

**Q1.**

The curve with equation  $y = x^2 - 5x + 2$  is reflected in the  $x$ -axis.

Circle the equation of the reflected curve.

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

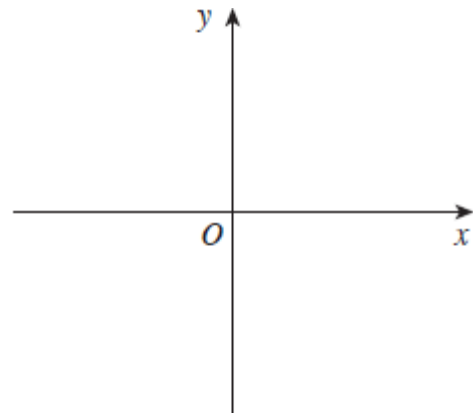
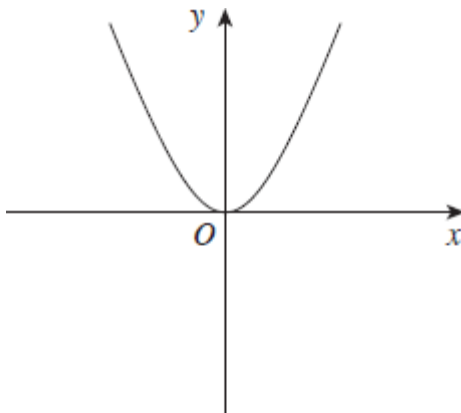
$$y = -x^2 + 5x + 2$$

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

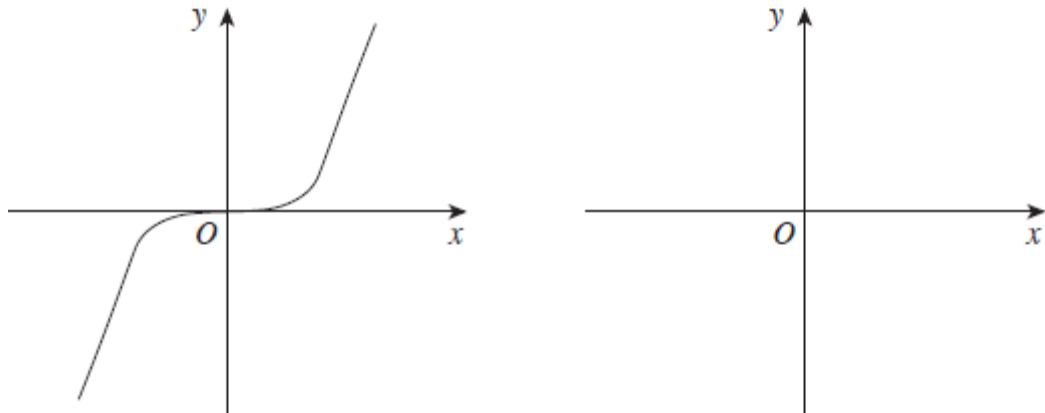
$$y = x^2 + 5x + 2$$

**(Total 1 mark)****Q2.(a)** The diagram shows a sketch of the graph  $y = x^2$ 

On the blank grid sketch a graph of  $y = -x^2 + 2$

**(2)****(b)** This diagram shows a sketch of the graph  $y = x^3$ 

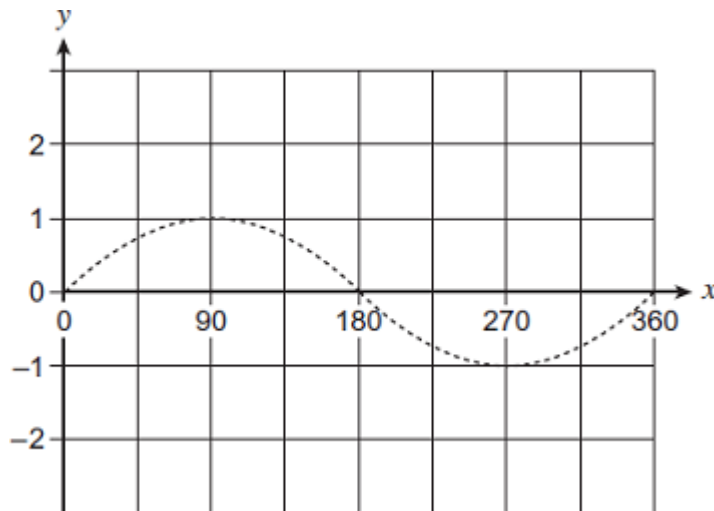
On the blank grid sketch a graph of  $y = x^3$  after a translation by the vector  $\begin{pmatrix} -5 \\ 5 \end{pmatrix}$



(2)  
(Total 4 marks)

Q3.(a) On this grid draw the graph of  $y = 1 + \sin x$  for values of  $x$  from  $0^\circ$  to  $360^\circ$ .

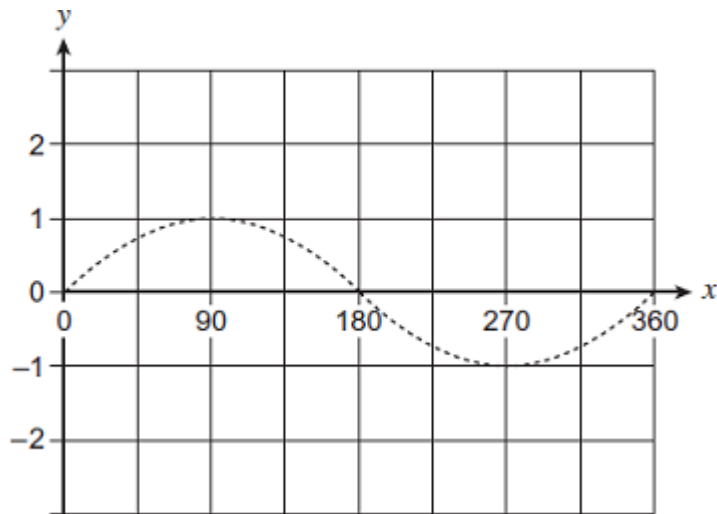
The graph of  $y = \sin x$  has been drawn to help you.



(1)

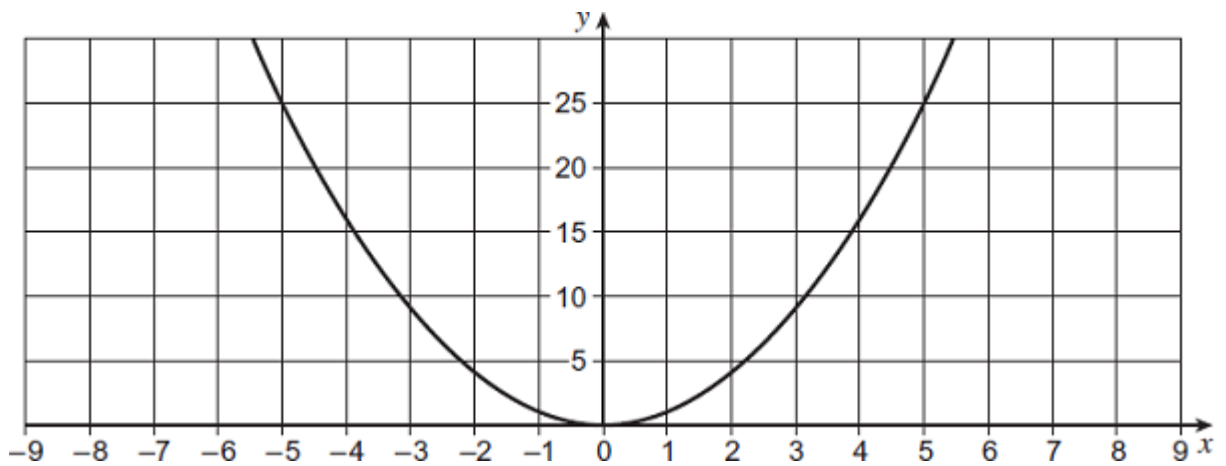
(b) On this grid draw the graph of  $y = 2 \sin x$  for values of  $x$  from  $0^\circ$  to  $360^\circ$ .

The graph of  $y = \sin x$  has been drawn to help you.



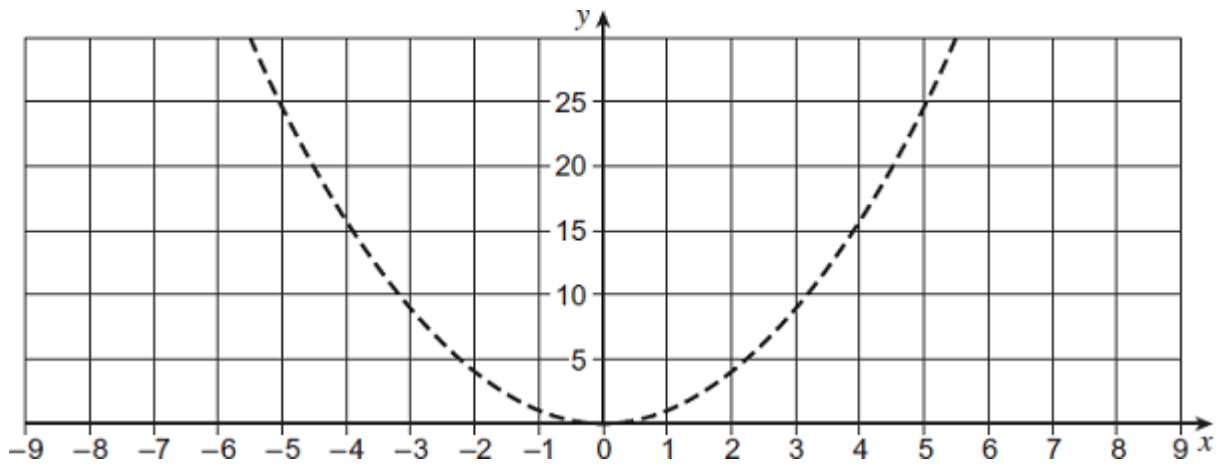
(1)  
(Total 2 marks)

Q4. This graph is a sketch of  $y = x^2$



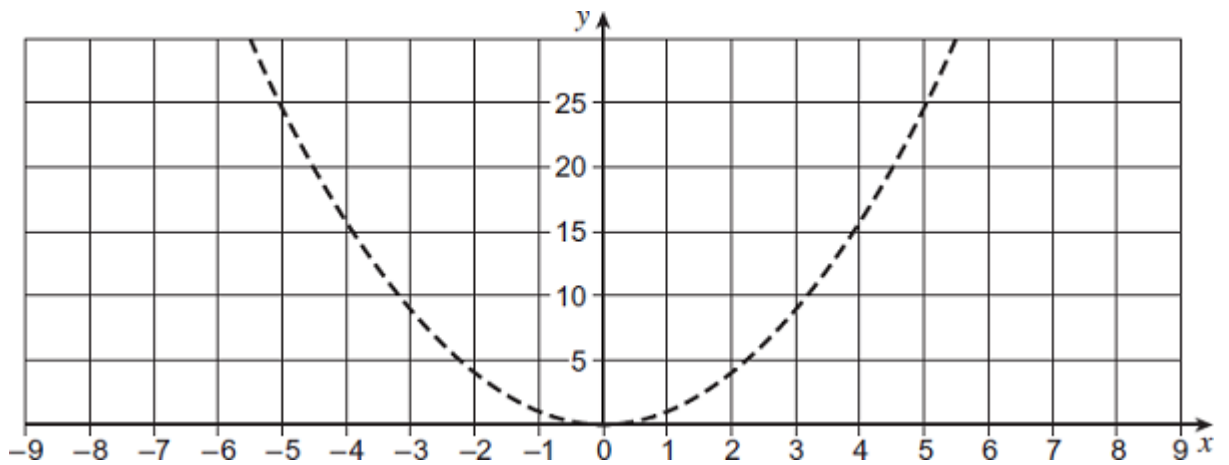
On each grid, the graph of  $y = x^2$  is shown dashed to help you.

(a) Sketch the graph of  $y = x^2 + 5$  on the grid.



(1)

(b) Sketch the graph of  $y = (x - 3)^2$  on the grid.

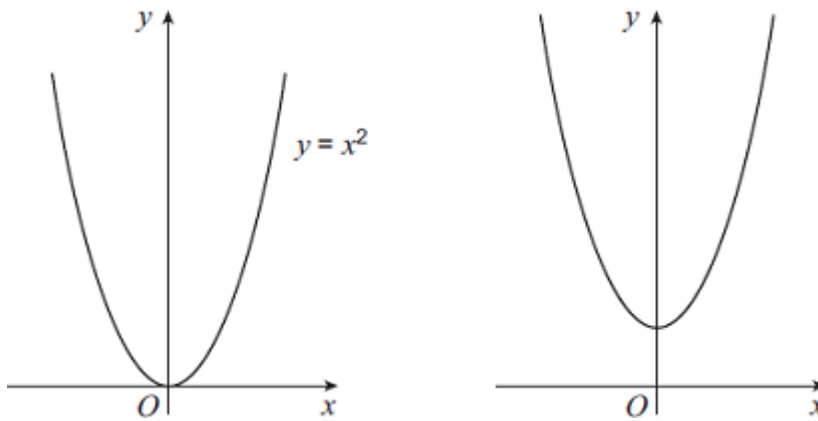


(1)

(Total 2 marks)

Q5.(a) The graph of  $y = x^2$  is transformed by the vector  $\begin{pmatrix} 0 \\ 2 \end{pmatrix}$

Not drawn accurately



Write down the equation of the transformed graph.

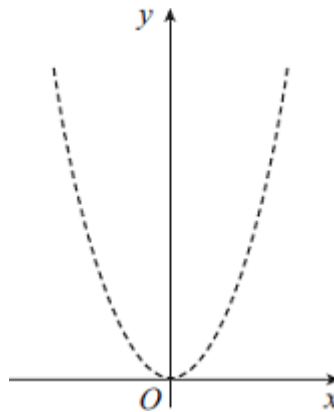
Answer .....

(1)

(b) The diagram shows the graph of  $y = x^2$

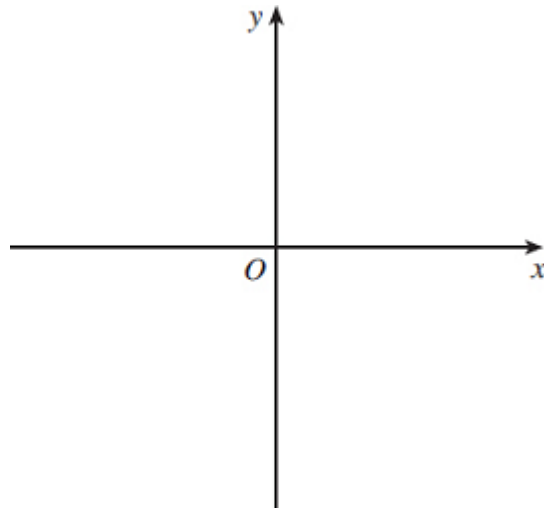
On the same diagram, sketch the graph of  $y = (x + 1)^2$

Not drawn accurately



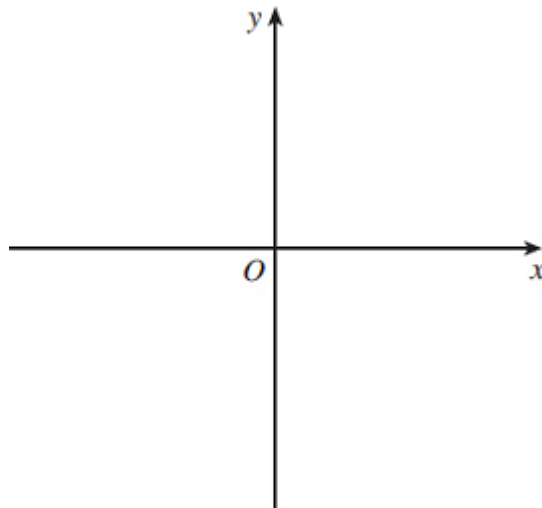
(1)  
(Total 2 marks)

Q6.(a) On the axes below sketch the graph of  $y = x^3$



(1)

(b) On the axes below sketch the graph of  $y = x^3 + 8$



(1)  
(Total 2 marks)