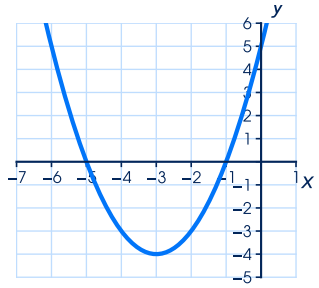
GCSE HIGHER · REVISION MAT 2

Recognising and sketching graphs

1 Complete the table for $y = 2x^2$.

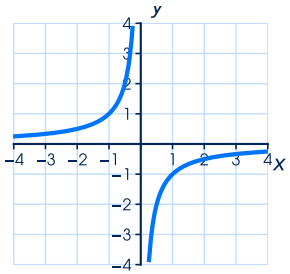
x	−2	−1	0	1	2
y					

2 Write down the equation of the line of symmetry.

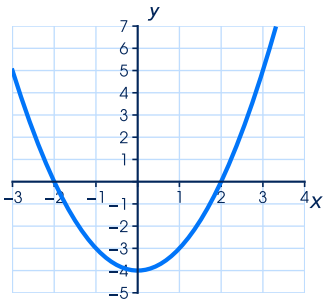


3 Which equation matches this graph?

$y = \frac{1}{x}$ $y = x^2$ $y = -\frac{1}{x}$



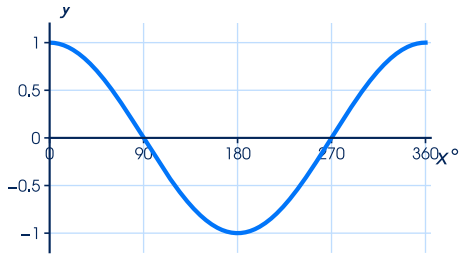
4 The graph of $y = x^2 - 4$ is shown.



Draw a line to solve $x^2 - 4 = 2x - 1$.

5 Explain why $y = x^3 + 1$ crosses the x-axis at exactly one point, and find it.

6 The graph of $y = \cos x$ is shown.

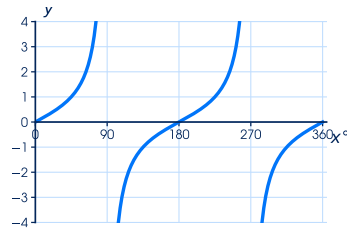


cos 60° = 0.5.

Find another angle between 0° and 360° with cos x = 0.5.

7 Show that the graph of $y = 3^x$ passes through (2, 9) and $(-1, \frac{1}{3})$.

8 The graph of $y = \tan x$ is shown.



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

ANSWERS · REVISION MAT 2

Recognising and sketching graphs

1 **y: 8, 2, 0, 2, 8**

2 Roots -5 and -1

$x = -3$

3 Reciprocal shape in the 2nd and 4th quadrants

$y = -\frac{1}{x}$

4 Draw $y = 2x - 1$.

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

$x = -1$ and $x = 3$

5 $x^3 + 1 = 0 \Rightarrow x^3 = -1$

Only one real cube root.

$(-1, 0)$

6 Symmetry about $x = 180$

$x = 300°$

7 $3^2 = 9$ ✓

$3^{-1} = \frac{1}{3}$ ✓

8 $\tan 45° = 1$

Period 180°

$x = 45°$ and $225°$

Mr&Mrs MATHS