

Id: 221-15-5145

Exercise:

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

Prime factorization of 1240

* Division method

$$\begin{array}{r} 2 \mid 1240 \\ 2 \mid 620 \\ 2 \mid 310 \\ 5 \mid 155 \\ 31 \end{array}$$

$$= 2^3 \cdot 5 \cdot 31$$

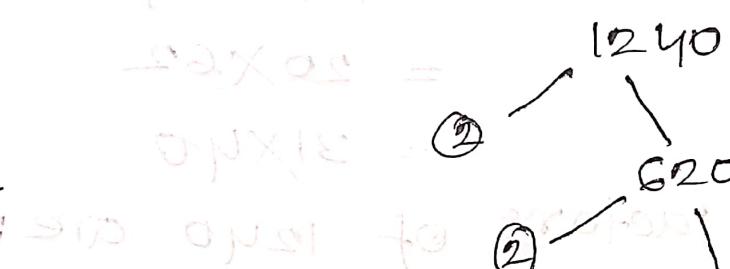
OPXG

OPXG =

OPXG =

OPXG =

* Tree method



OPXG =

OPXG =

* Multiplication method:

$$\begin{aligned} 1240 &= 2 \times 620 \\ &= 2 \times 2 \times 310 \\ &= 2^2 \times 2 \times 155 \\ &= 2^3 \times 5 \times 31 \\ &= 2^3 \cdot 5 \cdot 31 \end{aligned}$$

OPXG =

OPXG =

OPXG =

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OPXG =

Therefore the prime factorization of

$$1240 \text{ is } = 2^3 \cdot 5 \cdot 31$$

OPXG =

OPXG to bottom string off do, do

18 bop T. 2 = 240

2. Calculation for all factors:

$$1240 = 1 \times 1240$$

$$1240 = 2 \times 620$$

$$= 4 \times 310$$

$$= 5 \times 240$$

$$= 8 \times 155$$

$$= 10 \times 124$$

$$= 20 \times 62$$

$$= 31 \times 40$$

So, the factors of 1240 are:

1, 2, 4, 5, 8, 10, 20, 31, 40, 62, 124, 155, 248, 310, 620, 1240

3. Find all the prime factors of 1240

$$1240 = 1 \times 1240$$

$$1240 = 2 \times 620$$

$$= 4 \times 310$$

$$= 5 \times 248$$

$$= 8 \times 155$$

$$= 10 \times 124$$

$$1240 = 20 \times 62$$

$$= 31 \times 40$$

So, all the prime factors of 1240 are 2, 5 and 31

Q) Find all the composite factors of 1240

$$\begin{aligned}1240 &= 1 \times 1240 \\&= 2 \times 620 \\&= 4 \times 310 \\&= 5 \times 248 \\&= 8 \times 155 \\&= 10 \times 124 \\&= 20 \times 62 \\&= 31 \times 40\end{aligned}$$

so, all the composite factors are:

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

1240 .