

2 | Prime Factor Decomposition

----- Prime Number -----

Factors are things are multiplied together.

Prime numbers are numbers that have exactly two factors.

The prime factors of a number are therefore all the prime numbers which multiply to give that number.

For example: the prime factors of 45 are $3 \times 3 \times 5$

For you to get 45, multiply two 3s and one 5.

----- Finding Prime Factors -----

If you are able to know long division, you can do this method.

Simply, divide the number with the smallest prime number you can. Remember, the answer must be exact.

Continue doing so until you reach 1.

| | |
|---|----|
| 2 | 40 |
| 2 | 20 |
| 2 | 10 |
| 5 | 5 |
| | 1 |