

NUMBER

INTEGER - Is a whole number either positive or negative

eg 1, 257 & -62

PRIME NUMBER - A number that can only be divided by 1 and itself

REMEMBER 1 IS NOT A PRIME NUMBER

List the prime numbers between 1 & 20

FACTORS - The factors of a number are the numbers that **DIVIDE** exactly into it.

Factors of 12 are 1, 12, 2, 6, 3 & 4

Find the factors of 18.....

HCF - HIGHEST COMMON FACTOR [Used when Simplifying Fractions]

Find the HCF of 8 & 12
[1st find the factors]

MULTIPLES - The multiples of a number are it's times table

The first 4 multiples of 4 are.....

LCM - Lowest Common Multiples [Used when adding or subtracting fractions to find the common denominator]

Find the LCM of 4 & 6
[List the first few multiples for each]
[Then find the lowest common one]

Square Numbers - The result of a number timesing by itself

ie/ $2 \times 2 = \boxed{4}$

$3 \times 3 = \boxed{9}$

written as 2^2

Cube Numbers - The result of a number timesing itself 3 times

ie/ $2 \times 2 \times 2 = 8$

written as 2^3

Square Root $\sqrt{\quad}$

To find the root of a square number

ie/ $\sqrt{16} = 4$

Cube Root $\sqrt[3]{\quad}$

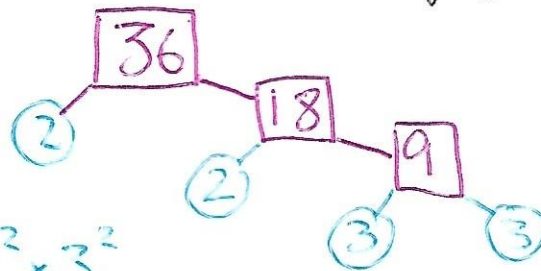
To find the root of a cube number

ie/ $\sqrt[3]{8} = 2$

PRIME FACTORS

- The factors of a number which are prime numbers

Find by forming a factor tree.



Prime factors of 36 are

$2 \times 2 \times 3 \times 3$ OR $2^2 \times 3^2$

BIDMAS OR BODMAS

Brackets

Orders

Division

Multiplication

Addition

Subtraction

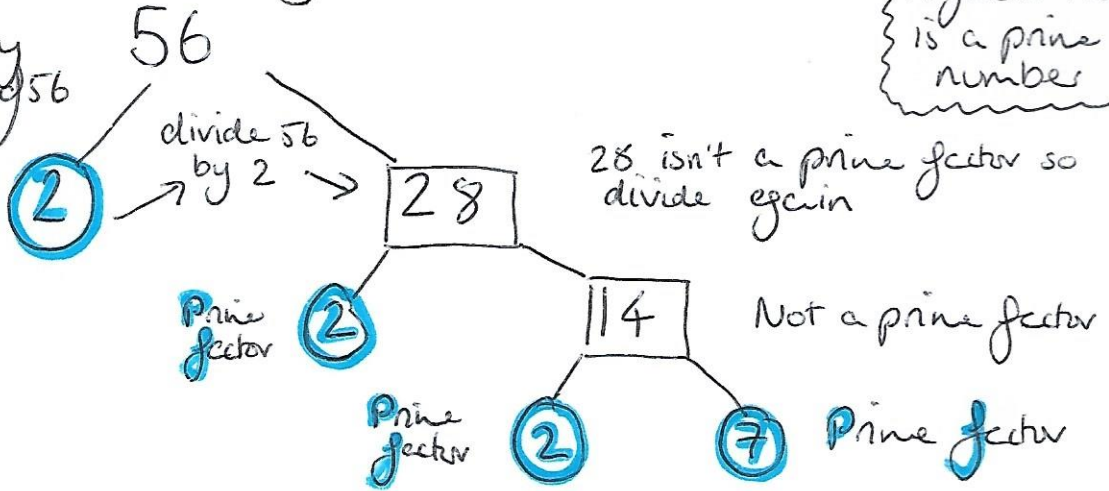
as in indices or roots

PRIME FACTORS & HCF & LCM

Expressing a Number as a Product of its Prime Factors using a Number Tree

PRIME FACTOR
A factor that is a prime number

Start by finding a prime factor of 56

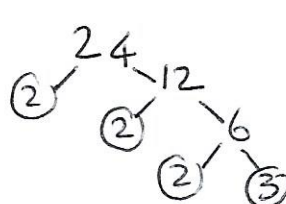


So the product of Prime Factors for 56 = $2 \times 2 \times 2 \times 7$
 OR $2^3 \times 7$

Finding **HCF** & **LCM** using Prime Factors

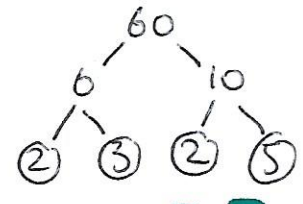
ie find **HCF** of 24 & 60

First find prime factors for both 24 & 60



$$24 = 2 \times 2 \times 2 \times 3$$

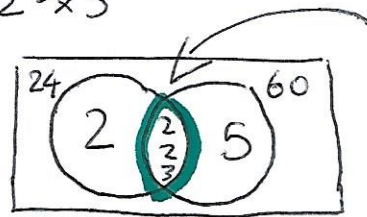
$$2^3 \times 3$$



$$60 = 2 \times 2 \times 3 \times 5$$

$$2^2 \times 3 \times 5$$

Sometimes it's helpful to see the prime factors on a Venn Diagram

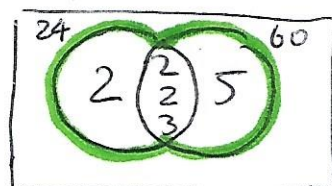


The factors they have in common are in the intersection

The HCF is the prime factors they have in common ie in the intersection $2 \times 2 \times 3 = 12$

To find **LCM** of 24 & 60

Again see the prime factors on a Venn Diagram



The LCM is all the factors in the Venn Diagram

$$2 \times 2 \times 2 \times 3 \times 5 = 120$$