

Maths  
Unit 9

Ex: 9.2

1: Hussain bought ..... cream?

Sol: let 1 ice-cream price =  $x$   
Price of 10 icecream =  $10x$

According to given condition

$$10x = 1000 - 250$$

$$10x = 750$$

$$x = \frac{750}{10}$$

$$x = 75$$

$$x = 75$$

Price of 1 icecream = Rs 75

The length ..... breath.

Sol: let breath =  $x$

$$\text{Length} = 2x + 2$$

$$= 4x$$

Perimeter of rectangle = 28

$$2(l+b)$$

$$2(2x+2+x) = 28$$

$$2(3x+2) = 28$$

$$6x+2 = 28$$

$$6x = 28 - 2$$

$$3x = 14 - 2$$

$$3x = 12$$

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

$$x = 4$$

$$\text{breadth} = 4$$

$$\underline{\text{Length}} = 2(4) + 2$$

$$= 8 + 2$$

10 Ans

The price ..... of both.

let no. of notebook =  $x$

let no of pen =  $x$

Price of 1 book = Rs 18

" "  $x$  book =  $18x$

Price of 1 pen = RS 42

$$x \text{ pen} = 42x$$

According to condition

$$18x + 42 = 480$$

$$60x = 480$$

$$x = \frac{480}{60}$$

$$x = 8$$

$$x = 8$$

8 pens and notebooks.

A father's ..... ages.

Sol:-

$$\text{Let daughter age} = x$$

$$\text{father age} = 2x$$

$$\text{Ages before} = 16 \text{ years}$$

$$\text{daughter's age} = x - 16$$

$$\text{Father's age} = 2x - 16$$

According to condition

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

$$2x - 16 = 4x - 64$$

$$2x = 4x - 64 + 16$$

$$2x = 4x - 48$$

$$2x - 4x = -48$$

$$-2x = -48$$

$$x = \frac{+48}{+2} = 24$$

$$x = 24 \text{ year}$$

$$\begin{aligned} \text{Father's age} &= 24 \times 2 \\ &= 48 \text{ years} \end{aligned}$$

Distribute . . . . . gets.

Sol:-

Usman gets amount =  $x$

Raheem get amount =  $2x + 50$

According to condition

$$x + 2x + 50 = 200$$

$$3x + 50 = 200$$

$$3x = 200 - 50$$

$$3x = 150$$

$$x = \frac{150}{3} = 50$$

8

$$\text{Usman get} = \text{Rs } 50$$

$$\begin{aligned}\text{Raheem get} &= 2(50) + 50 \\ &= 100 + 50 \\ &= 150\end{aligned}$$

6:- The length ..... hall.

$$\text{Let breath} = x$$

$$\text{Length} = 4x$$

$$\text{Perimeter of hall} = 240\text{m}$$

According to condition

$$2(x + 4x) = 240$$

$$2(5x) = 240$$

$$10x = 240$$

$$x = \frac{240}{10}$$

$$x = 24\text{ m}$$

$$\text{So length} = 4(24)\text{ m} = 96\text{ m}$$

$$\text{breath} = 24\text{ m}$$



Aslam's age ..... now.

Sol.

$$\text{Age of father} = x$$

$$\text{Age of Aslam} = \frac{1}{2}x$$

15 years ago age

$$\text{Age of father} = x - 15$$

$$\text{Age of Aslam} = \frac{1}{2}(x - 15)$$

Given condition

$$\left(\frac{1}{2}(x - 15)\right)' = \frac{1}{3}(x - 15)$$

$$\text{L.C.M} = 6$$

$$6 \left(\frac{1}{2}(x - 15)\right) = 6 \times \frac{1}{3}(x - 15)$$

$$\frac{3 \times 1}{x} x - 6 \times 15 = 2(x - 15)$$

$$3x - 90 = 2x - 30$$

$$3x = 2x - 30 + 90$$

$$3x = 2x + 60$$

$$3x - 2x = 60$$

$$x = 60$$

So father's age = 60y

Aslam's age =  $\frac{60}{2} = 30$  year

# Maths

Unit 9

Ex: 9.2

Total amount = Rs 500

Ratio among 3 children = 1:1:2

Sum of their ratios = 1+1+2

= 4

Brother will get =  $\frac{1}{4} \times 500$

= Rs 125

Sister will get =  $\frac{2}{4} \times 500$

= 250

Thus, share of brothers

= Rs 125, Rs 125

Share of sister = Rs 250.

Total amount = Rs 500

Ration among them = 2:2:1

$$\begin{aligned}\text{Sum} &= 2+2+1 \\ &= 5\end{aligned}$$

$$\begin{aligned}\text{Brother will get} &= \frac{2}{5} \times 500 \\ &= 200\end{aligned}$$

$$\begin{aligned}\text{Sister will get} &= \frac{1}{5} \times 500 \\ &= 100\end{aligned}$$

Thus, the share of brother

= Rs 200, Rs 200

share of sister = Rs 100.



## Review Ex 9:-

Q4: Solve each questions

$$2x + 3 = 5x + 7$$

Sol  $2x + 3 = 5x + 7$

$$2x = 5x + 7 - 3$$

$$2x = 5x + 4$$

$$2x - 5x = 4$$

$$-3x = 4$$

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

$$-3$$

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

Sol:  $5x - \frac{5}{3} = 3x - \frac{2}{3}$

$$L.C.M = 3$$

$$3\left(5x - \frac{5}{3}\right) = 3\left(3x - \frac{2}{3}\right)$$

$$\frac{15x - 35}{3} = \frac{9x - 32}{3}$$

$$15x - 35 = 9x - 32$$

$$15x = 9x - 32 + 35$$

$$15x = 9x + 3$$

$$15x - 9x = 3$$

$$6x = 3$$

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

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

$$\frac{3}{2} \times \frac{5}{3} = \frac{5}{2} + \frac{7}{3}x$$

$$\frac{3}{2} \times \frac{5}{3} = \frac{5}{2} + \frac{7}{3}x$$

$$L.C.M = 6$$

$$36 \times \frac{3}{2} \times \frac{5}{3} = \frac{36}{3} \times \frac{5}{2} + \frac{36}{3} \times \frac{7}{3}x$$

$$90 = 30 + 42x$$

$$9x = 14x + 15 + 10$$

$$9x = 14x + 25$$

$$9x - 14x = 25$$

$$-5x = 25$$

$$x = \frac{25}{-5}$$

$$-5$$

$$x = -5$$

$$2(1) + 11 - 8(4 + 3) = 0$$

$$3(3x - 1) - 8\left(\frac{x + 3}{2}\right) = 0$$

s/

$$= 9x - 3 - 8x \cdot \frac{8^4 3}{x} = 0$$

$$= 9x - 3 - 8x \cdot 12 = 0$$

$$= 9x - 8x \cdot 12 - 3 = 0$$

$$= x = 15 = 0$$

$$x = 15$$

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

$$\underline{\text{Sol:}} = \frac{2}{3} - \frac{2}{3}x = \frac{3}{2}x - \frac{1}{3}$$

$$\text{L.C.M} = 6$$

$$6 \left( \frac{2}{3} - \frac{2}{3}x \right) = 6 \left( \frac{3}{2}x - \frac{1}{3} \right)$$

$$2 \cdot 6 \times \frac{2}{3} - \frac{2 \cdot 6}{3}x = \frac{3 \cdot 6}{2}x - \frac{6 \cdot 1}{3}$$

$$4 - 4x = 9x - 2$$

$$-4x = 9x - 2 - 4$$

$$-4x = 9x - 6$$

$$-4x - 9x = -6$$

$$-13x = -6$$

$$x = \frac{-6}{-13}$$

$$x = \frac{6}{13} \quad \star$$



$$\frac{1}{3}(x-3) + \frac{2}{3} = \frac{4x-3}{6}$$

$$\frac{1}{3}(x-3) + \frac{2}{3} = \frac{4x-3}{6}$$

$$L.C.M = 6$$

$$2 \times \frac{1}{3}(x-3) + 2 \times \frac{2}{3} = 6 \times \frac{4x-3}{6}$$

$$2x - 6 + 4 = 4x - 3$$

$$2x = 4x - 3 + 6 - 4$$

$$2x = 4x + 3 - 4$$

$$2x = 4x - 1$$

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

$$-2x = -1$$

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

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

$$\frac{1}{3}(x-3) + \frac{2}{3} = \frac{1}{3}(4x-3) + \frac{7}{2}$$

$$\frac{1}{3}(x-3) + \frac{2}{3} = \frac{1}{3}(4x-3) + \frac{7}{2}$$

$$L.C.M = 6$$

$${}^2\cancel{6} \left( \frac{1(x-3)}{3} \right) + {}^2\cancel{6} \frac{2}{3} = \cancel{6} \frac{1}{3} (4x-3) + \frac{{}^3\cancel{6} \cdot 7}{2}$$

$$2x - 6 + 4 = 8x - 6 + 21$$

$$2x = 8x - 6 + 21 + 6 - 4$$

~~$$2x = 8x + 15 + 6 - 4$$~~

$$2x = 8x + 21 - 4$$

$$2x = 8x + 17$$

$$2x - 8x = 17$$

$$-6x = 17$$

$$x = \frac{17}{-6}$$

$$-6$$

$$x = \frac{-17}{6} \text{ Ans.}$$

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

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

$$L.C.M = 5$$

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

$$6x - 2 = 10x - 5$$

$$6x = -5 + 2 + 10x$$

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

$$6x - 10x = -3$$

$$-4x = -3$$

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

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

5) Find the number:  
-3 added to a number is equal to 10.

Sol

Let number =  $x$

According to condition

$$x + (-3) = 10$$

$$x - 3 = 10$$

$$x = 10 + 3$$

$$x = 13$$

Three times a number is 15.

Sol

Let number =  $x$

According to condition -

$$3x = 15$$

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

$$x = 5$$

13 subtracted . . . . . - is 8.

Let number =  $x$

According to condition:



$$3x - 13 = 8$$

$$3x = 8 + 13$$

$$3x = 21$$

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

$$x = 7$$

A number ..... number.

Sol

Let number =  $x$

According to condition

$$\frac{x}{5} = 2x - 9$$

$$L.C.M = 5$$

$$x \cdot x = 5 \times 2x - 5 \times 9$$

$$x = 10x - 45$$

$$x - 10x = -45$$

$$-9x = -45$$

$$x = \frac{-45}{-9}$$

$$x = +5$$



The sum . . . . . is 45

$$\text{let number} = x$$

$$2^{\text{nd}} \text{ number} = x + 1$$

$$3^{\text{rd}} \text{ number} = x + 2$$

$$x + x + 2 + x + 2 = 45$$

$$3x + 3 = 45$$

$$3x = 45 - 3$$

$$3x = 42$$

$$x = \frac{42}{3} = 14$$

3

$$x = 14$$

$$1^{\text{st}} \text{ number} = 14$$

$$2^{\text{nd}} \text{ number} = 14 + 1 = 15$$

$$3^{\text{rd}} \text{ number} = 14 + 2 = 16$$