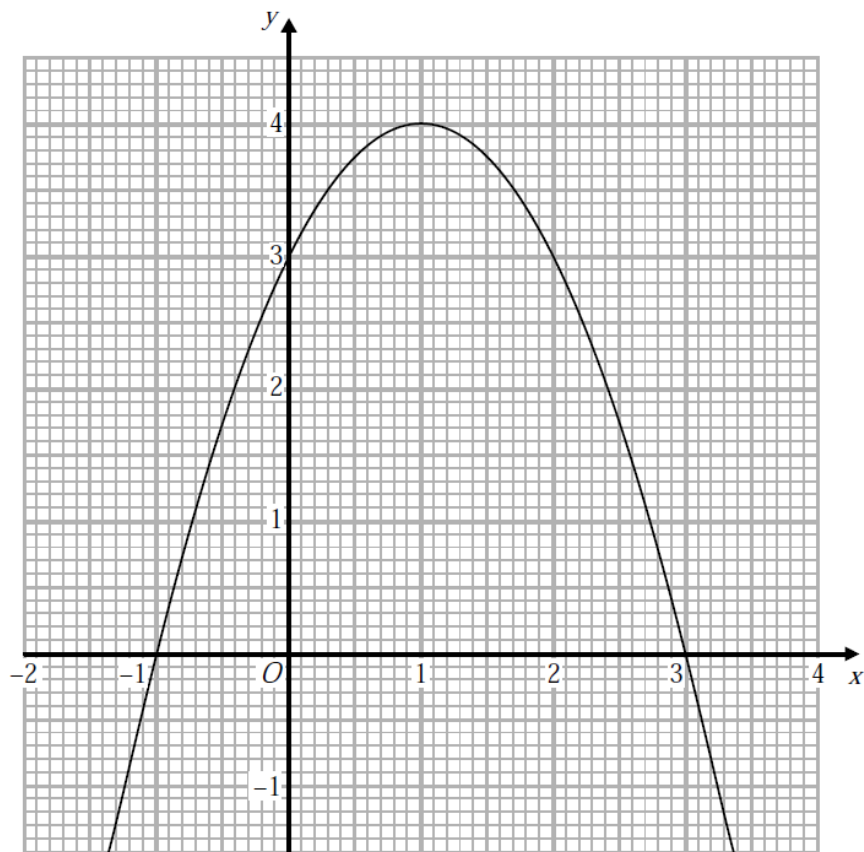


- 1 The graph of  $y = f(x)$  is drawn on the grid.



- (a) Write down the coordinates of the turning point of the graph.

(....., .....)  
(1)

- (b) Write down the roots of  $f(x) = 2$

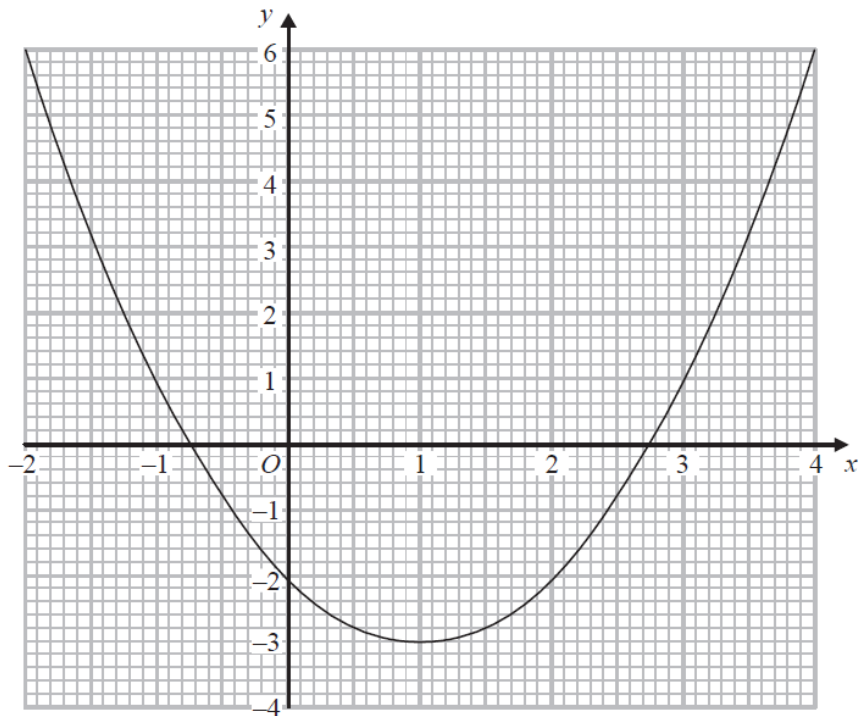
.....  
(1)

- (c) Write down the value of  $f(0.5)$

.....  
(1)

(Total for Question is 3 marks)

2 The graph of  $y = f(x)$  is drawn on the grid.



(a) Write down the coordinates of the turning point of the graph.

(....., .....)  
(1)

(b) Write down estimates for the roots of  $f(x) = 0$

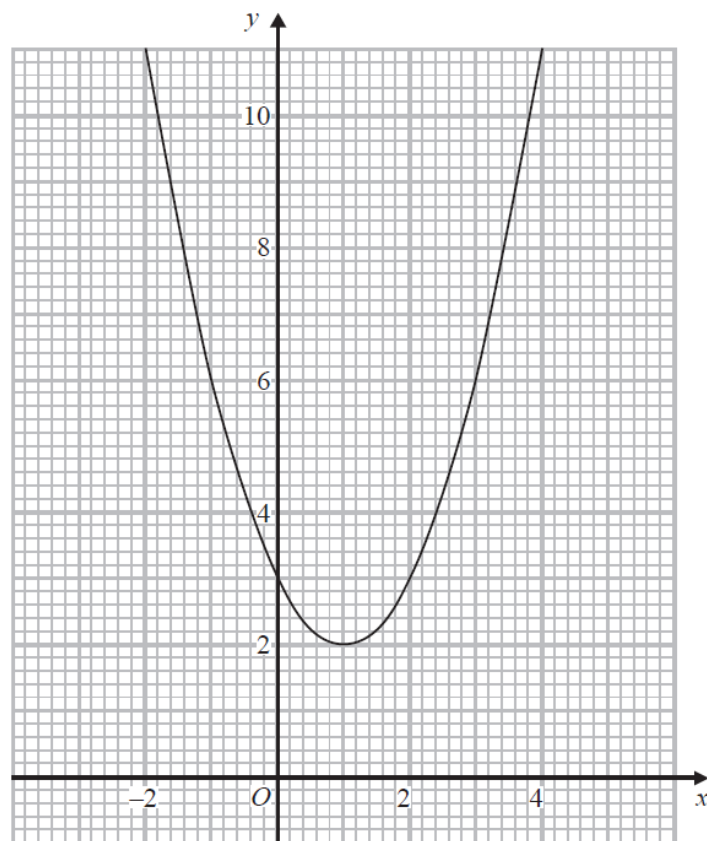
.....  
(1)

(c) Use the graph to find an estimate for  $f(1.5)$

.....  
(1)

(Total for Question is 3 marks)

- 3 The diagram shows part of the graph of  $y = x^2 - 2x + 3$



- (a) By drawing a suitable straight line, use your graph to find estimates for the solutions of  $x^2 - 3x - 1 = 0$

.....  
(2)

$P$  is the point on the graph of  $y = x^2 - 2x + 3$  where  $x = 2$

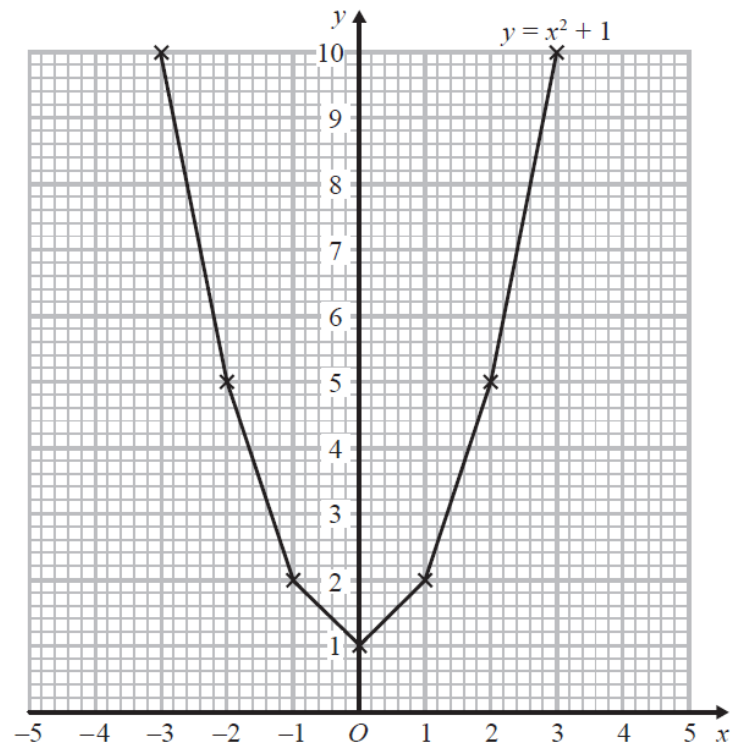
- (b) Calculate an estimate for the gradient of the graph at the point  $P$ .

.....  
(3)

**(Total for Question is 5 marks)**

- 4 Brogan needs to draw the graph of  $y = x^2 + 1$

Here is her graph.



Write down one thing that is wrong with Brogan's graph.

.....

.....

(Total for Question is 1 mark)

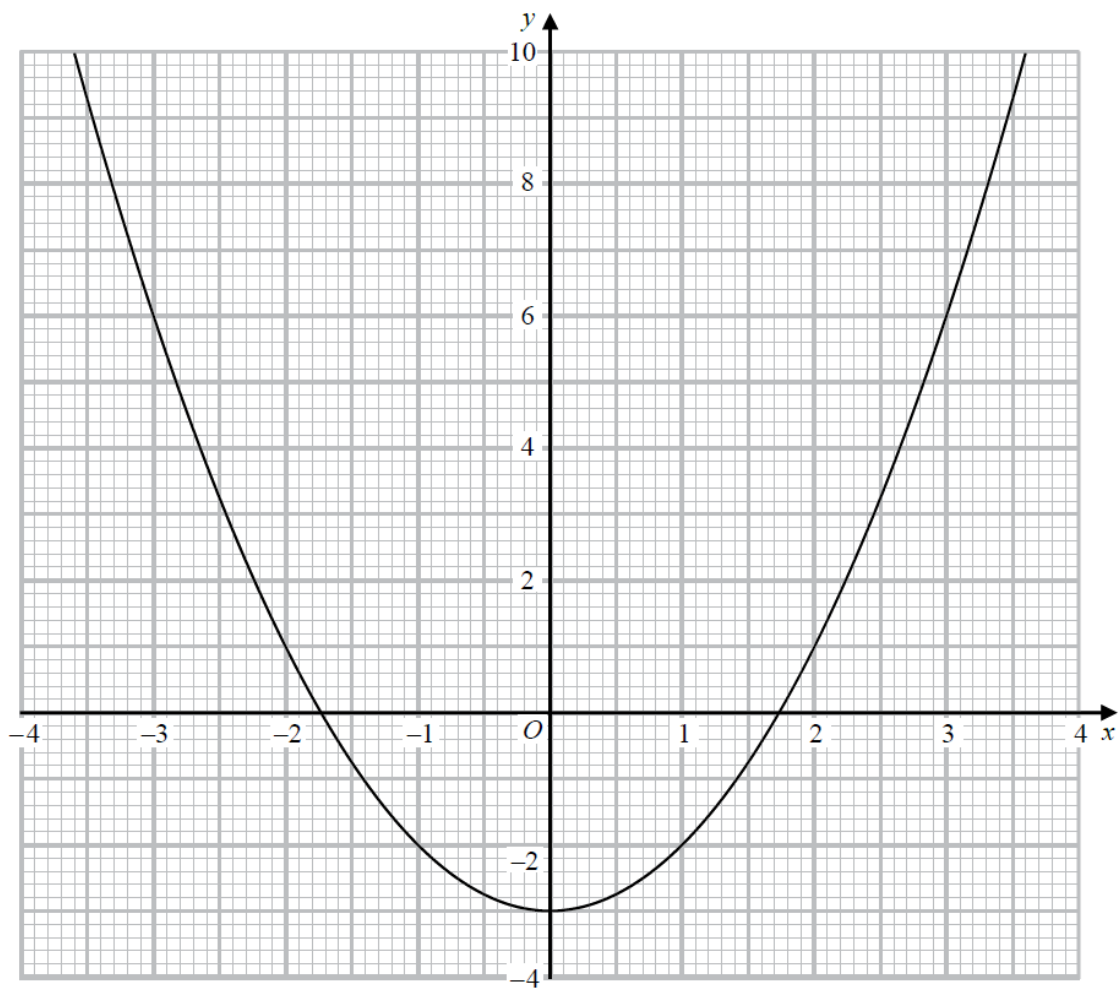
- 5 Sketch the graph of

$$y = 2x^2 - 8x - 5$$

showing the coordinates of the turning point and the exact coordinates of any intercepts with the coordinate axes.

(Total for Question is 5 marks)

6 Here is the graph of  $y = x^2 - 3$

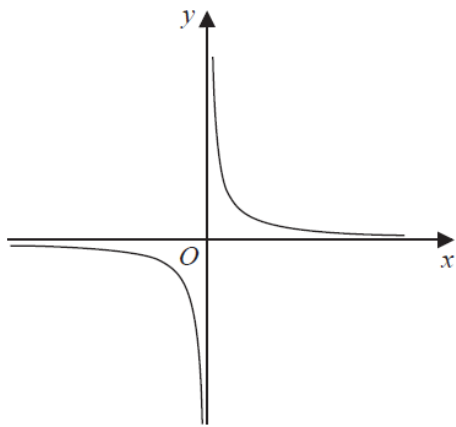


Use the graph to find estimates for the solutions to the equation  $x^2 - 2x - 2 = 0$   
You must show how you get your solutions.

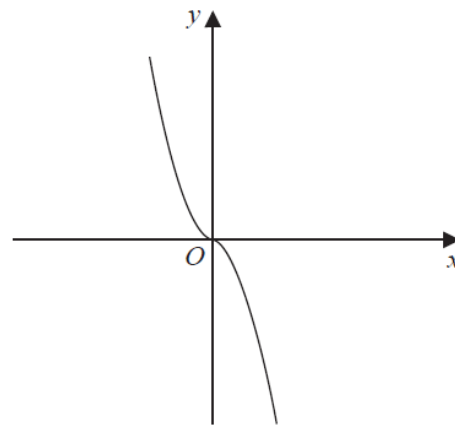
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(Total for Question is 4 marks)

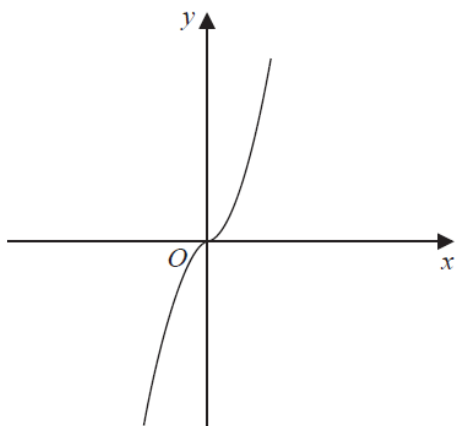
7 The diagram shows four graphs.



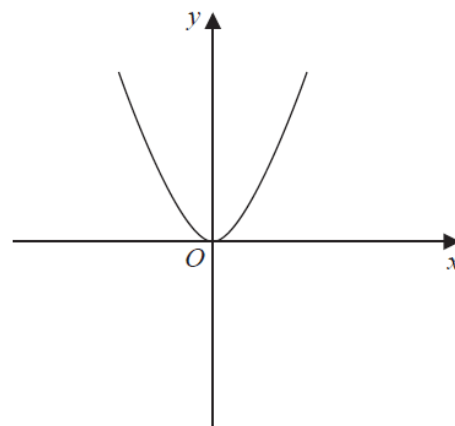
Graph A



Graph B



Graph C



Graph D

Each of the equations in the table is the equation of one of the graphs.

Complete the table.

Equation	Letter of graph
$y = -x^3$	
$y = x^3$	
$y = x^2$	
$y = \frac{1}{x}$	

(Total for Question is 2 marks)