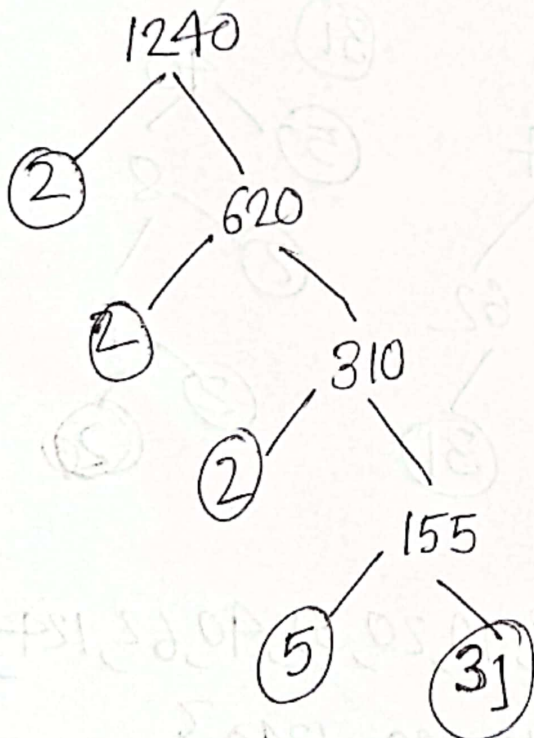


# Prime factorization using three different methods

## 1. Division method:-

$$\begin{array}{r} \textcircled{1} \quad 2 \overline{)1240} \\ \underline{2 \quad 620} \\ \quad 5 \overline{)310} \\ \quad \underline{5 \quad 155} \\ \quad \quad 31 \end{array}$$

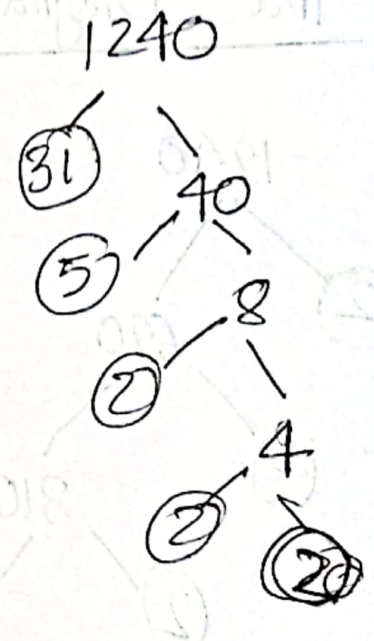
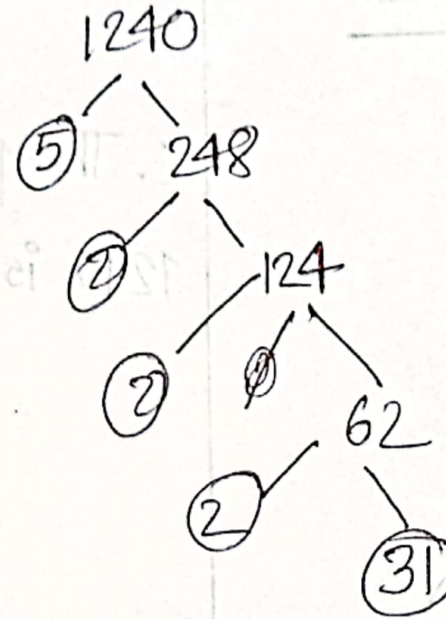
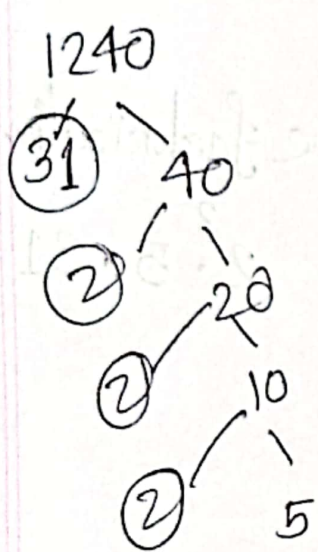
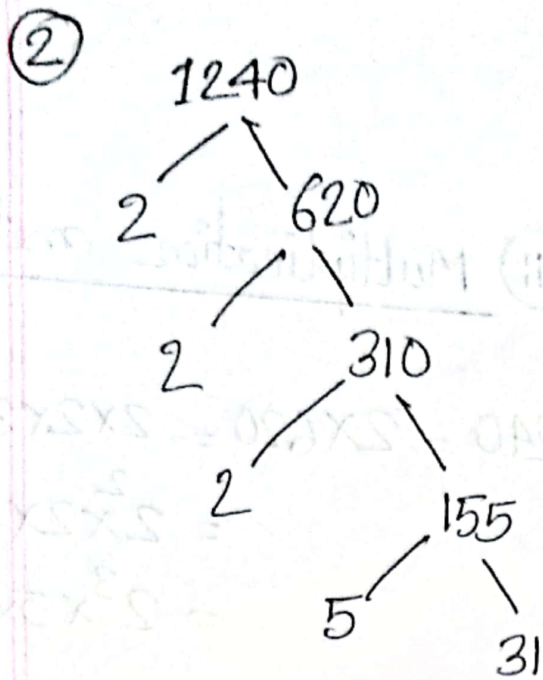
## ② Tree Diagram:-



## ③ Multiplication method:-

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

$\therefore$  The prime factorization of 1240 is  $= 2^3 \cdot 5 \cdot 31$



All factors =  $\{ 1, 2, 4, 5, 8, 10, 20, 31, 40, 62, 124, 155, 248, 310, 620, 1240 \}$

$$\begin{aligned} 3. \quad 1240 &= 1 \times 1240 \\ &= 2 \times 620 \\ &= 5 \times 248 \\ &= 8 \times 155 \\ &= 10 \times 124 \\ &= 20 \times 62 \\ &= 31 \times 40 \\ &= 40 \times 31 \\ &= 62 \times 20 \\ &= 124 \times 10 \\ &= 155 \times 8 \\ &= 248 \times 5 \\ &= 310 \times 4 \\ &= 620 \times 2 \\ &= 1240 \times 1 \end{aligned}$$

All the Prime factors of 1240 are = 2, 2, 2, 5, 31

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

The composite factors of 1240 :

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