What are Quadratic Equations?

The word *quadratic* in the term Quadratic equations is derived from *quadratus*, a Latin word for 'square.' Hence, we [define quadratic equations](#) as equations where the variable is of the second degree. Therefore, they are also called "Equations of degree 2".

When we take a peek into the history, practical applications of quadratic equations are dated way back, as early as 2050 BC. It's a known fact that mathematicians from Babylonia, Egypt, Greece, China, and India used geometric methods to solve quadratic equations. Over time, various historians kept innovating new ways of finding new formulas for solving quadratic equations.

In 12th century, Spain, a Jewish mathematician Abraham bar Hiyya Ha-Nasi authored the first European book that included a complete solution to the general quadratic equation and finally in 1637, René Descartes, published La Géométrie that contained all the quadratic equation formula that we know today.

Quadratic Equation Formula/ Formulas for Solving Quadratic Equations

Formulas for solving quadratic equations provide students with requisite knowledge to deal with complex numericals easily. Below-mentioned is the general quadratic equation formula. We define it as follows:

If $ax^2 + bx + c = 0$ is a quadratic equation, then the value of x is given by the following formula:

Quadratic Equation Formula:

$(-b \pm \sqrt{b2-4ac})/2a$

Just plug in the values of a, b and c, and do the calculations. The quantity in the square root is called the discriminant or D. Here's an example that will give you an understanding on what it takes while solving quadratic equations.

Example: Solve: $x2 + 2x + 1 = 0$

Solution: Given that a=1, b=2, c=1, and

Discriminant = $b2 - 4ac = 22 - 4 \times 1 \times 1 = 0$

Using the quadratic equation formula, $x = (-2 \pm \sqrt{0})/2 = -2/2$

Therefore x= -1