1 Find the prime factorization of 1240 using three different methods.
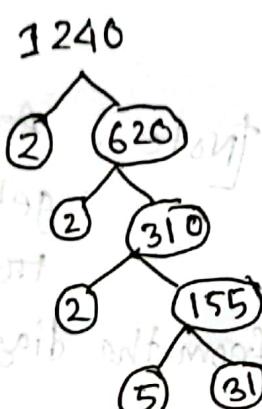
① Division method: ⑪ Tree diagram   ⑪⑪ Multiplication method:
                          method:

2 | 1240   1240 $1240 = 2 \times 620$
2 | 620 $= 2 \times 2 \times 310$
2 | 310   ② ⑥⑳ $= 2 \times 2 \times 2 \times 155$
5 | 155 $= 2 \times 2 \times 2 \times 5 \times 31$
    31   ② ③①⓪

                    ② ①⑤⑤

                    ⑤ ③①

Therefore, the prime factorization of 1240 is $2^3 . 5 . 31$

2 Find the all factors of 1240 $\overset{not}{\wedge}$ using tree diagram.

So, the prime factorization of 1240 is $2^3 . 5 . 31$ [got from 1]

the total numbers of | Calculation of all factors
                                        |
factors is $= (3+1)(1+1)(1+1)$ | $1240 = 1 \times 1240$
                                        | $= 2 \times 620$
         $= 4 \times 2 \times 2$ | $= 4 \times 310$
                                        | $= 5 \times 248$
         $= 16$ | $= 8 \times 155$
                                        | $= 10 \times 124$
                                        | $= 20 \times 62$
                                        | $= 40 \times 31$

∴ the total number of factors is 16
& the factors are 1, 2, 4, 5, 8, 10, 20, 40, 31, 62, 124, 248, 310,
                                                        155
                                                   620, 1240.

Again | **② Find all the prime factors of 1240 using tree diagram.**

$$1240$$

2   620

2   310

2   155

5   31
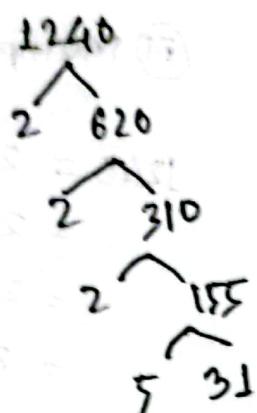
[Note : ~~As~~ It's not possible to get all the factors using tree diagram]

factors I could get from the diagram are:

2, 5, 31, 155, 310, 620, 1240.

③

$$1240 \div 2 = 620$$
$$620 \div 2 = 310$$
$$310 \div 2 = 155$$
$$155 \div 5 = 31$$
$$31 \div 31 = 1$$

prime factors are factors of a number that are, themselves, prime numbers (two)

∴ prime factors of 1240 are → 2, 5, 31. <u>Ans</u>

④

Composite factors of a number are the factors which are not prime.

∴ The composite factors of 1240 are: 4, 8, 10, 20, 40, 62,

124, 155, 248, 310, 620, 1240.