



Air maths tuition

Interact, engage and perform

Sketching Quadratic Graphs

$y = ax^2 + bx + c, a \neq 0$

$y = 2x^2 + 3x - 1$

$y = x^2$

$y = 6 + 2x - x^2$

Sketch $y = x^2 + 2x - 8$

when $x=0, y=-8$

when $y=0$

$x^2 + 2x - 8 = 0$

$\therefore (x+4)(x-2) = 0$

$\therefore x = -4, x = 2$

midpt = $\frac{-4+2}{2} = -1$

vertex $(-1, -9)$

line of symmetry $x = -1$

completing the square

$y = x^2 + 2x - 8$

$= (x+1)^2 - 9$

$f(x) = x^2$

$f(x+1) = (x+1)^2$

$f(x+1) - 9 = (x+1)^2 - 9$

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