

## SOLVING EQUATIONS - PART 2

$$1) 3x = 15$$

$$\frac{3}{3} \quad \frac{3}{3}$$

$$x = 5$$

$$2) 3x + 12 = 39$$

$$3x = 39 - 12$$

$$3x = 27$$

$$\frac{3}{3} \quad \frac{3}{3}$$

$$x = 9$$

$$3) 3w - 2 = 2w + 3$$

$$3w - 2w = 3 + 2$$

$$w = 5$$

$$4) 7x - 14 = 5x + 42$$

$$7x - 5x = 42 + 14$$

$$2x = 56$$

$$\frac{2}{2} \quad \frac{2}{2}$$

$$x = 28$$

$$5) 5x + 31 = 73 + 3x$$

$$5x - 3x = 73 - 31$$

$$2x = 42$$

$$\frac{2}{2} \quad \frac{2}{2}$$

$$x = 21$$

$$6) 3x - 57 = 5x - 83$$

$$3x - 5x = -83 + 57$$

$$-2x = -26$$

$$\frac{-2}{-2} \quad \frac{-2}{-2}$$

$$x = 13$$

$$7) 10x - 7 = 14x - 9$$

$$10x - 14x = -9 + 7$$

$$-4x = -2$$

$$\frac{-4}{-4} \quad \frac{-4}{-4}$$

$$x = \frac{1}{2} \text{ OR } 0.5$$

$$8) 5(y - 3) = 2(y + 6)$$

$$5y - 15 = 2y + 12$$

$$5y - 2y = 12 + 15$$

$$3y = 27$$

$$\frac{3}{3} \quad \frac{3}{3}$$

$$y = 9$$

$$9) 3(t - 6) + 8 = 4(t + 7)$$

$$3t - 18 + 8 = 4t + 28$$

$$3t - 10 = 4t + 28$$

$$3t - 4t = 28 + 10$$

$$-t = 38$$

$$\frac{-1}{-1} \quad \frac{-1}{-1}$$

$$t = -38$$

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

$$6 - 9x + 4 = 5x + 10$$

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

$$-9x - 5x = 10 - 10$$

$$-14x = 0$$

$$\frac{-14}{-14} \quad \frac{-14}{-14}$$

$$x = 0$$

$$11) 4(2x + 1) - 3(1 - 4x) = -9$$

$$8x + 4 - 3 + 12x = -9$$

$$20x + 1 = -9$$

$$20x = -9 - 1$$

$$\frac{20x}{20} = \frac{-10}{20}$$

$$x = -\frac{1}{2} \text{ or } -0.5$$

$$13) \frac{q-2}{3} - 5 = \frac{q+4}{4} \quad \text{L.C.D.} = 12$$

$$12 \cdot \frac{q-2}{3} - 12(5) = \frac{12}{4}(q+4)$$

$$4(q-2) - 60 = 3(q+4)$$

$$4q - 8 - 60 = 3q + 12$$

$$4q - 68 = 3q + 12$$

$$4q - 3q = 12 + 68$$

$$q = 80$$

$$15) 3k - 24 = -16$$

$$3k = -16 + 24$$

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

$$k = \frac{8}{3} \text{ or } 2.67$$

$$12) \frac{4a-1}{3} = 5$$

$$4a - 1 = 15$$

$$4a = 15 + 1$$

$$4a = 16$$

$$\frac{4a}{4} = \frac{16}{4}$$

$$a = 4$$

$$14) 0.4w + 0.6 = -3$$

$$0.4w = -3 - 0.6$$

$$\frac{0.4w}{0.4} = \frac{-3.6}{0.4}$$

$$w = -9$$

$$16) 2.5(3j - 1) = -25$$

$$7.5j - 2.5 = -25$$

$$7.5j = -25 + 2.5$$

$$7.5j = -22.5$$

$$\frac{7.5j}{7.5} = \frac{-22.5}{7.5}$$

$$j = -3$$

$$17) 3w - 2 = 2w + 3$$

$$3w - 2w = 3 + 2$$

$$w = 5$$

$$18) 5q + 6 = 4q - 9$$

$$5q - 4q = -9 - 6$$

$$q = -15$$