Types of Numbers

Before we start, it is important that you understand the different types of numbers that are out there. Bear in mind that there are more types of numbers than those below, but for your GCSEs, these are the ones you need to know:

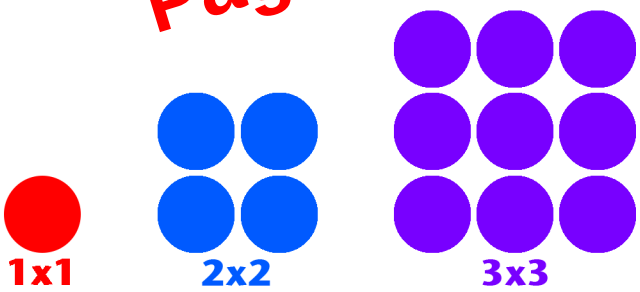
- **Integers** – Integer is another way of saying a whole number. Integers can be positive or negative. **E.g.** -2, -1, 0, 1, 2, 3 and so on!

- **Rational Numbers** – Rational numbers are numbers that can be written as a fraction. The numerator (the top of the fraction) and the denominator (the bottom of the fraction) must be integers. **E.g.** the number 6 can also be written as $\frac{6}{1}$ and the number 0.25 can be written as $\frac{1}{4}$.

- **Irrational Numbers** – Irrational numbers are the opposite of Rational Numbers, that is to say, numbers that cannot be written as a fraction. When written in decimal form, these numbers go on forever without ever repeating a pattern of digits. **E.g.** Pi, π, is the best known irrational number.

- **Prime Numbers** – A prime number is a number that can **only** be divided by itself **and** one. **They always have exactly 2 factors! E.g.** 2 is a prime number as its factors are 2 and 1. **Be careful!** 1 is not a prime number as it only has one factor, which is 1.

- **Square Numbers** – A square number is a number that is produced when an integer is multiplied by itself. **E.g.** $5\times5 = 25$, 25 is a square number.



- **Cube Numbers** – A cube number is the number produced when a number is multiplied by itself, twice. **E.g.** $5\times5\times5 = 125$, 125 is a cubed number.

- **Triangle Numbers** – Triangle numbers can be calculated by starting at 1 and adding 2 and then 3 and then 4 and continuing on with this pattern **FOREVER**. **E.g.** 3 is a triangle number (1+2) and 6 is a triangle number (1+2+3).