Quadratic graphs (Parabolas) – www.m4ths.com
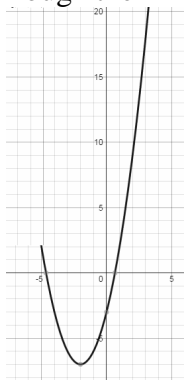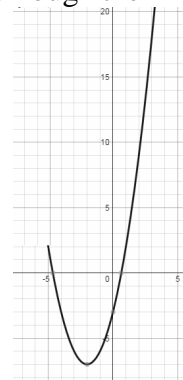
Example: Plot the graph of $y = x^2 + 4x - 3$

for $-5 \leq x \leq 3$. (This can be set up on the calculator

as $y = (\ )^2 + 4(\ ) - 3$ if you have one!)

eg when $x = -2$	eg when $x = 1$
$y = (-2)^2 + 4(-2) - 3$	$y = (1)^2 + 4(1) - 3$
$y = 4 - 8 - 3$	$y = 1 + 4 - 3$
$y = -9$	$y = 2$

Now fill these out in a table. You can finish them!

x	-5	-4	-3	-2	-1	0	1	2	3
y				-9			2		

When you finish, plot the points (x & y coordinates)
and draw a curve through them like the graph below

Task 1 – Fill out the tables below and plot each curve:

(a) $y = x^2 + 2x + 1$

x	-3	-2	-1	0	1	2	3
y							

(b) $y = x^2 - 3x + 4$

x	-3	-2	-1	0	1	2	3
y							

(c) $y = x^2 - x - 5$

x	-3	-2	-1	0	1	2	3
y							

(d) $y = 2x^2 + 3x - 4$

x	-3	-2	-1	0	1	2	3
y							

(e) $y = -x^2 + 2x + 1$

x	-3	-2	-1	0	1	2	3
y							

(f) $y = x(x - 4)$

x	-3	-2	-1	0	1	2	3
y							

Task 2 – Estimate where the curve crosses the x axis for
each question in Task 1.

Task 3 – Write down where the curve crosses the y axis
for each question in Task 1.