

# Quadratic Equations

## The Main Ideas

Cut out the cards then organise them into 5 groups

Group 5- Solving By Using The Quadratic Formula	This method is a procedure where you need to take half the coefficient of x and add it to x in a bracket squared	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	Group 2- Solving By Drawing A Graph
This is the fastest method for solving quadratic equations and should always be tried first	To plot graph of the quadratic equation first draw a table of values. Be careful with the negative values of x	Once the equation is in the form $(x + p)^2 + q = 0$ you then go on to solve it for x	There are 4 ways to solve a quadratic equation. After solving it, always check your solutions by substituting them back in
You get the values of a, b and c by rearranging your quadratic equation into the form $ax^2 + bx + c = 0$	Group 1- General Facts About Quadratic Equations	Be careful with the signs if a, b and/ or c are negative when you substitute them into the formula	This involves changing the equation so it is written in double brackets
The solutions to the equation are the x values where the graph crosses the x axis	Make sure that your graph is nice U shaped curve. Check your calculations in your table of values if it is not	This method only finds approximate solutions, not exact ones	Group 4- Solving By Completing The Square
Group 3- Solving By Factorising	You have to find two numbers that add the make the coefficient of x and multiply to make the constant term	To solve the equation you have to work out what values of x make each bracket equal to zero	A quadratic equation is any equation where the highest power of x is 2