

Sub: _____ Time: _____ Date: / /

1/ * Division method

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

tree diagram

```

    graph TD
      1240 --> 2
      1240 --> 620
      620 --> 2
      620 --> 310
      310 --> 2
      310 --> 155
      155 --> 5
      155 --> 31
  
```

multiplication method

$$1240 = 2 \times 620$$

$$= 2 \times 2 \times 310$$

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

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

therefore, the factorization of $1240 = 2^3 \cdot 5 \cdot 31$

Sub: _____ Time: _____ Date: / /

2/ *

```

    graph TD
      1240 --> 2
      1240 --> 620
      620 --> 2
      620 --> 310
      310 --> 2
      310 --> 155
      155 --> 5
      155 --> 31
  
```

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

so, the total number of factors are

$$(3+1)(1+1)(1+1)$$

$$= 4 \cdot 2 \cdot 2$$

$$= 16$$

Calculation for all factors

$$1240 = 1 \times 1240$$

$$= 2 \times 620$$

$$= 4 \times 310$$

$$= 5 \times 248$$

$$= 8 \times 155$$

$$= 10 \times 124$$

$$= 20 \times 62$$

$$= 31 \times 40$$

Sub: _____ Time: _____ Date: / /

calculation for all factors,

$$1240 = 1 \times 1240$$

$$= 2 \times 620$$

$$= 4 \times 310$$

$$= 5 \times 248$$

$$= 8 \times 155$$

$$= 10 \times 124$$

$$= 20 \times 62$$

$$= 31 \times 40$$

the factors of 1240 are,

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

3/ * All the prime factors of 1240 are: 2, 5, 31

4/ * All the composite factors of 1240 are 4, 8, 10, 20, 40, 62, 124, 155, 248, 310, 620, 1240.