GCSE HIGHER · REVISION MAT 5

Recognising and sketching graphs

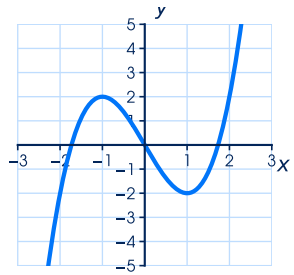
1 Complete the table for $y = x^3$.

x	−2	−1	0	1	2
y					

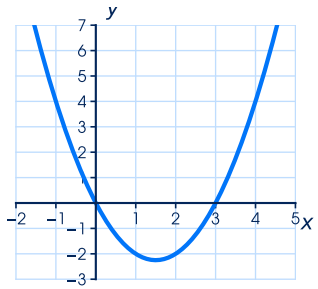
2 Write down the coordinates of the points where $y = x^2 - 9$ crosses the axes.

3 Is this graph linear, quadratic, cubic or reciprocal?

Explain.



4 The graph of $y = x^2 - 3x$ is shown.



Use it to solve $x^2 - 3x = 4$.

5 Show that the turning point of $y = x^2 - 6x + 10$ is (3, 1).

6 Solve $\tan x = -1$ for $0° \leq x \leq 360°$.

7 Complete the table for

$$y = 4 \times 0.5^x$$

x	0	1	2	3
y				

Explain what happens to y as x gets larger.

8 The graph of $y = a \cos x + b$ has a maximum of 7 and a minimum of −1.

a is positive.

Find a and b.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Recognising and sketching graphs

1 **y: −8, −1, 0, 1, 8**

2 **(−3, 0), (3, 0) and (0, −9)**

3 **Cubic: it has two turning points and an S-shape.**

4 Draw $y = 4$.

$x = -1$ and $x = 4$

5 $x^2 - 6x + 10 = (x - 3)^2 + 1$

Minimum at (3, 1)

6 $\tan 45° = 1$

$x = 135°$ and $315°$

7 **y: 4, 2, 1, 0.5**

y halves each time and gets closer to 0.

8 $a + b = 7$, $-a + b = -1$

$a = 4$, $b = 3$

Mr&Mrs MATHS