

BIDMAS is the acronym to give the priority of operations:

Brackets, Indices (powers and roots),
Division AND Multiplication, Addition AND Subtraction

Do anything in brackets first, then any indices, then, from left to right, and divisions or multiplications, then, from left to right, any additions or subtractions.

[Video 211 - https://tinyurl.com/y98jn4wk](https://tinyurl.com/y98jn4wk)

= means equals

≠ means not equals

≈ means roughly equals

A **function** is a rule that acts on a number.
Eg) x2 (times 2)

An **inverse function** reverses the effect of a function

+ and – are inverse operations

x and ÷ are inverse operations

Key Points:



<https://tinyurl.com/y7zu7719>

Squaring a number means multiplying it by itself. The result is a **square number**. Eg) $4^2 = 4 \times 4 = 16$ which is a square number

[Video 226 - https://tinyurl.com/ya4v48rn](https://tinyurl.com/ya4v48rn)

Cubing a number means multiplying it by itself twice. The result is a **cube number**. Eg) $4^3 = 4 \times 4 \times 4 = 64$ which is a cube number

[Video 212 - https://tinyurl.com/ydd72o3d](https://tinyurl.com/ydd72o3d)

The **square root** of a number is the number you must square to get the original number. It is the inverse of squaring. Eg) $\sqrt{16} = 4$

[Video 228 - https://tinyurl.com/yc28q7lv](https://tinyurl.com/yc28q7lv)

The **cube root** of a number is the number you must cube to get the original number. It is the inverse of cubing. Eg) $\sqrt[3]{64} = 4$

[Video 214 - https://tinyurl.com/y9q9m7nb](https://tinyurl.com/y9q9m7nb)

A prime number has two factors, itself and 1. Eg) 2, 3, 5, 7, 11, 13, 17, 19, 23...

[Video 225 - https://tinyurl.com/ybnk7z5n](https://tinyurl.com/ybnk7z5n)

To multiply powers of the same number, add the indices. Eg) $4^3 \times 4^8 = 4^{11}$

To divide powers of the same number, subtract the indices. Eg) $4^8 \div 4^3 = 4^5$

[Video 174 - https://tinyurl.com/za9u7h2](https://tinyurl.com/za9u7h2)

Knowledge Check:



<https://tinyurl.com/ya7obwjs>

Rounding is where you approximate a number to make it more manageable. If we round to decimal places, we get rid of all digits after the required decimal place. The final decimal place goes up by one if the first digit we ignore is 5 or more. Eg) $4.597 = 4.6$ (1 d.p.)

[Video 278 - https://tinyurl.com/y9x7ltoh](https://tinyurl.com/y9x7ltoh)

If we round to significant figures, we get rid of all digits after the required digits from the left (ignoring leading zeros). The final digit goes up by one if the first digit we ignore is 5 or more. Eg) $0.0465 = 0.047$ (2 s.f.)

[Video 279a - https://tinyurl.com/yakhqfup](https://tinyurl.com/yakhqfup)

To estimate we round all numbers in a calculation to 1 significant figure (1 s.f.).

A **factor** is a number you can multiply by to get a desired number. Eg) 2 is a factor of 8

[Video 117 - https://tinyurl.com/zymmfev](https://tinyurl.com/zymmfev)

A **multiple** is a number you can divide by an integer to get a desired number. Eg) 16 is a multiple of 8

[Video 220 - https://tinyurl.com/yaudfco3](https://tinyurl.com/yaudfco3)

Highest Common Factor (HCF) is the highest factor that is common to two or more numbers. Eg) 4 is the HCF of 8 and 12

[Video 219 - https://tinyurl.com/zel3pzq](https://tinyurl.com/zel3pzq)

Lowest Common Multiple (LCM) is the lowest multiple that is common to two or more numbers. Eg) 24 is the LCM of 8 and 12

[Video 218 - https://tinyurl.com/y8hg8z35](https://tinyurl.com/y8hg8z35)