILLAS

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|----------------------------|--------------------|
| 1) $5x = 20$               | Sol: $x = 4$       |
| 2) $4x = -24$              | Sol: $x = -6$      |
| 3) $-4x = 12$              | Sol: $x = -3$      |
| 4) $-9x = -72$             | Sol: $x = 8$       |
| 5) $-x = 31$               | Sol: $x = -31$     |
| 6) $3x = 0$                | Sol: $x = 0$       |
| 7) $15x = 1$               | Sol: $x = 1/15$    |
| 8) $0x = -13$              | Sol: Incompatible  |
| 9) $7x = 14$               | Sol: $x = 2$       |
| 10) $0x = 0$               | Sol: Indeterminada |
| 11) $3x - 1 = 8$           | Sol: $x = 3$       |
| 12) $7 - 3x = 1$           | Sol: $x = 2$       |
| 13) $x - 3 = x + 6$        | Sol: Incompatible  |
| 14) $x + 3 - 4x = 0$       | Sol: $x = 1$       |
| 15) $3x - 5 = x + 7 - 12x$ | Sol: $x = 6/7$     |
| 16) $3x - 1 = 2x + 6$      | Sol: $x = 7$       |
| 17) $6x - 1 + 5x = x + 9$  | Sol: $x = 1$       |
| 18) $5x + 3 = 5x + 1$      | Sol: Incompatible  |
| 19) $4x - 3 = 4x + 7$      | Sol: Incompatible  |

## ECUACIONES CON PARÉNTESIS

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|------------------------------------------|--------------------|
| 1) $5x - 2 = 10x - 2 - (x - 7)$          | Sol: $x = -7/4$    |
| 2) $4 - (x - 3) = 5(x - 2) + 9$          | Sol: $x = 4/3$     |
| 3) $4x + 2(x - 7) = 3x + 4$              | Sol: $x = 6$       |
| 4) $2x - 5 = 4 - 3(2x + 6)$              | Sol: $x = -9/8$    |
| 5) $5x + 1 = 5(2 + x) - 3$               | Sol: Incompatible  |
| 6) $3x - 5(1 - 6x) + 3(2x + 3) = 0$      | Sol: $x = -4/39$   |
| 7) $4 - (3x + 1) = 5(x + 1) - 3(7x + 4)$ | Sol: $x = -10/13$  |
| 8) $3(x + 1) - 5 = 3x - 2$               | Sol: Indeterminada |
| 9) $2(x - 3) + 5(x + 6) = 23$            | Sol: $x = -1/7$    |

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|----------------------------------------------------|--------------------|
| 10) $3x - 1 = 6 - (7 - 3x)$                        | Sol: Indeterminada |
| 11) $6(7 - x) = 8(6 - x)$                          | Sol: $x = 3$       |
| 12) $4(x - 6) = 12 - (x + 3)$                      | Sol: $x = 33/5$    |
| 13) $4(x - 7) = 2(x + 1) - 3x$                     | Sol: $x = 6$       |
| 14) $(2x - 3) + (5x - 7) - (x + 2) - (6x + 5) = 0$ | Sol: Incompatible  |
| 15) $3x + 8 - 2 = 3(x + 2)$                        | Sol: Indeterminada |
| 16) $5x - 99 = 8x - 12$                            | Sol: $x = -29$     |
| 17) $3(x + 1) + 2(3x - 7) = 0$                     | Sol: $x = 11/9$    |
| 18) $5x - 2(x + 6) = 3x - 12$                      | Sol: Indeterminada |
| 19) $5 - (7x + 1) + 3x = 4(3 - x) - 10$            | Sol: Indeterminada |
| 20) $2(x + 1) + 2(x + 2) + 2(x + 3) = 24$          | Sol: $x = 2$       |
| 21) $17x - 11 = -4(x + 23)$                        | Sol: $x = -27/7$   |
| 22) $5(x + 2) = 5x - 10$                           | Sol: Incompatible  |
| 23) $4x - (2x + 15) + (14 - 5x) = 0$               | Sol: $x = -1/3$    |
| 24) $3 = 2(x + 9) - 10x + 41$                      | Sol: $x = 7$       |
| 25) $5x - 3(x + 1) = 4 - (3x + 19)$                | Sol: $x = -12/5$   |
| 26) $3x - 2(4x - 11) - (7x + 1) = 1$               | Sol: $x = -11/6$   |
| 27) $14x + 16 - 3(5 + 4x) = -11$                   | Sol: $x = -6$      |
| 28) $2(x + 2) - 3(x + 2) + 4(x + 2) = 5(x + 2)$    | Sol: $x = -2$      |
| 29) $4x - 7(2x + 5) = 31x - 6(3 - 2x)$             | Sol: $x = -1$      |

### ECUACIONES CON DENOMINADORES

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|-----------------------------------------|--------------------|
| 1) $\frac{x}{2} - 6 = 2x$               | Sol: $x = -4$      |
| 2) $3x - \frac{2}{3} = 3x + 5$          | Sol: Incompatible  |
| 3) $\frac{x}{4} + 2(x - 1) = 5$         | Sol: $x = 28/9$    |
| 4) $\frac{x}{3} - 2 = 5(x + 1)$         | Sol: $x = -3/2$    |
| 5) $\frac{x - 2}{3} + 10 = 5x$          | Sol: $x = 2$       |
| 6) $4x - \frac{7x}{3} + 12 = x - 6$     | Sol: $x = -27$     |
| 7) $4x - \frac{1}{2} = \frac{x}{4} + 3$ | Sol: $x = 14/15$   |
| 8) $\frac{10x - 15}{5} = 2x - 3$        | Sol: Indeterminada |

- 9)  $2(x+3) - \frac{5}{2} = x$  Sol:  $x = -7/2$
- 10)  $x + 6 - \frac{4x}{3} = x + 2$  Sol:  $x = 3$
- 11)  $\frac{1}{2} + \frac{x}{4} = 3x - 5$  Sol:  $x = 2$
- 12)  $\frac{5x-2}{3} + \frac{4x}{3} = \frac{8}{3}$  Sol:  $x = 10/9$
- 13)  $\frac{4x}{5} - 2 = x - \frac{x+10}{5}$  Sol: Indeterminada
- 14)  $8 - \frac{x}{5} + \frac{2x}{5} = \frac{2}{5}$  Sol:  $x = -38$
- 15)  $5x - \frac{6x-1}{4} = 0$  Sol:  $x = -1/4$
- 16)  $3x - \frac{3}{8} + \frac{3x-5}{2} = 1$  Sol:  $x = 31/36$
- 17)  $\frac{2x+5}{3} + \frac{x}{6} = x - \frac{x-10}{6}$  Sol: Indeterminada
- 18)  $x - \frac{1}{2} = 3x + 8$  Sol:  $x = -17/4$
- 19)  $\frac{x-3}{5} = 4(x+7)$  Sol:  $x = -143/19$
- 20)  $5 - (2x+3) = \frac{x}{2}$  Sol:  $x = 4/5$
- 21)  $3(2x-5) + 6 - (2x+7) = \frac{1}{2}$  Sol:  $x = 33/8$
- 22)  $\frac{2(x+3)}{3} - 1 = \frac{3(x-6)}{4} + 4$  Sol:  $x = 18$
- 23)  $\frac{5x-2}{4} - \frac{x+3}{6} = x + 5$  Sol:  $x = 37/3$
- 24)  $\frac{3x+7}{2} - 2 = \frac{2x+1}{4} + x$  Sol: Incompatible
- 25)  $\frac{x}{4} - \frac{x}{3} + \frac{5x}{6} = \frac{1}{2} - (x+2)$  Sol:  $x = -6/7$
- 26)  $\frac{3x+1}{2} - \frac{2(x+7)}{6} - 2 = x + 3$  Sol:  $x = 41$
- 27)  $3x - \frac{5+6x}{2} = 1$  Sol: Incompatible
- 28)  $\frac{x}{2} + \frac{x}{3} + \frac{x}{4} - \frac{3x-1}{6} = 0$  Sol:  $x = -2/7$
- 29)  $5x - 3\left(\frac{1}{2} - 4x\right) = 8x$  Sol:  $x = 1/6$
- 30)  $\frac{2}{3}(x-6) = \frac{5x}{12}$  Sol:  $x = 16$

- 31)  $\frac{x+1}{6} = 6x+4$  Sol:  $x = -23/35$
- 32)  $7x - \frac{3x-8}{5} = \frac{3x+9}{4}$  Sol:  $x = 13/113$
- 33)  $\frac{4-x}{5} - 1 = 6 - \frac{2x+3}{5}$  Sol:  $x = 28$
- 34)  $3x - \frac{6x}{5} - \frac{2x+3}{5} = 0$  Sol:  $x = 3/7$
- 35)  $5(2x-6) - 1 - \frac{7x-3}{2} = 5 + 7x$  Sol:  $x = -69$
- 36)  $\frac{3x}{5} - \frac{3(7-5x)+2}{4} = -\frac{x+2}{10} + x$  Sol:  $x = 37/23$
- 37)  $\frac{6(x-1)}{5} - \frac{3}{4} = \frac{1}{2} \cdot (5x-6)$  Sol:  $x = 21/26$
- 38)  $3\left(x - \frac{5}{2}\right) + 9 = \frac{3x}{4}$  Sol:  $x = -2/3$
- 39)  $\frac{2(5x-7)}{3} + \frac{2}{5} = \frac{x-7}{6}$  Sol:  $x = 93/95$
- 40)  $9x - \frac{7x+1}{2} - \frac{x+4}{6} = 0$  Sol:  $x = 7/32$
- 41)  $7x - 3(2x+7) + \frac{2}{3}\left(\frac{x-1}{2}\right) = 1$  Sol:  $x = 67/4$
- 42)  $\frac{2}{5}\left(x + \frac{x-2}{3}\right) - 6x = 3x - \frac{5x}{6}$  Sol:  $x = -8/229$
- 43)  $2\left(\frac{5x}{3} - 4\right) = 3x - \frac{1}{4}\left(5x - \frac{4}{3}\right)$  Sol:  $x = 100/19$
- 44)  $4 - \frac{2x-5}{3} = (-2)\left(x - \frac{3}{5}\right)$  Sol:  $x = -67/20$
- 45)  $\frac{x-1}{5} - \frac{x+2}{10} + \frac{1-3x}{15} = \frac{x+2}{30}$  Sol:  $x = -3$
- 46)  $2x - \frac{1-3x}{10} + \frac{2}{3} = 2(x-3) + \frac{1}{5}$  Sol:  $x = -191/9$
- 47)  $\frac{3x+4}{5x+6} = \frac{1}{2}$  Sol:  $x = -2$
- 48)  $\frac{2(x-1)}{3} - \frac{x+4}{15} + 1 = x - \frac{3(x-2)}{5}$  Sol:  $x = 17/3$
- 49)  $\frac{\frac{3x-1}{5} - \frac{1}{2} + x}{2} = \frac{1}{3} + 2x$  Sol:  $x = -41/72$
- 50)  $\frac{x-4}{5} + \frac{3(x-2)}{15} = \frac{1}{10} - \frac{x-1}{2}$  Sol:  $x = 2$