

$$₹ 30.50 \rightarrow 5 \text{ Kg}$$

$$₹ 61 \rightarrow ? \text{ Kg}$$

$$\rightarrow \frac{5}{30.50} \times 61$$

$$\rightarrow \frac{5 \times 100}{30.50 \times 100} \times 61$$

$$\rightarrow \frac{500}{3050} \times 61$$

$$\rightarrow 10 \text{ Kg}$$

A: 10 Kg of wheat can be purchased in ₹ 61.

5. The temperature dropped 15 degree celsius in the last 30 days. If the rate of temperature drop remains the same, how many degrees will the temperature drop in the next ten days?

★ Temperature dropped

$$\text{In } 30 \text{ days} \rightarrow 15 \text{ degree}$$

$$\text{In } 10 \text{ days} \rightarrow ? \text{ degree}$$

$$\rightarrow \frac{15}{30} \times 10$$

$$\rightarrow 5 \text{ degree}$$

A: The temperature will drop 5 degree in the next ten days

6. Shaina pays ₹ 7500 as rent for 3 months. How much does she have to pay for a whole year, if the rent per month remains same? (16)

★ Rent

$$3 \text{ months} \rightarrow ₹ 7500$$

$$\text{(whole year)} \\ 12 \text{ months} \rightarrow ₹ ?$$

$$\rightarrow \frac{7500 \times 12}{3}$$

$$\rightarrow ₹ 30,000$$

A: Shaina has to pay ₹ 30,000 for a whole year.

7. Cost of 4 dozens bananas is ₹ 60. How many bananas can be purchased for ₹ 12.50?

★ Bananas purchased

$$₹ 60 \rightarrow 4 \text{ dozens}$$

$$₹ 60 \rightarrow 4 \times 12 \rightarrow 48$$

$$₹ 12.50 \rightarrow ?$$

$$\rightarrow \frac{48}{60} \times 12.50$$

$$\rightarrow 4 \times 2.50$$

$$\rightarrow 10.00$$

$$\rightarrow 10 \text{ bananas}$$

A: 10 bananas can be purchased for ₹ 12.50.

9. A truck requires 108 litres of diesel for covering a distance of 594 km. How much diesel will be required by the truck to cover a distance of 1650 km? (17)

* Quantity of diesel requires

594 km	→	108 litres
1650 km	→	? litres

$$\rightarrow \frac{108}{594} \times 1650$$

$$\frac{108}{594} = \frac{2}{11}$$

$$\rightarrow \frac{2}{11} \times 1650$$

$$\rightarrow 2 \times 150$$

$$\rightarrow 300 \text{ litres}$$

Ans: Diesel required by the truck for 1650 km = 300 litres.

10. Raju purchases 10 pens for ₹ 150 and Manish buys 7 pens for ₹ 84. Can you say who got the pens cheaper?

* Cost

10 pens	→	₹ 150
1 pen	→	?

$$\rightarrow \frac{150}{10} = ₹ 15$$

7 pens	→	₹ 84
1 pen	→	?

$$\rightarrow \frac{84}{7} = ₹ 12$$

A * Manish got the pens cheaper.
A: Cost of a pen → ₹ 12.

HOTS:

1. Find the ratio
a. No. of consonants to the No. of vowels in the word "MATHEMATICS" (18)

* MATHEMATICS

Consonants	→	M, T, H, M, T, C S	→	7
Vowels	→	A, E, A, I	→	4

Ans : 7 : 4

b. 0.12 kg and 180g

* $0.12 \times 1000 = 120g$

120g	: 180g
120	: 180
÷ 6	2 : 3

Ans : 2 : 3

2. Two numbers are in ratio 5:7. If sum of the numbers is 180, find the larger number?

* ratio → 5 : 7

→	5 + 7
→	12
→	$\frac{5}{12} \times 180$ → 75
→	$\frac{7}{12} \times 180$ → 105

* Ans The larger number is 105

3. Find x , if 27, x , x , 48 are in proportion (19)

$$* 27 : x :: x : 48$$

$$x \times x = 27 \times 48$$

$$x^2 = 1296$$

$$x^2 = 36 \times 36$$

$$x = 36$$

Ans : 36

4. Find the ratio of your height and weight.

EVERWIN VIDHYASHRAM

NOL

MATHS

CH-3 PLAYING WITH
NUMBERS

STD: VI

Ex 3.1
1. Write all the factors of the following

a. 24

$$24 \rightarrow \begin{array}{l} 1 \times 24 \\ 2 \times 12 \\ 3 \times 8 \\ 4 \times 6 \end{array}$$

Ans : 1, 2, 3, 4, 6, 8, 12, 24.

d. 27

$$27 \rightarrow \begin{array}{l} 1 \times 27 \\ 3 \times 9 \end{array}$$

Ans : 1, 3, 9, 27

f. 20

$$20 \rightarrow \begin{array}{l} 1 \times 20 \\ 2 \times 10 \\ 4 \times 5 \end{array}$$

Ans : 1, 2, 4, 5, 10, 20

h. 23

$$23 \rightarrow 1 \times 23$$

Ans : 1, 23 [prime number]

i) 36

$$36 \rightarrow \begin{array}{l} 1 \times 36 \\ 2 \times 18 \\ 3 \times 12 \\ 4 \times 9 \\ 6 \times 6 \end{array}$$

Ans : 1, 2, 3, 4, 6, 9, 12, 18, 36

2. Write first five multiples of: (3)

b. 8

★ $8 \times 1 = 8$
 $8 \times 2 = 16$
 $8 \times 3 = 24$
 $8 \times 4 = 32$
 $8 \times 5 = 40$

Ans: 8, 16, 24, 32, 40.

c. 9

★ $9 \times 1 = 9$
 $9 \times 2 = 18$
 $9 \times 3 = 27$
 $9 \times 4 = 36$
 $9 \times 5 = 45$

Ans: 9, 18, 27, 36, 45

4. Find all the multiples of 9 upto 100.

★ Multiples of 9

9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99.

Ex 3.2

1. What is the sum of any two (a) Odd numbers?

(b) Even numbers?

★ Sum

Odd numbers

$3 + 5 \rightarrow 8$ [even number]

Even numbers

$6 + 8 \rightarrow 14$ [even number]

∴ Sum of any two (a) odd numbers \rightarrow Even number

(b) Even numbers \rightarrow Even number

3. The numbers 13 and 31 are prime numbers. (3)

Both these numbers have same digits 1 and 3. Find such pairs of prime numbers upto 100.

Ans. 17, 71

37, 73

79, 97.

4. Write down separately the prime and composite numbers less than 20.

★ Prime numbers \rightarrow 2, 3, 5, 7, 11, 13, 17, 19.

★ Composite numbers \rightarrow 4, 6, 8, 9, 10, 12, 14, 15, 16, 18.

6. Express the following as the sum of two odd primes.

a. 44

★ $44 \rightarrow 3 + 41$

c. 24

★ $24 \rightarrow 5 + 19$

b. 36

★ $36 \rightarrow 5 + 31$

d. 18

★ $18 \rightarrow 5 + 13$

7. Give three pairs of prime numbers whose difference is 2

Ans

★ 3, 5 ; 5, 7 ; 11, 13.

9. Write seven consecutive composite numbers less than 100 so that there is no prime number between them.

Ans: 90, 91, 92, 93, 94, 95, 96.