

**Ecuaciones de primer grado con denominadores**

$$1 \quad 5 - \frac{x}{2} = 3x - 16$$

$$10 - x = 6x - 32 \rightarrow 7x = 42 \rightarrow x = 6$$

$$2 \quad x - \frac{x}{3} = 2x - \frac{2}{3}$$

$$3x - x = 6x - 2 \rightarrow 4x = 2 \rightarrow x = \frac{1}{2}$$

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

$$3x - x = 8 \rightarrow 2x = 8 \rightarrow x = 4$$

$$4 \quad \frac{x}{5} - \frac{x}{8} = \frac{3}{4}$$

$$8x - 5x = 30 \rightarrow 3x = 30 \rightarrow x = 10$$

$$5 \quad x - \frac{1}{2} = \frac{5x}{8} - \frac{3}{4}$$

$$8x - 4 = 5x - 6 \rightarrow 3x = -2 \rightarrow x = -\frac{2}{3}$$

$$6 \quad \frac{x}{2} + \frac{1}{5} - \frac{x}{6} = \frac{3x}{10} + \frac{8}{15}$$

$$15x + 6 - 5x = 9x + 16 \rightarrow 10x + 6 = 9x + 16 \rightarrow x = 10$$

$$1 \quad 3 - \frac{2x}{5} = x - \frac{3x-1}{2}$$

$$30 - 4x = 10x - 15x + 5 \rightarrow 25 = -x \rightarrow x = -25$$

$$2 \quad \frac{x-1}{2} - \frac{x+1}{3} = 1$$

$$3x - 3 - 2x - 2 = 6 \rightarrow x - 5 = 6 \rightarrow x = 11$$

$$3 \quad \frac{x-1}{5} - \frac{1-x}{6} = \frac{x-1}{4}$$

$$12x - 12 - 10 + 10x = 15x - 15 \rightarrow 22x - 22 = 15x - 15 \rightarrow 7x = 7 \rightarrow x = 1$$

$$4 \quad \frac{3x-2}{5} - \frac{2x-1}{3} = \frac{5x-7}{15}$$

$$9x - 6 - 10x + 5 = 5x - 7 \rightarrow -x - 1 = 5x - 7 \rightarrow 6x = 6 \rightarrow x = 1$$

$$5 \quad \frac{4}{3}(1-2x) + \frac{5}{4}(2x-1) = \frac{7}{12}(x-2)$$

$$16(1-2x) + 15(2x-1) = 7(x-2) \rightarrow 16 - 32x + 30x - 15 = 7x - 14 \rightarrow$$

$$\rightarrow 1 - 2x = 7x - 14 \rightarrow 9x = 15 \rightarrow x = \frac{15}{9}$$

$$6 \quad \frac{2(x+1)}{3} - \frac{1-x}{5} = x + \frac{3}{10}$$

$$20(x+1) - 6 + 6x = 30x + 9 \rightarrow 20x + 20 - 6 + 6x = 30x + 9 \rightarrow$$

$$\rightarrow 26x + 14 = 30x + 9 \rightarrow 4x = 5 \rightarrow x = \frac{5}{4}$$

$$7 \quad 2\left(5x - \frac{x-4}{3}\right) = 4x$$

$$10x - \frac{2x-8}{3} = 4x \rightarrow 30x - 2x + 8 = 12x \rightarrow 16x = -8 \rightarrow x = -\frac{1}{2}$$

$$8 \quad \frac{2}{3}\left(\frac{1}{2} - \frac{x+1}{4}\right) = \frac{5}{6}$$

$$\frac{2}{3}\left(\frac{2-x-1}{4}\right) = \frac{5}{6} \rightarrow \frac{1}{6}(1-x) = \frac{5}{6} \rightarrow 1-x = 5 \rightarrow x = -4$$

$$9 \quad \frac{x}{2} - \frac{x}{3} + \frac{x}{5} = \frac{2x}{15} + 7$$

$$15x - 10x + 6x = 4x + 210 \rightarrow 7x = 210 \rightarrow x = 30$$

$$10 \quad \frac{3x-1}{2} = \frac{5x-4}{3}$$

$$9x - 3 = 10x - 8 \rightarrow x = 5$$

$$11 \quad \frac{1}{x+1} = \frac{5}{2x-4}$$

$$2x - 4 = 5x + 5 \rightarrow 3x = -9 \rightarrow x = -3$$

$$12 \quad 1 + \frac{x-1}{2} = 3x$$

$$2 + x - 1 = 6x \rightarrow x + 1 = 6x \rightarrow 5x = 1 \rightarrow x = \frac{1}{5}$$

$$13 \quad \frac{x}{2} + \frac{x-2}{4} = 1$$

$$2x + x - 2 = 4 \rightarrow 3x = 6 \rightarrow x = 2$$

$$14 \quad 1 - \frac{x+2}{3} = x$$

$$3 - x - 2 = 3x \rightarrow 4x = 1 \rightarrow x = \frac{1}{4}$$

$$15 \quad \frac{x}{3} - \frac{x+2}{9} = \frac{x}{3}$$

$$3x - x - 2 = 3x \rightarrow x = -2$$

$$16 \quad x - \frac{x-5}{2} = 4$$

$$2x - x + 5 = 8 \rightarrow x = 3$$

$$3 - \frac{7x+2}{8} = 2x + \frac{5x+1}{9}$$

**Solución:**

$$x = 10/13$$

$$\frac{x-3}{4} = \frac{x-5}{6} + \frac{x-1}{9}$$

**Solución:**

$$x = 7$$

$$\frac{x-2}{3} - \frac{x-4}{5} = \frac{x-3}{4}$$

**Solución:**

$$x = 53/7$$

$$2(x-3) + 10x = \frac{8x-1}{2}$$

**Solución:**

$$x = 11/16$$

$$\frac{x-1}{2} = \frac{3x-10}{5} + \frac{x-2}{3}$$

**Solución:**

$$x = 5$$

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

**Solución:**

$$x = 2$$

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

**Solución:**

$$x = 9/5$$

$$\frac{x}{6} + 5 + x = \frac{1}{3}$$

**Solución:**

$$x = -4$$

$$\frac{x}{6} - \frac{3x-1}{4} = 2x + \frac{33}{8}$$

**Solución:**

$$x = -3/2$$

$$\frac{1}{5} + \frac{3x}{2} = \frac{2x}{3}$$

**Solución:**

$$x = -6/25$$