Chapter 8 Linear equations in one variable

8. Linear Equations in one Variable

Solution -1:-

(i) $3(4) - 5 = 7$

        LHS = RHS

(ii) $5 + 3(3) = 14$

        $14 = 14$

        LHS = RHS

(iii) $x = 2$

    $3x - 2 = 8x - 12$

    $3(2) - 2 = 8(2) - 12$

      $6 - 2 = 16 - 12$

        $4 = 4$

        LHS = RHS.

(iv) $x = 4$

    $\dfrac{3x}{2} = 6$

    $\Rightarrow \dfrac{12}{2} = 6$

    LHS = RHS

(v) $y - 3 = 2y - 5$

    $\Rightarrow 2 - 3 = 2(2) - 5 \Rightarrow -1 = -1$

                 LHS = RHS

(vi) $\dfrac{1}{2}(8) + 7 = \dfrac{8}{2} + 7 = 4 + 7 = 11 =$ RHS.

Solution -02:-

(i) $x + 3 = 12$

$x = 12 - 3$

$x = 9$

(ii) $x - 7 = 10$

$x = 10 + 7$

$x = 17$

(iii) $4x = 28$

$x = \dfrac{28}{4}$

$x = 7$

(iv) $\dfrac{x}{2} + 7 = 11$

$x + 14 = 22$

$x = 22 - 14$

$x = 8$

(v) $2x + 4 = 3x$

$3x - 2x = 4$

$x = 4$

(VI) $\frac{x}{4} = 12$

$x = 12 * 4$

$x = 48$

(VII) $\frac{15}{x} = 3$

$x = \frac{15}{3}$

$= 5$

(VIII) $\frac{x}{18} = 20$

$x = 18 \times 20$

$x = 360.$

Exercise - 8.2

Solution - 01

1. $x - 3 = 5$

$\quad x = 5 + 3$

$\quad x = 8$

2. $x + 9 = 13$

$\quad x = 13 - 9$

$\quad x = 4$

3. $x - \dfrac{3}{5} = \dfrac{7}{5}$

In order to solve this equation, we have to get x by itself on the L.H.S To get x by itself on the LHS, we need to shift $-\dfrac{3}{5}$. This can can be done by adding $\dfrac{3}{5}$ to both sides of the given equation

$\Rightarrow \quad x - \dfrac{3}{5} + \dfrac{3}{5} = \dfrac{7}{5} + \dfrac{3}{5}$

$\quad \Rightarrow \quad x = \dfrac{7+3}{5}$

$\quad \quad \Rightarrow \quad x = \dfrac{10}{5}$

Solution - 04

$3x = 0$

$\Rightarrow x = \dfrac{0}{3}$

$\Rightarrow x = 0$

solution - 05 :

$\Rightarrow \dfrac{x}{2} = 0$

$\Rightarrow x = 2 \times 0$

$\Rightarrow x = 0$

Solution - 06 :

$\Rightarrow x - \dfrac{1}{3} = \dfrac{2}{3}$

$\Rightarrow x - \dfrac{1}{3} + \dfrac{1}{3} = \dfrac{2}{3} + \dfrac{1}{3}$

$\Rightarrow x = \dfrac{1+2}{3} = \dfrac{3}{3}$

$\Rightarrow x = 1$.

solution - 07

$\Rightarrow x + \dfrac{1}{2} - \dfrac{1}{2} = \dfrac{7}{2} - \dfrac{1}{2}$

$\Rightarrow x = \dfrac{7-1}{2} = \dfrac{6}{2}$

$\Rightarrow x = 3$.

Solution -8

$10 - y = 6$

$y = 10 - 6$

$\Rightarrow y = 4$

solution -09 :-

$7 + 4y = -5$

$\Rightarrow 7 + 4y - 7 = -5 - 7$

$\Rightarrow 4y = -12$

$\Rightarrow \dfrac{4y}{4} = \dfrac{-12}{4}$

$\Rightarrow y = -3.$

solution -10 :-

$\dfrac{4}{5} - x = \dfrac{3}{5}$

$\dfrac{4 - 5x}{5} = \dfrac{3}{5}$

$\Rightarrow 4 - 5x = 3$

$\Rightarrow 4 - 5x - 4 = 3 - 4$

$\Rightarrow -5x = -1$

$\Rightarrow x = 1/5.$

Solution - 11.

$$2y - \frac{1}{2} = -\frac{1}{3}$$

$$\Rightarrow 2y - \frac{1}{2} + \frac{1}{2} = \frac{-1}{3} + \frac{1}{2}$$

$$\Rightarrow 2y = \frac{3-2}{6}$$

$$\Rightarrow 2y = \frac{1}{6}$$

$$\Rightarrow y = \frac{1}{6 \times 2}$$

$$\Rightarrow y = \frac{1}{12} \qquad [\text{By cross multiplication}]$$

Solution - 12 :-

$$14 = \frac{7x}{10} - 8$$

$$\Rightarrow 14 + 8 = \frac{7x}{10} - 8 + 8$$

$$\Rightarrow 22 = \frac{7x}{10}$$

$$\Rightarrow 7x = 22 \times 10 \qquad [\text{By cross cross multiplicat}$$

$$\Rightarrow 7x = 220$$

$$\Rightarrow x = \frac{220}{7}.$$

Solution-13.

$$3(x+2) = 15$$

$$\Rightarrow 3x + 6 = 15$$

$$\Rightarrow 3x = 15 - 6$$

$$\Rightarrow 3x = 9$$

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

$$\Rightarrow x = 3$$

Solution-14:-

$$\Rightarrow \frac{x}{4} = \frac{7}{8}$$

$$\Rightarrow 8x = 28$$

$$\Rightarrow x = \frac{28}{8}$$

$$\Rightarrow x = \frac{7}{2}$$

Solution-15:-

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

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

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

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

ion]

Solution -16 :-

$$3(x+6) = 24$$

$$\Rightarrow 3x + 18 = 24$$

$$\Rightarrow 3x = 24 - 18$$

$$\Rightarrow 3x = 6$$

$$\Rightarrow x = \frac{6}{3}$$

$$\Rightarrow x = 2$$

Solution -17 :-

$$3(x+2) - 2(x-1) = 7$$

$$3x + 6 - 2x + 2 = 7$$

$$x + 8 = 7$$

$$x = 7 - 8$$

$$x = -1.$$

Solution -18 :-

$$8(2x-5) - 6(3x-7) = 1$$

$$16x - 40 - 18x + 42 = 1$$

$$-2x + 2 = 1$$

$$2x = 2 - 1$$

$$\Rightarrow x = \frac{1}{2}.$$

Solution - 19 :-

$$6(1-4x) + 7(2+5x) = 53$$

$$\Rightarrow 6 - 24x + 14 + 35x = 53$$

$$\Rightarrow 11x + 20 = 53$$

$$\Rightarrow 11x = 53 - 20$$

$$\Rightarrow 11x = 33$$

$$\Rightarrow x = \frac{33}{11}$$

$$\Rightarrow x = 3.$$

Solution - 20 :-

$$5(2-3x) - 17(2x-5) = 16.$$

$$\Rightarrow 10 - 15x - 34x + 85 = 16$$

$$\Rightarrow 10 - 49x + 85 = 16$$

$$\Rightarrow 95 - 16 = 49x$$

$$\Rightarrow 49x = 79.$$

$$\Rightarrow x = \frac{79}{49}$$

Solution – 21:-

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

$$\Rightarrow x - 3 - 10 = -5$$

$$\Rightarrow x - 13 = -5$$

$$\Rightarrow x = 13 - 5$$

$$\Rightarrow \boxed{x = 8}$$

Solution – 22:-

$$5(x-2) + 3(x+1) = 25$$

$$\Rightarrow 5x - 10 + 3x + 3 = 25$$

$$\Rightarrow 8x - 7 = 25$$

$$\Rightarrow 8x = 32$$

$$\Rightarrow x = \frac{32}{8}$$

$$\Rightarrow \boxed{x = 4}$$

Exercise- 8.3.

Solution -01:-

$\Rightarrow 6x+5 = 2x+17$

$\Rightarrow 6x-2x+5 = 2x+17-2x$ [subtract '2x' on both sides)

$\Rightarrow 4x+5 = 17$

$\Rightarrow 4x+5-5 = 17-5$ [subtract '5' on both sides]

$\Rightarrow 4x = 12$

$\Rightarrow \dfrac{4x}{4} = \dfrac{12}{4}$ [Divide by '4' on both sides]

$\Rightarrow x = 3.$

Varification:-

$\Rightarrow 6(3)+5 = 2(3)+17$ [substitute $x=3$]

$\Rightarrow 23 = 23.$

$\therefore LHS = RHS$

Solution -02

$2(5x-3)-3(2x-1) = 9$

$10x-6-6x+3 = 9$

$4x-3 = 9$

$4x = 9+3$

$4x = 12$

$\dfrac{4x}{4} = \dfrac{12}{4}$ [Divide by '4' on both sides]

$x = 3.$

Varification:

$2(5(3)-3)-3(2(3)-1) = 9$

$2(12)-3(5) = 9$

$9 = 9$

$\therefore LHS = RHS.$

3. $\dfrac{x}{2} = \dfrac{x}{3} + 1$

$\Rightarrow \dfrac{x}{2} = \dfrac{x}{3} + 1$

$\Rightarrow \dfrac{x}{2} = \dfrac{x+3}{3}$

By cross multiplication we get.

$\Rightarrow 3x = 2(x+3)$

$\Rightarrow 3x = 2x + 6$

subtract '2x' on both sides

$\Rightarrow x = 6$.

Varification:-

$\Rightarrow \dfrac{6}{2} = \dfrac{6}{3} + 1 \Rightarrow 3 = 3$.

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

$\dfrac{x+3}{2} = \dfrac{2x-5}{5}$

$\Rightarrow 5(x+3) = 2(2x-5)$

$\Rightarrow 5x + 15 = 4x - 2 \times 5$

$\Rightarrow 5x - 4x + 15 = 4x - 2 \times 5 - 4x$ [subtract 4x on both sides]

$\Rightarrow x + 15 = -2 \times 5$

$\Rightarrow x + 15 = -10$

$\Rightarrow x = -15 - 10$

$\Rightarrow x = -25$.

Varification:- $\dfrac{-25}{2} + \dfrac{3}{2} = \dfrac{4y}{5} - x \dfrac{-50}{5} - 1$

$-11 = -11$

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

$\Rightarrow 3x - 3(1) = 4(x-3)$

$\Rightarrow 3x - 3 = 4x - 12$

Adding '12' on both sides

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

$\Rightarrow 3x + 9 = 4x$

Adding subtracting 3x on both sides

$\Rightarrow 4x - 3x = 3x + 9 - 3x$

$\Rightarrow x = 9.$

Verification

$\frac{3}{4}(9-1) = (9-3)$

$\frac{3}{4} \times 8 = 6$

$6 = 6$

6. $3(x-3) = 5(2x+1)$

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

$\Rightarrow 3x - 9 = 10x + 5$

$\Rightarrow 10x - 3x + 5 = 3x - 9 - 3x$ [subtracting 3x on both sides]

$\Rightarrow 7x = -9 - 5$

$\Rightarrow 7x = -14$

$\Rightarrow \frac{7x}{7} = \frac{-14}{7}$

$\Rightarrow x = -2.$

Verification :.

$3(-2-3) = 5(2(-2)+1)$

$-15 = -15.$

7. $3x - 2(2x-5) = 2(x+3) - 8$.

$\Rightarrow 3x - 2(2x-5) = 2(x+3) - 8$

$\Rightarrow 3x - 4x + 10 = 2x + 6 - 8$

$\Rightarrow -x + 10 = 2x - 2$

$\Rightarrow -x + x + 10 = 2x + x - 2$

$\Rightarrow 10 + 2 = 3x - 2 + 2$

$\Rightarrow 3x = 12$

$\Rightarrow \dfrac{3x}{3} = \dfrac{12}{3}$

$\Rightarrow x = 4$.

Varification :-

$3(4) - 2(2(4) - 5) = 2(4+3) - 8$

$\Rightarrow 12 - 2[3] = 2[7] - 8$

$\Rightarrow 6 = 6$.

8. $x - \dfrac{x}{4} - \dfrac{1}{2} = 3 + \dfrac{x}{4}$

$\Rightarrow \dfrac{4x - x - 2}{4} = \dfrac{12 + x}{4}$

$\Rightarrow 4x - x - 2 = 12 + x$

$\Rightarrow 3x - 2 = 12 + x$

$\Rightarrow 3x - x = 12 + 2$

$\Rightarrow 2x = 14$

$\Rightarrow \dfrac{x}{2} \times 2 = \dfrac{14}{2}$

$\Rightarrow x = 7$

Varification :-

$7 - \dfrac{7}{4} - \dfrac{1}{2} = \dfrac{28 - 7 - 2}{4} = \dfrac{19}{4} = 3 + \dfrac{7}{4} = \dfrac{19}{4}$.

9. $\dfrac{6x-2}{9} + \dfrac{3x+5}{18} = \dfrac{1}{3}$.

$\Rightarrow \dfrac{(6x-2)\times 2}{9\times 2} + \dfrac{3x+5}{18} = \dfrac{1}{3}$

$\Rightarrow \dfrac{12x-4+3x+5}{18} = \dfrac{1}{3}$

$\Rightarrow 15x+1 = \dfrac{18}{3}$ [By crossmultiplication]

$\Rightarrow 15x = 6-1$

$\Rightarrow 15x = 5$

$\Rightarrow \dfrac{15x}{15} = \dfrac{5}{15}$

$\Rightarrow x = \dfrac{1}{3}$.

Varification :-

$\dfrac{6\times\frac{1}{3}-2}{9} + \dfrac{3\times\frac{1}{3}+5}{18} = 0 + \dfrac{6}{18} = \dfrac{1}{3} = RHS.$

10. $m - \dfrac{m-1}{2} = 1 - \dfrac{m-2}{3}$

$\Rightarrow \dfrac{m\times 2}{2} - \dfrac{m-1}{2} = \dfrac{1\times 3}{3} - \dfrac{m-2}{3}$

$\Rightarrow \dfrac{2m-m+1}{2} = \dfrac{3-m+2}{3}$

$\Rightarrow 3(m+1) = 2(5-m)$

$\Rightarrow 3m+2m+3 = 10-2m+2m$

$\Rightarrow 5m = 10-3 = 7$

$\Rightarrow m = 7/5$

Varification:

$\dfrac{7}{5} - \dfrac{\frac{7}{5}-1}{2} = \dfrac{7}{5} - \dfrac{2}{10} = \dfrac{14-2}{10} = \dfrac{6}{5} = \dfrac{3-\frac{7}{5}-2}{3} = \dfrac{6}{5}$.

11. $\dfrac{5x-1}{3} - \dfrac{2x-2}{3} = 1$

$\Rightarrow \dfrac{5x-1-(2x-2)}{3} = 1$

$\Rightarrow 5x-1-2x+2 = 3$

$\Rightarrow 3x+1 = 3$

$\Rightarrow 3x+1-1 = 3-1$

$\Rightarrow 3x = 2$

$\Rightarrow \dfrac{3x}{3} = \dfrac{2}{3}$

$\Rightarrow x = \dfrac{2}{3}$

Verification :-

$\dfrac{5 \times \frac{2}{3} - 1}{3} - \dfrac{2 \times \frac{2}{3} - 2}{3} = \dfrac{\frac{7}{3} + \frac{2}{3}}{3} = \dfrac{3}{3} = 1$
$= RHS.$

12. $0.6x + \dfrac{4}{5} = 0.28x + 1.16.$

$\Rightarrow \dfrac{0.6x(5)}{5} + \dfrac{4}{5} = 0.28x + 1.16$

$\Rightarrow 3x+4 = 1.4x + 5.80$

$\Rightarrow 3x - 1.4x = 5.80 - 4$

$\Rightarrow 1.6x = 1.8 \qquad \Rightarrow x = \dfrac{1.8}{1.6}$

$\Rightarrow x = \dfrac{9}{8}.$

Varification :-

$$LHS = \frac{0.6 \times 9}{8} + \frac{4}{5} = \frac{5.4}{8} + \frac{4}{5} = \frac{5.4(5)}{40} + \frac{32}{40}$$

$$= \frac{27 + 32}{40} = \frac{59}{40}.$$

$$= 1.475$$

$$RHS = \frac{0.28 \times 9}{8} + 1.16 = \frac{28}{100} \times \frac{9}{8} + 1.16$$

$$= 1.475$$

$$\therefore \quad LHS = RHS.$$

Solution-13 :-

$$\Rightarrow \quad 0.5x + \frac{x}{3} = 0.25x + 7$$

$$\Rightarrow \quad \frac{1.5x + x}{3} = 0.25x + 7$$

$$\Rightarrow \quad 1.5x - 0.75x = 21$$

$$\Rightarrow \quad 1.75x = 21$$

$$\Rightarrow \quad x = 12.$$

Varification :-

$$\Rightarrow 0.5 \times 12 + \frac{12}{3} = 6 + 4 = 10$$

$$LHS = 10$$

$$RHS = 0.25 \times 12 + 7 = 3 + 7 = 10$$

$$LHS = RHS.$$

Exercise - 8.4

Solution-01 :-

Let 'x' be the given Number

3 times of the number $= 3x$.

if 5 subtracted from the given three times a number $\rightarrow 16$

$$\Rightarrow 3x - 5 = 16$$

$$\Rightarrow 3x - 5 = 16$$

$$\Rightarrow 3x - 5 + 5 = 16 + 5$$

$$\Rightarrow 3x = 21$$

$$\Rightarrow \frac{x}{3} \times 3 = \frac{21}{3}$$

$$\Rightarrow x = 7.$$

required number is '7'.

Solution-02 :-

Let the number be 'x'

when multiplied by 7 it becomes $\rightarrow 7x$

$$\Rightarrow 7x = x + 78$$

$$\Rightarrow 7x - x = x + 78 - x$$

$$\Rightarrow 6x = 78$$

$$\Rightarrow \frac{6x}{6} = \frac{78}{6}$$

$$\Rightarrow x = 13.$$

required number is '13'.

Solution -03 :-

Let three consecutive numbers be x, $x+1$ and $x+2$.

Given that

$$\Rightarrow x+x+2 = 15+2+x$$

$$\Rightarrow 2x+1 = 17+x$$

$$\Rightarrow 2x+1-x = 17+x-x$$

$$\Rightarrow x+1 = 17$$

$$\Rightarrow x+1-1 = 17-1$$

$$\Rightarrow x = 16, \quad x+1 = 17, \quad x+2 = 18.$$

required numbers 16, 17, 18

Solution -04 :-

Given that,

The difference between two numbers is 7.

$$x-y = 7. \longrightarrow \text{①}$$

Let the small number be 'y'

Let the Larger number be 'x'

$$6y+x = 77 \longrightarrow \text{②}$$

$$x-y = 7$$

$$x = y+7 \longrightarrow \text{③}$$

substituting ③ in ② we get

$$\Rightarrow 6y+y+7 = 77$$

$$\Rightarrow 7y+7 = 77$$

$$\Rightarrow 7y+7-7 = 77-7$$

$$\Rightarrow 7y = 70$$

$$\Rightarrow \frac{7y}{7} = \frac{70}{7}$$

$$\Rightarrow y = 10.$$

$$x = 10+7 = 17.$$

Required numbers 10, 17.

Solution-05:-

Given that,

Let the required number be 'x' , then

$$\Rightarrow \frac{x}{3} + 5 = 2x$$

$$\Rightarrow \frac{x + 5(3)}{3} = 2x$$

$$\Rightarrow x + 15 = 2x(3)$$

$$\Rightarrow 6x - x = x + 15 - x$$

$$\Rightarrow 5x = 15$$

$$\Rightarrow \frac{5x}{5} = \frac{15}{5}$$

$$\Rightarrow x = 3.$$

Solution-06:-

Let the required number be 'x'.

Given that,

$$\Rightarrow 3x + 5 = 50$$

$$\Rightarrow 3x + 5 = 50$$

$$\Rightarrow 3x + 5 - 5 = 50 - 5$$

$$\Rightarrow 3x = 45$$

$$\Rightarrow \frac{3x}{3} = \frac{45}{3}$$

$$\Rightarrow x = 15$$

Required number be x = 15.

Solution-07:-

Let Shikha's age 'x' and Ravish age 'x+3'

Then. Given that

$\Rightarrow x + x + 3 = 37$

$\Rightarrow 2x + 3 = 37$

$\Rightarrow 2x + 3 - 3 = 37 - 3$

$\Rightarrow 2x = 34.$

$\Rightarrow \dfrac{2x}{2} = \dfrac{34}{2}$

$\Rightarrow x = 17.$

$\therefore$ Shikha : 17 years

Ravis = x+3 years

= 17+3 years

= 20 years.

Solution-08:-

Let Mrs jain present age x+27 and

Nilu present age x

After 8 years

Mrs jain Age = x+27+8 = x+35

Nilu age = x+8

Given that

$\Rightarrow x+35 = 2(x+8)$

$\Rightarrow x+35 = 2x+16$

$\Rightarrow x+35-x = 2x+16-x$

$\Rightarrow x = 19.$

$\therefore$ Nilu's 19 years

Mrs. jain age = x+27 = 19+27 = 46 years

Solution-09:-

Let Man age be 4x and
   his son age be 'x'

After 16 years

Man age → 4x + 16

his son age → x + 16

Given that

$(x+16)2 = 4x+16$

$\Rightarrow 4x+16 = 2x+32$

$\Rightarrow 4x+16-2x = 2x+32-2x$

$\Rightarrow 2x+16 = 32$

$\Rightarrow 2x+16-16 = 32-16$

$\Rightarrow 2x = 16$

$\Rightarrow \dfrac{2x}{2} = \dfrac{16}{2}$

$\Rightarrow x = 8$

∴ Son age = 8.

father age = 4x = 4(8) = 32 years

Solution-10:-

Let the Girls Age be 'x' and
   younger sister age x-4,
   her brother age be x-4-4 = x-8.

Given that

$\Rightarrow x-4+x-8 = 16$

$\Rightarrow 2x-12 = 16$

$\Rightarrow 2x-12+12 = 16+12$

$\Rightarrow 2x = 28.$

$$\Rightarrow 2x = 28$$

$$\Rightarrow \frac{2x}{2} = \frac{28}{2}$$

$$\Rightarrow x = 14.$$

Girl - x = 14 years

younger sister ⟹ x - 4 = 14 - 4 = 10 years

Brother → x - 8 = 14 - 8 = 6 years

solution - 11 :-

Given that.

Let Anita found 'x' shells then

sandy found 'x - 5' shells and

shella found '2x' shells

GIT

$$\Rightarrow 2x + x - 5 = 16$$

$$\Rightarrow 3x - 5 + 5 = 16 + 5$$

$$\Rightarrow 3x = 16 + 5$$

$$\Rightarrow 3x = 21$$

$$\Rightarrow \frac{3x}{3} = \frac{21}{3}$$

$$\Rightarrow x = 7.$$

Anita - 7

Sandy ⟹ x - 5 = 7 - 5 = 2

shella → 2x = 2(7)

= 14.

Solution-12

Let pandy has x marbles

Andy has $2x$ marbles

Sandy has $\dfrac{2x+x}{2}$ marbles

Given that

$\Rightarrow$ No. of marbles sandy has = 110 + 115

[Andy] [more than
has   Andy he has]

$\Rightarrow \quad \dfrac{2x+x}{2} = 225$

$\Rightarrow 3x = 450$

$\Rightarrow \dfrac{3x}{3} = \dfrac{450}{3}$

$\Rightarrow x = 150$

Andy has $\longrightarrow 3x$ marbles $= 2(150)$

$= 300$ marble

Sandy has $\longrightarrow \dfrac{3x}{2}$ marbles $= \dfrac{3(150)}{2}$

$= 225$ marbles

Solution 13:

Let the number of 25paise coins $4x$ and
50 paise coins 'x'

G|T

$\Rightarrow$ $x(.50) + 4x(0.25) = 30$ RS

[∵ 1RS = 100 paise

$\Rightarrow$ $0.50x + x = 30$

50 paise = 0.5RS

25 paise = 0.25RS]

$\Rightarrow$ $1.5x = 30$

$\Rightarrow$ $\dfrac{1.5x}{1.5} = \dfrac{30}{1.5}$

$\Rightarrow$ $x = 20$.

50 paise coins $= x = 20$

25 paise coins $= 4x = 4(20) = 80$ coins.

Solution-14:-

Let Length be $2x$ and breadth $\rightarrow x$

Then. G IT

perimeter $= 228$ meters

We know that perimeter $= 2(l+b) = 228$

$\Rightarrow 2(2x + x) = 228$

$\Rightarrow$ $6x = 228$

$\Rightarrow$ $\dfrac{6x}{6} = \dfrac{228}{6}$

$\Rightarrow x = 38$

breadth $= 38$

Length $= 2x = 2(38)$

$= 76$.

Solution - 15 :-

Let he number of 25 paise coins be 'x'

G|T Value of a Purse = Rs 17.50p

$\Rightarrow$ $0.25(x) = 17.50$

$\Rightarrow \dfrac{25x}{100} = \dfrac{1750}{100}$

$\Rightarrow 25x = 1750$

$\Rightarrow \dfrac{25x}{25} = \dfrac{1750}{25}$

$\Rightarrow x = 70.$

$\therefore$ Number of coins in the purse = 70.

Solution -16 :-

Let the Number of students be 'x'

Then.

Given that consumption of rice everyday = 50kg

we know that

$1kg = 1000 gms$

$50 kg = 50,000 gms.$

Then. G|T

$400 \times x = 50,000$

$\Rightarrow 4x = 500$

$\Rightarrow \dfrac{4x}{4} = \dfrac{500}{4}$

$\Rightarrow x = 125.$

$\therefore$ No of students = 125.