Ch-8-

Factors and Multiples

Worksheet

(A)

a) Ans- Factors

b) Ans- 2

c) Ans- 1

d) Ans- multiple

e) Ans- prime

(B)

1) Factor of 35 — i) 1 (3)

2) Multiple of 5 — ii) infinite (5)

3) Factor of every number — iii) 150 (2)

4) Smallest prime number — iv) 7 (1)

5) Multiples of a number — v) 2 (4)

(C)

Ans-a)

$$
\begin{array}{r|l}
24 & 85 \\
-72 & 3 \\
\hline
13 & 24 \\
-13 & 1 \\
\hline
11 & 13 \\
-11 & 5 \\
\hline
2 & 11 \\
-10 & 2 \\
\hline
1 & 2 \\
-2 & \\
\hline
0 &
\end{array}
$$

The H.C.F. of 24 and 85 is = 1

$$
\begin{array}{r|l}
1 & 16 \\
\hline
1 & 16 \\
-1 & \\
\hline
6 & \\
-6 & \\
\hline
0 &
\end{array}
$$

The H.C.F. of 16, 24 and 85 is = 1

Ans- b)

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

L.C.M. = $2 \times 2 \times 2 \times 2 \times 2 \times 7 = 224$

Ans- c)

$\frac{\text{H.C.F.} \times \text{L.C.M.}}{\text{One of the number}}$ = other number is

$\Rightarrow$ other number = $\frac{5 \times \cancel{60}^{3}}{\cancel{20}} = 15$

Ans-d)

H.C.F. of 90 and 405 is: 45

$$
\begin{array}{r|l}
 & 4 \\
90 & 405 \\
-360 & 2 \\
\hline
45 & 90 \\
 & -90 \\
\hline
 & 0
\end{array}
$$

∴ The greatest number which divides 90 and 405 without leaving a remainder is 45.

Ans-e)

Bells began ringing at = 9 am.
The first bell rings after = 30 min
The second bell rings after = 45 min
The third bell rings after = 1 hour = 60 min

2 | 30, 45, 60	2 | 30, 45, 60
2 | 15, 45, 30	2 | 15, 45, 30
3 | 15, 45, 15	5 | 15, 45, 15
5 | 15, 9, 5	3 | 9, 9, 3
3 | 1, 9, 1	3 | 1, 9, 1
1 .	1, 1, 1

The L.C.M. of 30, 45, 60 = 2x2x3x3x5 =
180 min

180 min = 3 hrs

After 3 hours they ring together again.

∴ At 12 p.m they ring together.