Quadratics - Lesson 1 - Study Notes

The Definition of a Quadratic:
A quadratic is just any equation, or expression, that has the variable x, raised to a power of two. That's really it, in terms of the definition. A quadratic can be written in the form:

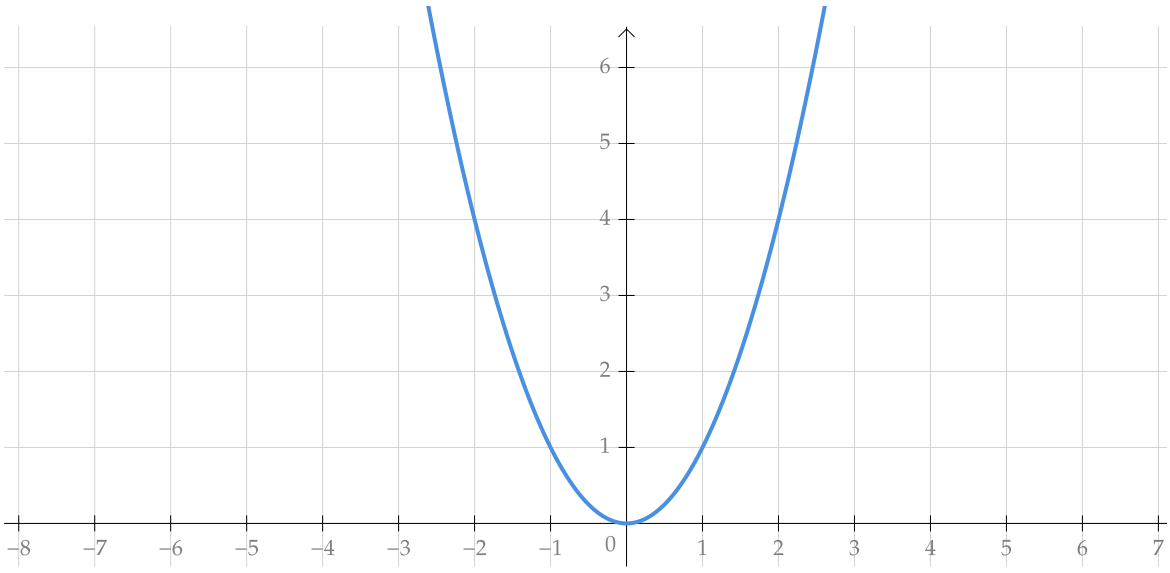
$$ax^2 + bx + c$$
$$a \neq 0$$

By definition, any quadratic can be witten in these terms, as long as a is not 0, since that would make it only $bx + c$, which is a linear expression.

Examples of quadratics are:
$3x^2 + 3x + 1$
$7x^2 + 10x + 4$
x^2
$4x^2 - 4$
$100x^2 - 100x$

Think about $y = x^2$. If this were to be graphed, y would be the output, and all the values on the x-axis would be plugged into the x^2.

Therefore, it would like like:



This shape is known as a ***Parabola***, which is a very important shape you'll need to learn for this unit.