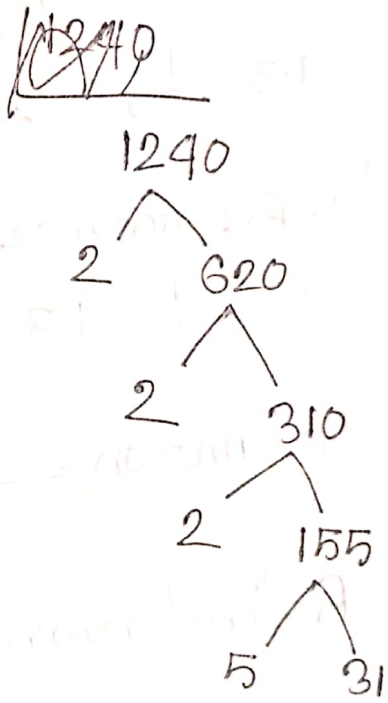
Mat 111 Id: 221-15-5743

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

Ans: (i) Division method

$$\begin{array}{r|l} 2 & 1240 \\ \hline 2 & 620 \\ \hline 5 & 310 \\ \hline & 31 \end{array}$$

(ii) Tree method



(iii) Multiplication

$1240 : 2 \times 620$

$= 2 \times 2 \times 310$

$= 2 \times 2 \times 2 \times 155$

$= 2 \times 2 \times 2 \times 5 \times 31$

Therefore, the prime factorization of 1240 is $= 2^3 \cdot 5 \cdot 3$

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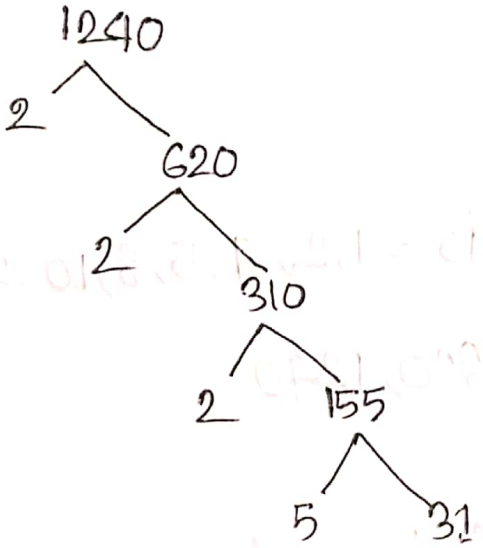
2. Find the all factors of 1240 using tree diagram.

Ans: Tree diagram:



So the total number of factors of 1240 is

$$2^3 \cdot 5 \cdot 31$$
$$= (3+1)\cdot(1+1)\cdot(1+1)$$
$$= 4 \cdot 2 \cdot 2$$
$$= 16$$

Calculation for all factors

$$1240 = 1 \times 1240$$
$$= 2 \times 620$$
$$= 4 \times 310$$
$$= 5 \times 248$$

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$= 8 \times 155$

$= 10 \times 124$

$= 20 \times 62$

$= 31 \times 40$

So all factors of 1240 is = 1, 2, 4, 5, 8, 10, 20, 31, 40 62, 124, 155, 248, 310, 620, 1240

3. Find the all prime factors of 1240.

Ans:

all factors of 1240 is: 1, 2, 4, 5, 8, 10, 20, 31, 40, 62 124, 155, 248, 310, 620, 1240.

∴ all prime factors of 1240 is = 2, 5, 31

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4. Find the all composite factors of 1240.

<u>ans:</u> All factors of 1240 is= 1, 2, 4, 5, 8, 10, 20, 31, 40, 62, 124, 155, 248, 310, 620, ,1240.

all composite factors of 1240 is: 4,8, 10, 20, 40, 62, 124, 155, 248, 310, 620, 1240.

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