Q-1. Determine by substitution if-

    a. 2 is a root of $5x - 10 = 0$

        Put $x = 2$ in $5x - 10$

        L.H.S

        $= 5x - 10$

        $= 5x2 - 10$

        $= 10 - 10 = 0 =>$ L. H.S = R.H.S

        , Hence 2 is a root of $5x - 10$

    b. 4 is a root of $2x - 3 = 5$

        Put $x = 4$ in $2x - 3$

        L.H.S

        $= 2x - 3$

        $= 2x 4 - 3$

        $= 8 - 3 = 5 =>$ L.H.S = R.H.S

        Hence 4 is a root of $2x - 3$

Q-3. Solve to find the value of the unknown-

    a. $2x = 50$ b. $18 = 9x$

        $x = 50 \div 2 = 25$ $x = 18 \div 9 = 2$

    c.. $16k = 400$ e.. $1.2 y = 14.4$

        $k = 400 \div 16 = 25$ $y = 14.4 \div 1.2 = \dfrac{144 \times \cancel{10}}{\cancel{10} \times 12} = 12$

    h.. $0.07 = 0.01x$ i. $+ x = +11$, $x = 11x 8$

        $x = 0.07 \div 0.01 = 7$ $\dfrac{8}{} \diagdown \dfrac{1}{}$ $= 88$

Q-4. Solve the following equations –

    a. $\dfrac{7t}{8} \diagup\diagdown \dfrac{14}{1}$

        $7t = 14 \times 8$

$$7t = 112 \quad \Rightarrow \ t = 112 \div 7 = 16$$

b. $\dfrac{9m}{11} \diagdown \dfrac{18}{1}$

$9m = 11 \times 18$

$9m = 198$

$m = 198 \div 9 = 22$

c. $\dfrac{5x}{14} \diagdown \dfrac{75}{42}$

$5x \times 42 = 75 \times 14$

$210x = 1050$

$x = 1050 \div 210$

$= 5$

e. $\dfrac{8x}{3} \diagdown \dfrac{16}{9}$

$8x \times 9 = 3 \times 16$

$72x = 48$

$x = 48 \div 72$

$= 2 \div 3 = 2/3$

Q-5. Solve :

a. $x - 3 = 4$

$= x = 4+3$

$\Rightarrow x = 7$

b. $k - 24 = -50$

$= k = -50 + 24$

$\Rightarrow k = -26$

Q-6. Solve the following –

a. $x + 7 = 14$

$= x = 14-7$

$\Rightarrow x = 7$

b. $x + 9 = 76$

$= x = 76-9$

$\Rightarrow x = 67$

d. $4x + 5 = 17$

$= 4x = 17-5$

$\Rightarrow 4x = 12$

$x = 12/4 = 3$

Q-7. Express the following as algebraic equations and solve for the unknown –

a. six times a no increased by 7 is 19 . Find the no.

sol: Let the no be x

A.T.Q

$6x + 7 = 19$

$6x = 19-7$

$6x = 12$

$x = 12/6 = 2$

b. The product of a no x and 7 is 56 . Find x

    Sol: A.T.Q

      $7x = 56$

      $x = 56/7$

      $x = 8$

d.. I am an integer . When you subtract 4 from me , the result is 16. What is my value?

Sol: $x - 4 = 16$

    $x = 16+4 = 20$

Q-8. The length of a square hall is 7m. Find the perimeter of the hall.

Sol : Length of the square hall = 7m

    Perimeter of square = 4 x side

                = 4 x 7 = 28m

Q-9. The length of a rectangular playground is thrice its breadth. If the perimeter of the playground is 56m , find its dimensions.

Sol : Let the breadth = x metre

Then length = 3x metre

Perimeter of rectangle = 2 x (L + B) = 56

                = 2 x (x + 3x) = 56

                = 2 X 4x = 56

                8x = 56

                x = 56/8 = 7

    So , Breadth = x = 7 metre

    Length = 3x = 3 X 7 = 21 metres