Non-linear Graphs - quadratic and cubic
Keywords: Quadratic / Parabola / Substitute / Cubic / Root / Solution

## Definition / Description: <br> Quadratic expression <br> contains terms up to and including $x^{2}$

## Knowledge points:

A Parabola is a curved graph formed from a quadratic equation. A parabola has a line of symmetry

## Substitute:

Exchange or replace variables
with amounts

Roots or solutions: of graphs are the values of $x$-coordinates of the poin where the graph crosses the $x$-axis

## Plotting graphs:

1. Complete a table of values for a graph, substituting different values of $x$ to find the $y$ coordinate
2. Join the points with a smooth line to create a curve

| Linked | Linear Graphs |
| :--- | :--- |
| Knowledge | Non-linear graphs - reciprocal, exponential and circle |
| Maps | Solving Quadratic equations |

## Cubic expression contains

 terms up to and including $x^{3}$3. Label the graph

## Knowledge point <br> Positive Quadratic in the form $y=x^{2}$

 examples:|  |
| :--- |
| Knowledge |
| point |



Negative quadratic in the Positive cubic graph $y=x^{3}$ form $y=-x^{2}$


Negative cubic graph $y=-x^{3}$


Complex cubic graph


