

- (1) Solve for x : $2p + 1 = 2 - 3q$ with $p = 2x$ and $q = -x$

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

$$4x + 1 = 2 + 3x$$

$$4x - 3x = 2 - 1$$

$$x = 1$$

- (2) You buy two cool drinks and 24 toffees at the canteen. One cool drink costs as much as six times the cost for one toffee. The total cost for all your purchases is R54. Determine the price of one toffee.

$$\text{Let one toffee} \rightarrow x \quad \therefore \text{one cool drink} \rightarrow 6x$$

$$\text{But } 2 \text{ cool drinks} + 24 \text{ toffees} = \text{R}54$$

$$\therefore 2 \times (6x) + 24 \times (x) = 54$$

$$12x + 24x = 54$$

$$36x = 54$$

$$x = \frac{54}{36} = 1,5$$

$$\therefore \text{The price of 1 toffee} \rightarrow \text{R}1,50$$

- (3) The interior angles of a triangle are $(2x + 10^\circ)$; $(35^\circ - x)$ and $(x - 15^\circ)$ respectively. Calculate the value of x . Sum of int. $\angle$ s of $\Delta = 180^\circ$

$$\therefore (2x + 10^\circ) + (35^\circ - x) + (x - 15^\circ) = 180^\circ$$

$$2x + 10^\circ + 35^\circ - x + x - 15^\circ = 180^\circ$$

$$2x + 30^\circ = 180^\circ$$

$$2x = 180^\circ - 30^\circ$$

$$2x = 150^\circ$$

$$x = \frac{150^\circ}{2}$$

$$x = 75^\circ$$

- (4) The sum of two numbers is 36. The one number is three times as much as the other number. Calculate the two numbers.

Let the one number be x

$\therefore$ The other number is $3x$

But number + number = 36

$$\therefore x + 3x = 36$$

$$4x = 36$$

$$x = \frac{36}{4} = 9$$

$\therefore$ The two numbers are 9 and 27.

- (5) The perimeter of a rectangle is 54 cm. The length of the rectangle is 5 cm longer than the breadth of the rectangle. Determine the dimensions of the rectangle.

Let the breadth be x . $\therefore$ The length is $(x+5)$

But perimeter = $2L + 2B$

$$54 = 2(x+5) + 2(x)$$

$$54 = 2x + 10 + 2x$$

$$54 - 10 = 4x$$

$$\therefore x = \frac{44}{4} = 11$$

$\therefore$ The breadth is 11 cm and the length 16 cm.

- (6) Solve for x and y : $3(x - 2) + 1 = 4 = 2 - (1 - y)$

$$\therefore 3(x-2) + 1 = 4 \quad \text{and} \quad 4 = 2 - 1(1-y)$$

$$3x - 6 + 1 = 4$$

$$4 = 2 - 1 + y$$

$$3x - 5 = 4$$

$$4 = 1 + y$$

$$3x = 4 + 5$$

$$4 - 1 = y$$

$$3x = 9$$

$$3 = y$$

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