

Solucions

$$2.1) \frac{x+6}{3} + \frac{4(2x-4)}{15} = \frac{6-4x}{5}$$

$$\text{m.c.m}(3,15,5) = 15$$

$$15 \cdot \frac{x+6}{3} + 15 \cdot \frac{4(2x-4)}{15} = 15 \cdot \frac{6-4x}{5}$$

$$5 \cdot (x+6) + 4(2x-4) = 3(6-4x)$$

$$5x + 30 + 8x - 16 = 18 - 12x$$

$$5x + 8x + 12x = 18 - 30 + 16$$

$$25x = 4$$

$$x = \frac{4}{25}$$

$$2.2) \frac{x-3}{12} = \frac{3x-1}{10}$$

$$\text{m.c.m}(12, 10) = 60$$

$$60 \cdot \frac{x-3}{12} = 60 \cdot \frac{3x-1}{10}$$

$$5(x-3) = 6(3x-1)$$

$$5x - 15 = 18x - 6$$

$$5x - 18x = -6 + 15$$

$$-13x = 9$$

$$13x = -9$$

$$x = \frac{-9}{13}$$

$$2.3) \frac{3x-1}{5} = 4+x$$

$$\text{m.c.m}(5,1)=5$$

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

$$3x - 1 = 20 + 5x$$

$$3x - 1 = 20 + 5x$$

$$3x - 5x = 20 + 1$$

$$-2x = 21$$

$$2x = -21$$

$$x = \frac{-21}{2}$$

$$2.4) \frac{x+6}{12} + \frac{2x-4}{8} = -\left(\frac{9-4x}{3}\right) \quad \text{m.c.m (12,8,3)= 24}$$

$$24 \cdot \frac{x+6}{12} + 24 \cdot \frac{2x-4}{8} = -24 \frac{9-4x}{3}$$

$$2(x+6) + 3(2x-4) = -8(9-4x)$$

$$2x + 12 + 6x - 12 = -72 + 32x$$

$$2x + 6x - 32x = -72 - 12 + 12$$

$$-24x = -72 \text{ -----} \rightarrow 24x = 72$$

$$x = \frac{72}{24} = 3$$

$$2.5) \frac{x-1}{2} = 3 \quad \text{m.c.m(2,1)=2}$$

$$2 \cdot \frac{x-1}{2} = 2 \cdot 3$$

$$x - 1 = 6$$

$$x = 6 + 1$$

$$x = 7$$

$$2.6)) x - 1 = \frac{x+1}{3} \quad \text{m.c.m(3,1)=3}$$

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

$$3x - 3 = x + 1$$

$$3x - x = 1 + 3$$

$$2x = 4$$

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

$$2.7) \frac{x-1}{2} + 2 = \frac{5x-6}{4} \quad \text{m.c.m(4,2)=4}$$

$$4 \cdot \frac{x-1}{2} + 4 \cdot 2 = 4 \cdot \frac{5x-6}{4}$$

$$2(x-1) + 8 = 5x - 6$$

$$2x - 2 + 8 = 5x - 6$$

$$2x - 5x = -6 + 2 - 8$$

$$-3x = -12 \text{ -----} \rightarrow 3x = 12$$

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