Chapter - 8

Factors and multiples

WORKSHEET

A. Fill in the blanks :

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

b) All even numbers 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
1. Factor of 35	v) 2
2. Multiple of 5	iii) 50
3. Factor of every number	i) 1
4. Smallest prime number	iv) 7
5. Factors of a number	ii) infinite

C. Do as directed:

a) Find the H.C.F. of 16, 24 and 85.

Solution:

1 | 16, 24, 85

16, 24, 85

H.C.F = 1

b) Find the L.C.M. of 16, 28 and 32

Solution

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

c) The H.C.F. of two numbers is 5 and L.C.M. is 60. If one of the numbers is 20, find the other number

Solution

$\frac{H.C.F \times L.C.M}{\text{Other number}}$ = another number

$\frac{1}{5} \times \frac{15}{60} = 15$

The other number is 15.

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

Solution

$$\begin{array}{r} 4 \\ 90 \overline{)\,405} \\ 360 \\ \hline 45 \overline{)\,90}\,(2 \\ 90 \\ \hline 0 \end{array}$$

Hence, 45 is the greatest number which divides 90 and 405 leaves no remainder.

e) Three bells of a temple began ringing at 9 a.m. The first bell rings after every 30 minutes and the second one rings after every 45 minutes and the third one rings after every hour. At what time will they ring together again?

Solution

First bell began ringing at 9 a.m. 30 min

Second bell began after 45 min

Third bell began after every = 1 hour

The bell will ring together at =

$3 \times 5 \times 2 \times 3 = 90$

3 | 30, 45, 1
5 | 10, 15, 1
2 | 2, 3, 1
3 | 1, 3, 1
1, 1, 1

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Hence, the bell will ring together again after 90 min.