

SOLUCIONES

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

$$\frac{2(x-1)}{10} = \frac{30}{10} + \frac{5x}{10}$$

$$2(x-1) = 30 + 5x$$

$$27) \quad 2x - 2 = 30 + 5x$$

$$2x - 5x = 30 + 2$$

$$-3x = 32$$

$$x = \frac{32}{-3}$$

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

$$\frac{3x-6}{2} = \frac{2x}{2} - \frac{10}{2}$$

$$28) \quad 3x - 6 = 2x - 10$$

$$3x - 2x = -10 + 6$$

$$x = -4$$

$$\frac{x}{2} + 7 = \frac{4x}{3} + 8$$

$$\frac{3x}{6} + \frac{42}{6} = \frac{8x}{6} + \frac{48}{6}$$

$$29) \quad 3x + 42 = 8x + 48$$

$$3x - 8x = 48 - 42$$

$$-5x = 6$$

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

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

$$\frac{10(x+1)}{20} + \frac{4(x+4)}{20} - \frac{5(x+3)}{20} = \frac{20}{20}$$

$$10(x+1) + 4(x+4) - 5(x+3) = 20$$

$$30) \quad 10x + 10 + 4x + 16 - 5x - 15 = 20$$

$$10x + 4x - 5x = 20 - 10 - 16 + 15$$

$$9x = 9$$

$$x = \frac{9}{9} = 1$$

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

$$\frac{x+1}{6} - \frac{2(x-4)}{6} = \frac{12}{6} + \frac{3}{6}$$

$$x+1-2(x-4) = 12+3$$

$$31) \quad x+1-2x+8 = 12+3$$

$$x-2x = 12+3-1-8$$

$$-x = 6$$

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

$$\frac{2x}{3} + \frac{5}{4} + \frac{x}{6} - 7 = 0$$

$$\frac{8x}{12} + \frac{15}{12} + \frac{2x}{12} - \frac{84}{12} = \frac{0}{12}$$

$$32) \quad 8x + 15 + 2x - 84 = 0$$

$$8x + 2x = -15 + 84$$

$$10x = 69 \Rightarrow x = \frac{69}{10}$$

$$\frac{x+1}{8} - \frac{x+1}{3} + \frac{x+3}{5} = 0$$

$$\frac{15(x+1)}{240} - \frac{40(x+1)}{240} + \frac{24(x+3)}{240} = \frac{0}{240}$$

$$33) \quad 15(x+1) - 40(x+1) + 24(x+3) = 0$$

$$15x + 15 - 40x - 40 + 24x + 72 = 0$$

$$15x - 40x + 24x = -15 + 40 - 72$$

$$-1x = -47 \Rightarrow x = \frac{-47}{-1} = 47$$

$$\frac{2x+3}{4} - \frac{143}{6} = \frac{9x-5}{8} - 2x$$

$$\frac{6(2x+3)}{24} - \frac{572}{24} = \frac{3(9x-5)}{24} - \frac{48x}{24}$$

$$34) \quad 6(2x+3) - 572 = 3(9x-5) - 48x$$

$$12x + 18 - 572 = 27x - 15 - 48x$$

$$12x - 27x + 48x = -15 - 18 + 572$$

$$33x = 539 \Rightarrow x = \frac{539}{33} = \frac{49}{3}$$

$$10x - \frac{95-10x}{2} = \frac{10x-55}{2}$$

$$\frac{20x}{2} - \frac{95-10x}{2} = \frac{10x-55}{2}$$

$$35) \quad 20x - 95 + 10x = 10x - 55$$

$$20x + 10x - 10x = -55 + 95$$

$$20x = 40$$

$$x = \frac{40}{20} = 2$$

$$\frac{x+3}{2} - \frac{143}{3} = \frac{2x-5}{9} - x$$

$$\frac{9(x+3)}{18} - \frac{858}{18} = \frac{2(2x-5)}{18} - \frac{18x}{18}$$

$$9(x+3) - 858 = 2(2x-5) - 18x$$

$$36) \quad 9x + 27 - 858 = 4x - 10 - 18x$$

$$9x - 4x + 18x = -10 - 27 + 858$$

$$23x = 821$$

$$x = \frac{821}{23}$$

$$\frac{3x}{2} + 20 = \frac{x}{3} + 25$$

$$\frac{9x}{6} + \frac{120}{6} = \frac{2x}{6} + \frac{150}{6}$$

$$37) \quad 9x + 120 = 2x + 150$$

$$9x - 2x = 150 - 120$$

$$7x = 30$$

$$x = \frac{30}{7}$$

$$x - \frac{3}{2} = 2x - \frac{7}{3}$$

$$\frac{6x}{6} - \frac{9}{6} = \frac{12x}{6} - \frac{14}{6}$$

$$38) \quad 6x - 9 = 12x - 14$$

$$6x - 12x = -14 + 9$$

$$-6x = -5$$

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

$$\frac{2x+1}{4} - \frac{3}{2} = \frac{9x-5}{8} - 2x$$

$$\frac{2(2x+1)}{8} - \frac{12}{8} = \frac{9x-5}{8} - \frac{16x}{8}$$

$$2(2x+1) - 12 = 9x - 5 - 16x$$

$$39) \quad 4x + 2 - 12 = 9x - 5 - 16x$$

$$4x - 9x + 16x = -5 - 2 + 12$$

$$11x = 5$$

$$x = \frac{5}{11}$$

$$10x - \frac{9-10x}{2} = \frac{10x-5}{2}$$

$$\frac{20x}{2} - \frac{9-10x}{2} = \frac{10x-5}{2}$$

$$40) \quad 20x - 9 + 10x = 10x - 5$$

$$20x - 10x - 10x = -5 + 9$$

$$20x = 4$$

$$x = \frac{4}{20} = \frac{1}{5}$$

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

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

$$3(2x-3) - 3(4x-1) = 6x - 2$$

$$41) \quad 6x - 9 - 12x + 3 = 6x - 2$$

$$6x - 12x - 6x = -2 + 9 - 3$$

$$-12x = 4$$

$$x = \frac{4}{-12} = -\frac{1}{3}$$

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

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

$$42) \quad 3 - x - 3x = 3(1-x) + 2(2-x)$$

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

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

$$x = 4$$

$$\frac{x+1}{8} - \frac{x+1}{2} + \frac{x+3}{4} = 0$$

$$\frac{x+1}{8} - \frac{4(x+1)}{8} + \frac{2(x+3)}{8} = 0$$

$$x+1-4(x+1)+2(x+3)=0$$

43) $x+1-4x-4+2x+6=0$

$$x-4x+2x=-1+4-6$$

$$-1x=-3$$

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

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

$$\frac{2(x+4)}{10} - \frac{5(x+3)}{10} = \frac{10}{10} - \frac{5(x+1)}{10}$$

$$2(x+4)-5(x+3)=10-5(x+1)$$

44) $2x+8-5x-15=10-5x-5$

$$2x-5x+5x=10-5-8+15$$

$$2x=12$$

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

$$3\left(2x - \frac{1}{2}\right) + 2(x+3) = 7$$

$$6x - \frac{3}{2} + 2x + 6 = 7$$

$$\frac{12x}{2} - \frac{3}{2} + \frac{4x}{2} + \frac{12}{2} = \frac{14}{2}$$

45) $12x-3+4x+12=14$

$$12+4x=14+3-12$$

$$16x=5$$

$$x = \frac{5}{16}$$

$$\frac{2(x-1)}{9} - \frac{6-2x}{3} = 1$$

$$\frac{2x-2}{9} - \frac{6-2x}{3} = 1$$

$$\frac{2x-2}{9} - \frac{3(6-2x)}{9} = \frac{9}{9}$$

46) $2x-2-3(6-2x)=9$

$$2x-2-18+6x=9$$

$$2x+6x=9+2+18$$

$$8x=29$$

$$x = \frac{29}{8}$$