

Mathematics - III

Number System

(H.W)

Exercise

1. Find the prime factorization of 1240 using three different methods.

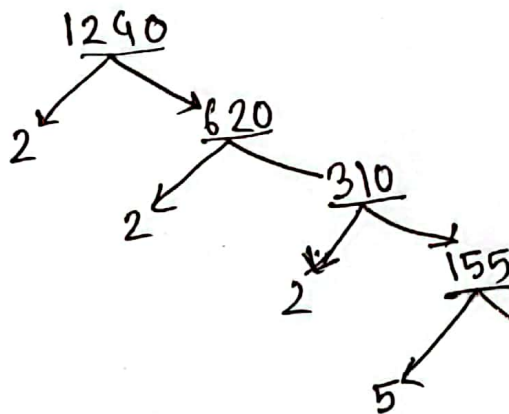
Answer

Division Method

$$\begin{array}{r}
 2 \overline{) 1240} \\
 \underline{240} \\
 2 \overline{) 620} \\
 \underline{1240} \\
 2 \overline{) 310} \\
 \underline{620} \\
 2 \overline{) 155} \\
 \underline{310} \\
 5 \overline{) 62} \\
 \underline{124} \\
 31
 \end{array}$$

Prime factor: $2^3 \cdot 5^1 \cdot 31^1$

Tree Diagram



Prime factor of 1240 = $2^3 \cdot 5^1 \cdot 31^1$

Multiple Method

$$1240 = 2 \times 620 = 2 \times 2 \times 310 = 2^2 \times 2 \times 155$$

$$= 2^3 \times 5^1 \times 31^1$$

$$\therefore \text{Prime factor of } 1240 = 2^3 \cdot 5^1 \cdot 31^1$$

2. Find the all factors of 1240.

Answer:

$$\text{Total number of factor } 1240 = (3+1)(1+1)(1+1)$$

$$= 4 \times 2 \times 2$$

$$= 16$$

Calculation of all factors:

$$1240 = 1 \times 1240$$

$$= 2 \times 620$$

$$= 4 \times 310$$

$$= 5 \times 248$$

$$= 8 \times 155$$

$$= 10 \times 124$$

$$= 20 \times 62$$

$$= 40 \times 31$$

\therefore All the factors of 1240 are :- 1, 2, 4, 5, 8, 10, 20, 31, 40, 62, 124, 155, 248, 310, 620, 1240.

3. Find the all prime factor of 1240

Answer:

Prime factor of 1240 are: 2, 5, 31.

4. Find the all composite factor of 1240.

Answer:

The composite factor of 1240 is

4, 8, 10, 20, 40, 62, 124, 248, 155, 310, 620, 1240.