Quadratic Graphs

How to . . .

Complete the table of values for $y = x^2 - 2x$

x	-2	-1	0	1	2	3	4
y	8	3	0	-1	0	3	8

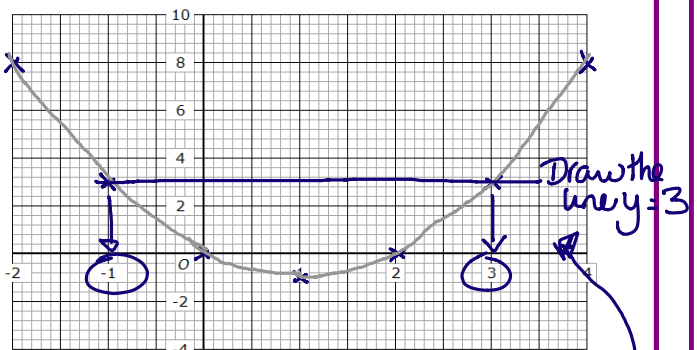
(4 + 4, 1 - 2, 4 - 4, 16 - 8)

① work from this end

Be careful with negatives....

② check you can work out one of the given answers correctly.

On the grid, draw the graph of $y = x^2 - 2x$ for values of x from - 2 to 4.



Solve $x^2 - 2x - 2 = 1$ 2 methods

① $x^2 - 2x - 2 = 1$ (-1 -1)

$x^2 - 2x - 3 = 0$

$(x - 3)(x + 1) = 0$ so $x = 3$ or $x = -1$

② $x^2 - 2x - 2 = 1$ (+2 +2)

$x^2 - 2x = 3$ **(6)**

Now have a go yourself . . .

SORTED IT - Complete the table of values:

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

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

(b) for $y = 2x^2 + 2$

x	-3	- 2	- 1	0	1	2	3
y	20		4	2			20

NAILED IT

Draw the graphs of the above equations.

MASTERED IT

Draw the graph for each of the following equations:

(a) $y = 4 - x^2$ for $x = -3$ to $x = 3$

(b) $y = x^2 - 4x - 1$ for values of x from - 2 to 6

(c) $y = 2x^2 - 4x - 3$ for values of x from –2 to 4

(d) $y = (x + 2)^2$ for values of x from - 6 to 2

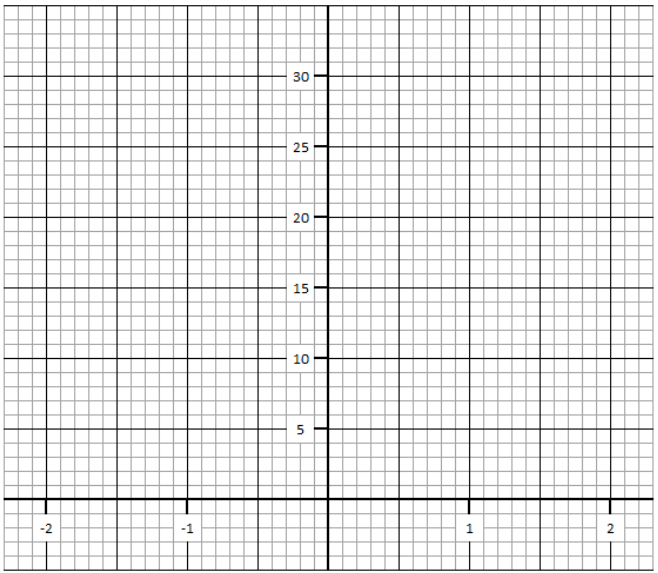
(e) $y = 5 + 3x - 2x^2$ for values of x from - 2 to 4.

See if you can also find the value of x when the graph crossed the x-axis.

Exam Questions

(a) Make a table of values for $y = 3x^2 - x + 2$ taking values of x from - 3 to + 3

(b) Sketch the graph of $y = 3x^2 - x + 2$



(c) By drawing a suitable line on your graph solve the equation $3x^2 - x + 2 = 10$

Ready to be marked ?

Checklist

- ☐ Answer checked
- ☐ Working out shown

Keywords

Things to remember …

What went well …

Teacher comment ..