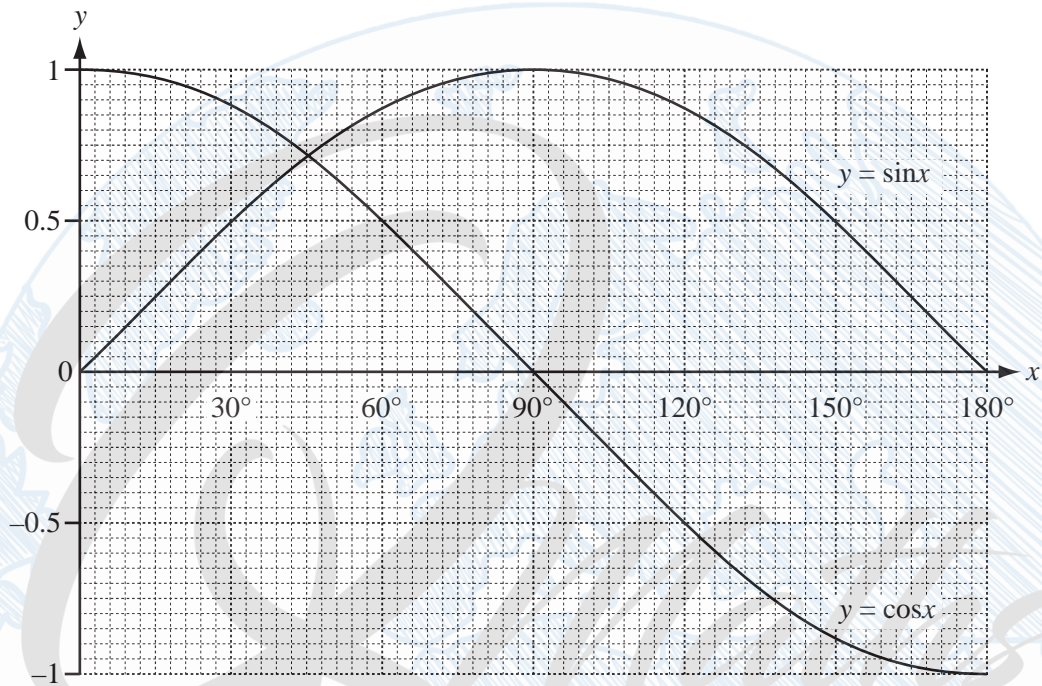




# Graphs of Functions

*www.Q8Maths.com*

8



The diagram shows accurate graphs of  $y = \sin x$  and  $y = \cos x$  for  $0^\circ \leq x \leq 180^\circ$ .

Use the graph to solve the equations

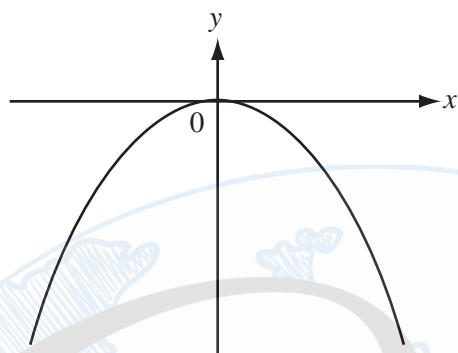
(a)  $\sin x - \cos x = 0$ ,

Answer(a)  $x =$  ..... [1]

(b)  $\sin x - \cos x = 0.5$ .

Answer(b)  $x =$  ..... [2]

5



NOT TO  
SCALE

The sketch shows the graph of  $y = ax^n$  where  $a$  and  $n$  are integers.

Write down a possible value for  $a$  and a possible value for  $n$ .

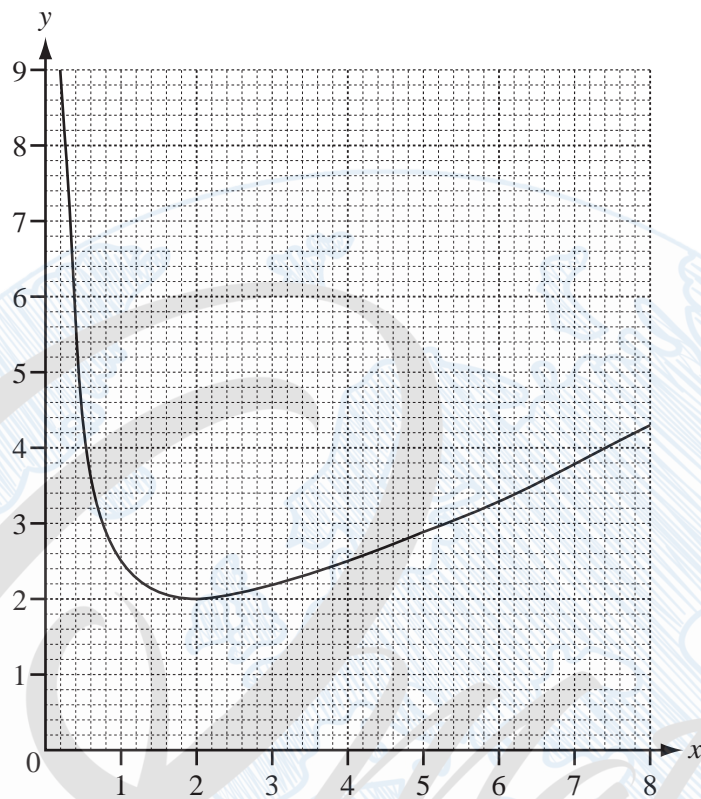
Answer  $a =$  .....

$n =$  ..... [2]

*www.Q8Maths.com*



16



The diagram shows the graph of  $y = \frac{x}{2} + \frac{2}{x}$ , for  $0 < x \leq 8$ .

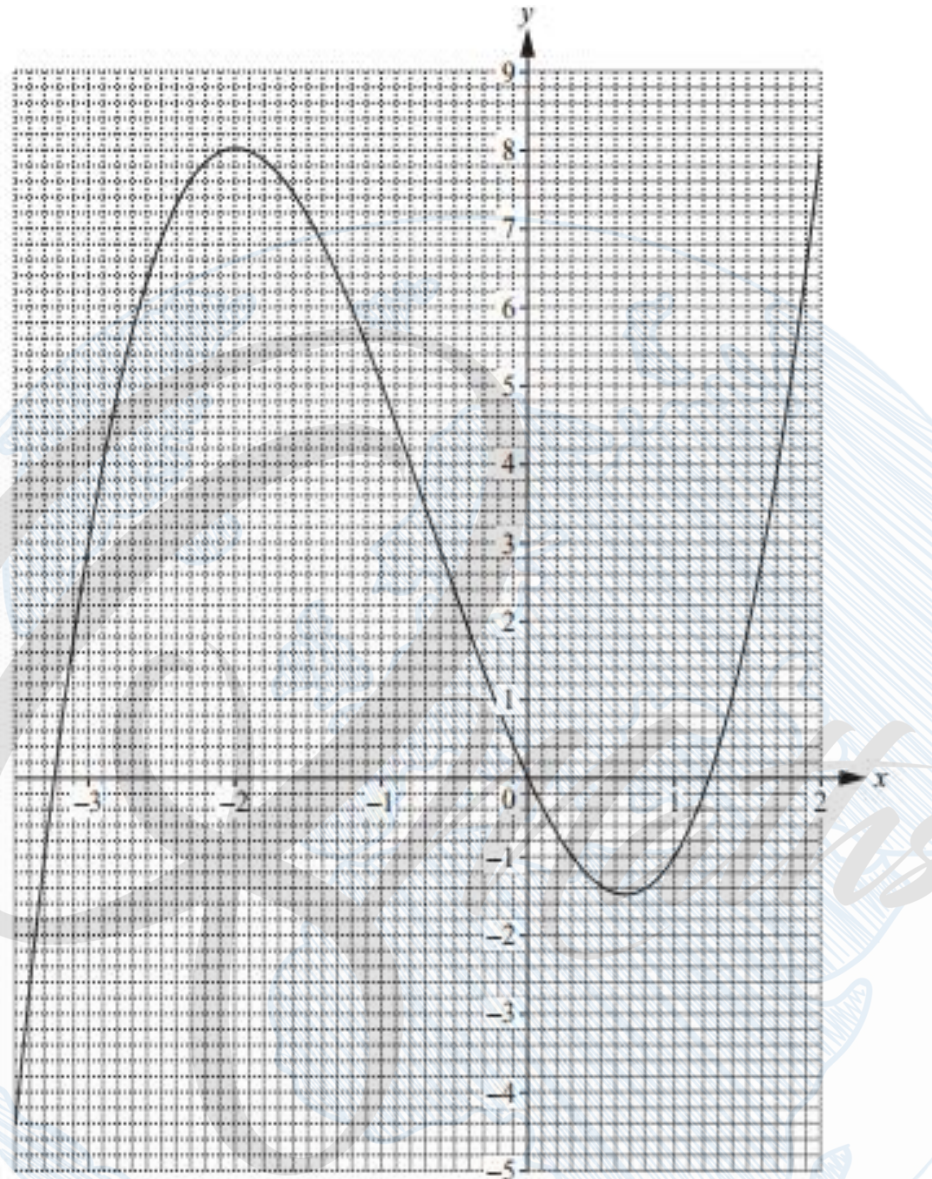
- (a) Use the graph to solve the equation  $\frac{x}{2} + \frac{2}{x} = 3$ .

Answer (a)  $x = \dots\dots\dots$  or  $x = \dots\dots\dots$  [2]

- (b) By drawing a suitable tangent, work out an estimate of the gradient of the graph where  $x = 1$ .

Answer(b)  $\dots\dots\dots$  [3]

- 19 The curve  $y = x^3 + 2x^2 - 4x$  is shown on the grid.



- (a) By drawing a suitable tangent, find an estimate of the gradient of the curve when  $x = 1$ .

*www.Q8Maths.com*

..... [3]

- (b) A point  $D$  lies on the curve.  
The  $x$  co-ordinate of  $D$  is negative.  
The gradient of the tangent at  $D$  is 0.

Write down the co-ordinates of  $D$ .

(..... , ..... ) [1]