Cw

Monday

chapter → 8

Revision Exercise

Date 29.5.21
Page 125

2) Q) 72, 80, 252

Ans → 72 → 2 × 2 × 2 × 3 × 3

80 → 2 × 2 × 2 × 2 × 5

252 → 2 × 2 × 3 × 3 × 7

2 | 72	2 | 80	2 | 252
2 | 36	2 | 40	2 | 126
2 | 18	2 | 20	3 | 63
3 | 9	2 | 10	3 | 21
3	5	7

$2^4 \times 3^2 \times 5^1 \times 7^1 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 7 = 5040$

Q) 48, 66, 120

Ans → 48 → $2^4 \times 3^2$

66 → $2^1 \times 3^1 \times 11^1$

120 → $2^3 \times 3^1 \times 5^1$

2 | 48	2 | 66	2 | 120
2 | 24	3 | 33	2 | 60
2 | 12	11	2 | 30
2 | 6		3 | 15
3		5

L.C.M. → $2^4 \times 3^2 \times 11^1 \times 5^1 = 2 \times 2 \times 2 \times 2 \times 3 \times 11 \times 5 =$

2640

Sue Monday

Date 28.6.25
Page 126

6) i) Find the smallest number that is completely divisible by 28 and 42.

ii) Find the largest number that can divide 28 and 42 completely.

Ans→ i) The smallest number that is completely divisible by 28 and 42 is →

$$\begin{array}{r|l} 2 & 28, 42 \\ 7 & 14, 21 \\ & 2, 3 \end{array}$$

L.C.M. → 2×7×2×3

= 84. Therefore, the smallest number that is completely divisible by 28 and 42 is 84.

ii) The largest number that can divide 28 and 42 completely

H.C.F. →

$$\begin{array}{r} 28\overline{)42}(1 \\ -28 \\ \hline 14\overline{)28}(2 \\ -28 \\ \hline 0 \end{array}$$

H.C.F. → 14.

Therefore, the largest number that can divide 28 and 42 completely is 14.

Cw

Monday

Date 29.6.21
Page 127

8) Find the H.C.F. of 108 and 450 and use the H.C.F. obtained to find the L.C.M. of the given numbers.

Ans→ H.C.F. of 180 and 450 is

H.C.F. = 2×3×3 = 18

2	108, 450
3	54, 225
3	18, 75
	6, 25

Product of two numbers = H.C.F. × L.C.M.

= 180 × 450 = 18 × L.C.M.

$$L.C.M. = \frac{180 \times 450}{18} = 108 \times 25 = 2760.$$

1) Find the H.C.F. of : i) 108, 288 and 420

Ans→

```
108 ) 288 ( 2
    - 216
    ------
      72 ) 108 ( 1
         - 72
         ----
          36 ) 72 ( 2
             - 72
             ----
              0
```

```
36 ) 420 ( 11
   - 396
   -----
     24 ) 36 ( 1
        - 24
        ----
         12 ) 24 ( 2
            - 24
            ----
             0
```

Tue
Monday

Date 28.6.21
Page 128

Therefore, the H.C.F. of 108, 288 and 420 is 12.

ii) 36, 54 and 138

Ans →

```
36)54(1
 -36
  18)36(2
    -36
     0
```

```
18)138(7
 -126
  12)18(1
    -12
     6)12(2
      -12
       0
```

Therefore, the H.C.F. of 36, 54 and 138 is 6.

3) State true or false (Give an example in support of your answer in each case)

i) H.C.F. of two prime numbers is 1. True (3 and 5 are two prime numbers and their H.C.F. is 1)

ii) H.C.F. of two co-prime numbers is 1. True (16 and 21 are two co-prime numbers and their H.C.F. is 1)

Our Monday

Date 28.6.21
Page 129

iii) L.C.M. of two prime numbers is equal to their product. True (5 and 11 are prime numbers and their L.C.M. = 5 × 11 = 55).

iv) L.C.M. of two co-prime numbers is equal to their product. True (71 and 73 are two co-prime numbers and their L.C.M. = 4 × 9 = 36

4) The product of two numbers is 12096 and their H.C.F. is 36, find their L.C.M.

Ans→ The product of two numbers is 12096 and their H.C.F. is 36 their L.C.M. = 12096 ÷ 36

Therefore, their L.C.M. is 36.

```
      331
   36 | 12096
      -108
      ----
        129
       -108
       ----
         216
        -216
        ----
           0
```

5) The product of the H.C.F. and the L.C.M. obtained to find the ~~H.C.F.~~ 1152. If one number is 48, find the other one.

Cw
Monday

Date 29.6.21
Page 130

Ans→ The product of H.C.F. and L.C.M. = 1152.

One of the number = 48.

The other one = 1152 ÷ 48 =

```
      24
48 ) 1152
   - 96 ↓
     192
   - 192
     ---
       0
```

Therefore, the other number is 24.

7) Find the L.C.M. of 140 and 168. Use the L.C.M. obtained to find the H.C.F. of the given numbers.

Ans→ L.C.M. of 140 and 168 =

```
2 | 140, 168
2 |  70,  84
7 |  35,  42
     5,   6
```

2 × 2 × 7 × 5 × 6 = 840.

Product of two numbers = H.C.F. × L.C.M.

H.C.F. → $\frac{140 \times 168}{840}$ =

```
      ② ③
      1 6 8
    x 1 4 0
    -------
      0 0 0
    6 7 2 x
  1 6 8 x x
  ---------
  2 3 5 2 0
```

23520 ÷ 840 = 28.

```
      28
840 ) 23520
    - 1680 ↓
      6720
    - 6720
      ----
         0
```