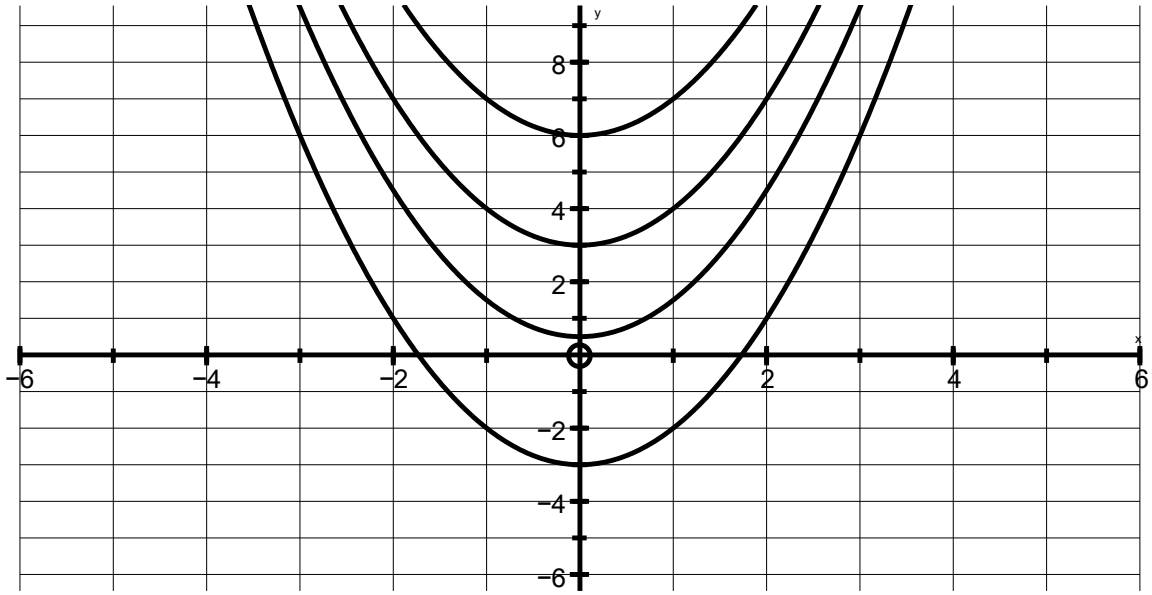
Learning Objective 1: To be able to plot quadratics of the form $y = x^2 + c$

Extended Learning Objective 2: To recognise and sketch graphs of the form $y = x^2 + c$

Part 1: By constructing a table of x-values between $x = -4$ and $x = 4$ plot the following quadratic graphs on separate axes

$y = x^2$	$y = x^2 + 1$	$y = x^2 + 2$	$y = x^2 + 5$
$y = x^2 - 4$	$y = x^2 - 1$	$y = x^2 - 7$	$y = x^2 - 10$

Part 2: Write down what you think the equations of **each of the four** quadratic graphs are



Without plotting any points, sketch what you think the following quadratic graphs will look like

$y = x^2 + 100$	$y = x^2 + 45$	$y = x^2 - 1000$	$y = x^2 - 27.3$

Learning Objective 1: To be able to sketch quadratic graphs of the form $y = x^2 + bx$

Extended Learning Objective 2: To recognise graphs of the form $y = x^2 + bx$

Part 1: By constructing a table of x-values between $x = -4$ and $x = 4$ plot the following quadratic graphs on separate axes

$y = x^2 + x$	$y = x^2 + 2x$	$y = x^2 + 3x$
$y = x^2 - x$	$y = x^2 - 2x$	$y = x^2 - 3x$

Can you spot a pattern between the equation and where the graph is situated on the x-axis?

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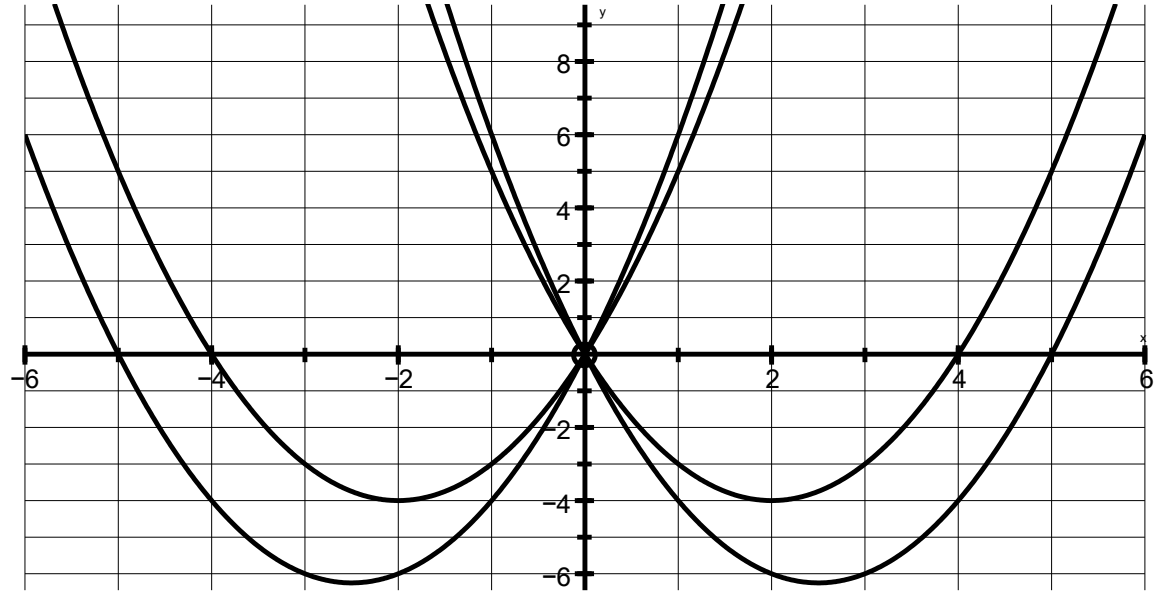

Without plotting any points, sketch what you think the following quadratic graphs will look like

$y = x^2 + 10x$	$y = x^2 + 100x$	$y = x^2 - 9x$	$y = x^2 - 12.5x$

Learning Objective 1: To be able to sketch quadratic graphs of the form $y = x^2 + bx + c$

Part 1: By constructing a table of x-values between $x = -4$ and $x = 4$ plot the following quadratic graphs on separate axes

$y = x^2 + 3x + 2$	$y = x^2 + 4x + 3$	$y = x^2 + 4x + 4$
$y = x^2 + x - 6$	$y = x^2 - 2x - 8$	$y = x^2 - 6x + 9$

Can you seen any link between where the graphs hit the x-axis and then equation given

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