Factors and multiples

Worksheet

A. Fill in the blanks

a. 1, 3, 5 and 15 are called ~~factors~~ of 15.

b. All even number are divisible by 2.

c. 1 is a number which is neither prime nor composite.

d. 18 is a multiple of 3 and 6.

e. Numbers that have only two factors 1 and the number itself are called prime numbers.

B. Match the following

Column A	Column B
Factors of 35	1
Multiple of 5	infinite
Factor of every no.	50
Smallest prime no.	7
Factors of a number	2

C. Do as directed

Find the HCF of 16, 24 and 8

Solution:—

2 | 16	2 | 25	5 | 85
2 | 8	2 | 12	17
2 | 4	2 | 6	
2	3	

Prime factors of 16 = 2 X 2 X 2 X 2 X 1
Prime factors of 25 = 2 X 2 X 2 X 3 X 1
Prime factors of 85 = 5 X 17 X 1
HCF = 1

(b) Find the LCM of 16, 28, 32

Solution:—

2	16, 28, 32
2	8, 14, 16
2	4, 7, 8
2	2, 7, 4
	1, 7, 2

LCM = 2 X 2 X 2 X 2 X 7 X 2 = 224

(c) The HCF of two numbers is 5 and LCM is 60. If one of the number is 20, find the other number.

Ans. Solution:—

The HCF of two numbers = 5
The LCM of two numbers = 60
One of the number = 20

The other number =

$$\frac{\text{HCF} \times \text{LCM}}{\text{one of the no.}} =$$

$$\frac{5 \times 60}{20} = 15$$

Therefore, the other number = 15.

(d) Find the greatest number which divides 90 and 405 without leaving a remainder.

Ans Solution:-

The greatest number which divides 90 and 405 without leaving any remainder = HCF of 90 and 405

3	90, 405
3	30, 135
5	10, 45
	2, 9

HCF of 90 and 405 = 3 × 3 × 5

= 45

(e) Three bells of a temple began ringing at 9, a.m. The first bell rings after every 30 minutes and the third one rings after every hour.

At what time will they rung together again?

Ans. Solution:-

~~HCF~~ LCM of 30, 45, 60 =

5	30, 45, 60
3	6, 9, 12
2	2, 3, 4
	1, 3, 2

LCM = 2 × 2 × 3 × 3 × 5 = 180
= 3 hours

So, After 3 hours from 9 a.m. that is at 12 p.m. all the three bells will rung together.