

Drawing Graphs of Quadratic (2nd Order) Equations

For these questions, create suitable tables for the required range of x like this example:

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
$6x^2$	150	96	54	24	6	0	6	24	54	96	150
$-16x$	80	64	48	32	16	0	-16	-32	-48	-64	-80
$y = 6x^2 - 16x - 6$	224	154	96	48	16	-6	-16	-14	0	26	54

Then take the smallest and largest values of y to determine the range and scale of the y -axis.

Draw the axes and plot the points from the table.

Here are the questions:

1. Draw the graph of $y = x^2 + 2x + 1$ for $-5 \leq x \leq 5$
2. Draw the graph of $y = x^2 + 3x + 10$ for $-5 \leq x \leq 10$
3. Draw the graph of $y = 8x^2 - 10x - 3$ for $-3 \leq x \leq 4$

You may find it instructive to compare your graphs with questions 1, 5 and 9 of the exercise 'Practice at Factorising 2nd Order Expressions'.