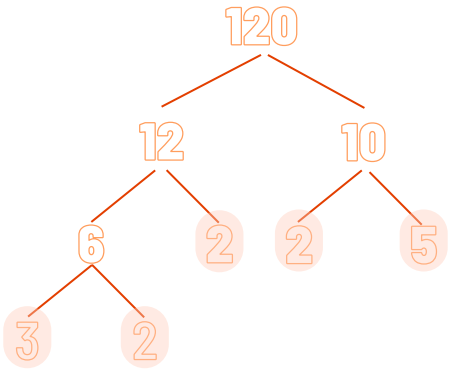
Prime Factor Tree

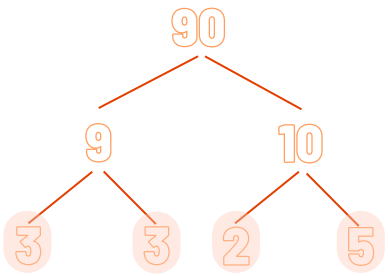
Use the prime factor tree to find the Prime Factors of an integer.

The prime factors of 120 are found using the factor tree below:



Using index notation, the **Prime Factors** of 120 are: $2^3 \times 3 \times 5$

The prime factors of 90 are found using the factor tree below:



Using index notation, the **Prime Factors** of 90 are: $2 \times 3^2 \times 5$

Finding the HCF of 120 and 90

STEP 1:

Find any prime factors that are common between the products.

Prime Factors of 120 are: 2 x 2 x 3 x 5

Prime Factors of 90 are: 2 x 3 x 3 x 5

HCF = 2 x 3 x 5 = 30

Finding the LCM of 120 and 90

STEP 1:

First find the HCF, as above.

STEP 2:

Then multiply the HCF by all the numbers in the products that have not yet been used.

Prime Factors of 120 are: 2 x 2 x 3 x 5

Prime Factors of 90 are: 2 x 3 x 3 x 5

LCM = HCF x 2 x 3

= 30 x 6

= 180