

ECUACIONES DE GRADO UNO RESUELTOS**Índice de ejercicios propuestos**

- A. Ecuaciones del tipo $x+a=b$
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- C. Ecuaciones del tipo $ax+b=c$
- D. Ecuaciones con denominador

Ejercicios resueltosA. Ecuaciones del tipo $x+a=b$

1. $x+3=5$

$x=5-3$

$x=2$

2. $x+5=2$

$x=2-5$

$x=-3$

3. $x-5=3$

$x=3+5$

$x=8$

4. $x-2=-3$

$x=-3+2$

$x=-1$

5. $-x-1=5$

$-x=5+1$

$-x=6$

$x=-6$

6. $3=4-x$

$3-4=-x$

$-1=-x$

$x=1$

B. Ecuaciones del tipo $ax=b$

7. $2x=4$

$x=\frac{4}{2}=2$

8. $25x=5$

$x=\frac{5}{25}=\frac{1}{5}$

9. $-7x=-4$

$x=\frac{-4}{-7}=\frac{4}{7}$

10. $-12x=6$

$x=\frac{6}{-12}=-\frac{1}{2}$

11. $4=-6x$

$\frac{4}{-6}=x \Rightarrow x=-\frac{2}{3}$

12. $-2=-8x$

$\frac{-2}{-8}=x \Rightarrow x=\frac{2}{8}=\frac{1}{4}$

C. Ecuaciones del tipo $ax + b = c$

13. $2x + 3 = 4$

$$2x = 4 - 3$$

$$2x = 1$$

$$x = \frac{1}{2}$$

14. $7x + 2 = -3$

$$7x = -3 - 2$$

$$7x = -5$$

$$x = \frac{-5}{7}$$

15. $-3x + 10 = 2$

$$-3x = 2 - 10$$

$$-3x = -8$$

$$x = \frac{8}{3}$$

16. $6x - 5 = -9$

$$6x = -9 + 5$$

$$6x = -4$$

$$x = \frac{-4}{6} = \frac{-2}{3}$$

17. $4x - 2 + 3 = 5$

$$4x = 5 + 2 - 3$$

$$4x = 4$$

$$x = \frac{4}{4} = 1$$

18. $-4x + 9 = 4 - 7$

$$-4x = 4 - 7 - 9$$

$$-4x = -12$$

$$x = \frac{-12}{-4} = 3$$

19. $2x - 1 = 5x + 3$

$$-4x = 4 - 7 - 9$$

$$-4x = -12$$

$$x = \frac{-12}{-4} = 3$$

20. $2 - 3x + 6 = 5 + 7x - 4$

$$-3x - 7x = -4 - 2 - 6$$

$$-10x = -12$$

$$x = \frac{-12}{-10} = \frac{6}{5}$$

D. Ecuaciones con denominador

21. $\frac{x}{2} + 4 = 9$

$$\frac{x}{2} = 9 - 4$$

$$\frac{x}{2} = 5$$

$$x = 5 \cdot 2 = 10$$

22. $\frac{3x}{4} - 9 = 3$

$$\frac{3x}{4} = 3 + 9$$

$$\frac{3x}{4} = 12$$

$$3x = 12 \cdot 4$$

$$3x = 48$$

$$x = \frac{48}{3} = 16$$

$$23. \frac{5x}{4} - \frac{1}{2} = \frac{7}{6}$$

$$\text{m.c.m}(2,4,6) = 12$$

$$\frac{5x \cdot 3}{12} - \frac{1 \cdot 6}{12} = \frac{7 \cdot 2}{12}$$

$$15x - 6 = 14$$

$$15x = 14 + 6$$

$$x = \frac{20}{15} = \boxed{\frac{4}{3}}$$

$$25. \frac{3(x-1)}{4} - \frac{x-2}{2} = \frac{(1-x)2}{6}$$

$$\text{m.c.m}(2,4,6) = 12$$

$$\frac{3 \cdot (x-3) \cdot 3}{12} - \frac{(x-2) \cdot 6}{12} = \frac{(1-x) \cdot 2}{12}$$

$$9x - 27 - 6x + 12 = 2 - 2x$$

$$9x + 2x - 6x = 2 + 27 - 12$$

$$5x = 17$$

$$\boxed{x = \frac{17}{5}}$$

$$24. \frac{x-3}{2} - \frac{5}{3} = \frac{x+1}{6}$$

$$\text{m.c.m}(2,3,6) = 6$$

$$\frac{(x-3) \cdot 3}{6} - \frac{5 \cdot 2}{6} = \frac{(x+1) \cdot 1}{6}$$

$$3x - 9 - 10 = x + 1$$

$$3x - x = 1 + 9 + 10$$

$$2x = 20$$

$$x = \frac{20}{2} = \boxed{10}$$

$$26. \frac{2(2-3x)}{10} - \frac{1-2x}{2} = \frac{(x-1)6}{4}$$

$$\text{m.c.m}(2,4,10) = 20$$

$$\frac{2 \cdot (2-3x) \cdot 2}{20} - \frac{(1-2x) \cdot 10}{20} = \frac{(x-1) \cdot 5}{20}$$

$$8 - 12x - 10 + 20x = 5x - 5$$

$$-12x + 20x - 5x = -5 - 8 + 10$$

$$3x = -3$$

$$x = \frac{-3}{3} = \boxed{-1}$$