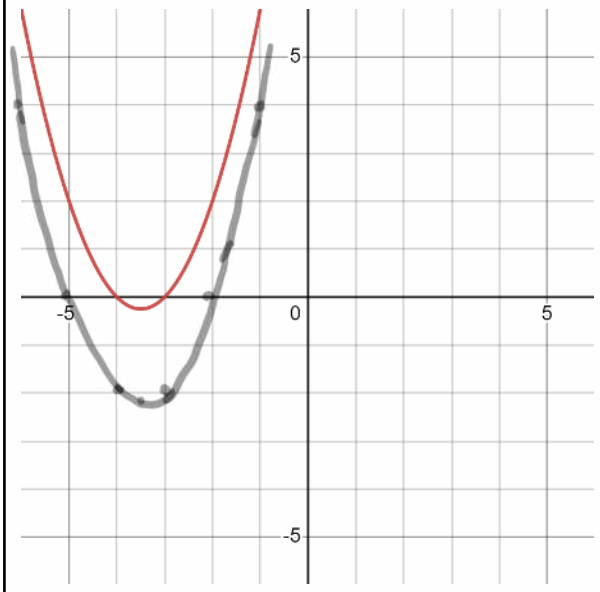
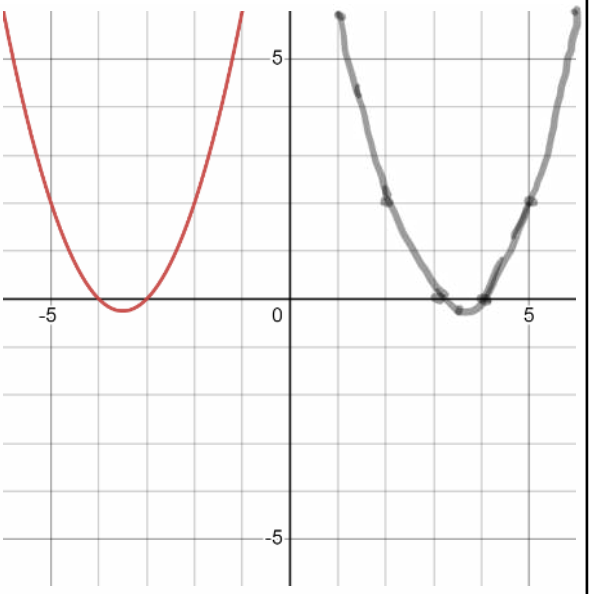
QT Transforming Graphs

1. The graph of $y = f(x)$ is shown.

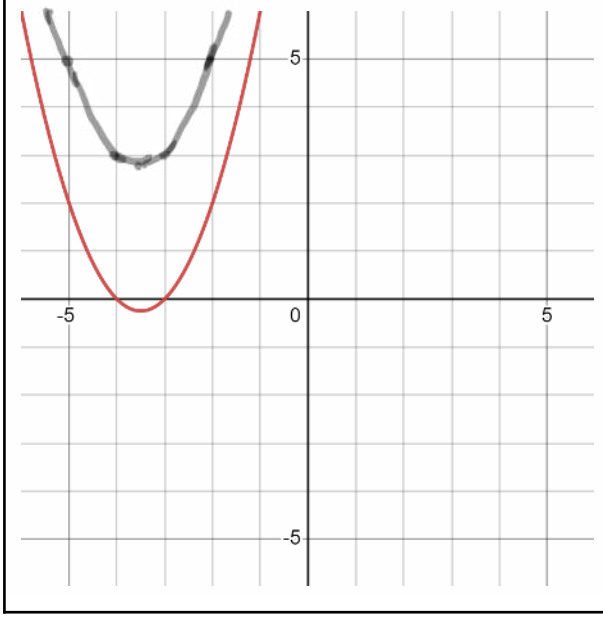
(a) Sketch the graph of $y = f(x) - 2$



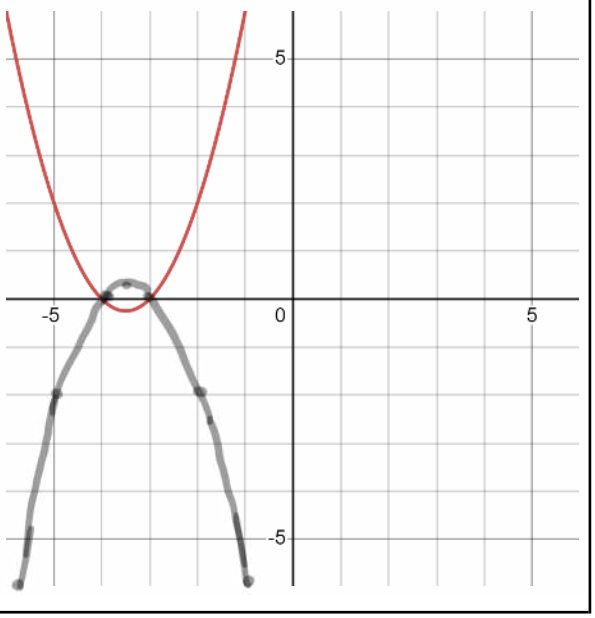
(b) Sketch the graph of $y = f(-x)$



(c) Sketch the graph of $y = f(x) + 3$



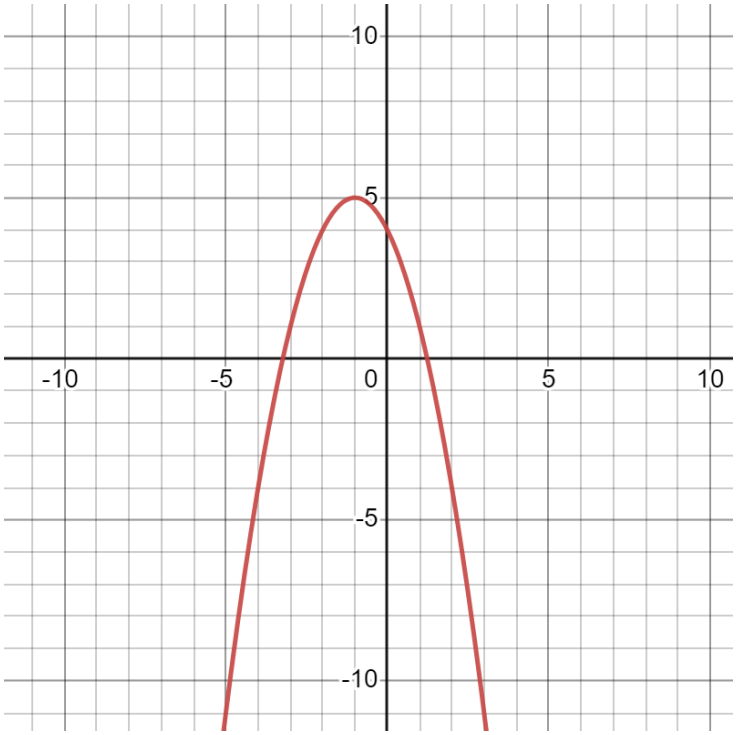
(c) Sketch the graph of $y = -f(x)$



(8 marks)

QT Transforming Graphs

2. The graph of $y = f(x)$ is shown below. The coordinates of the maximum point of the curve are (-1,5)



Write down the maximum point of the curve with equation:

(a) $y = f(x - 2)$ (1,5) (1 mark)

(b) $y = f(x + 4)$ (-5,5) (1 mark)

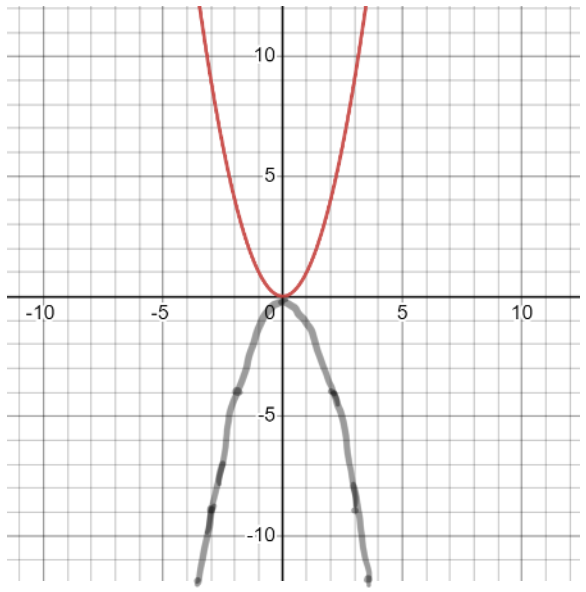
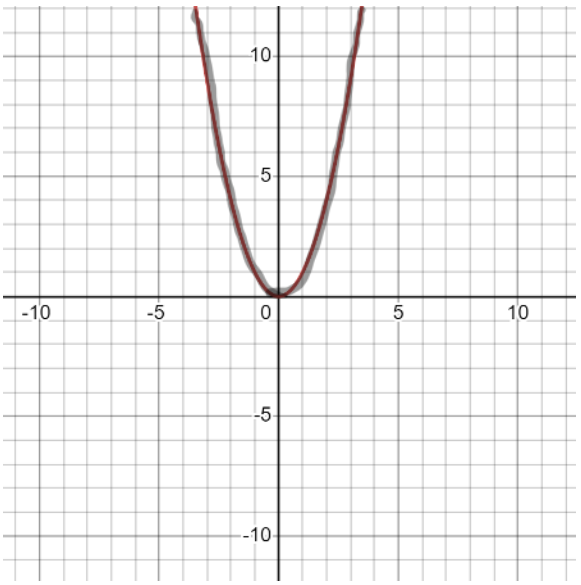
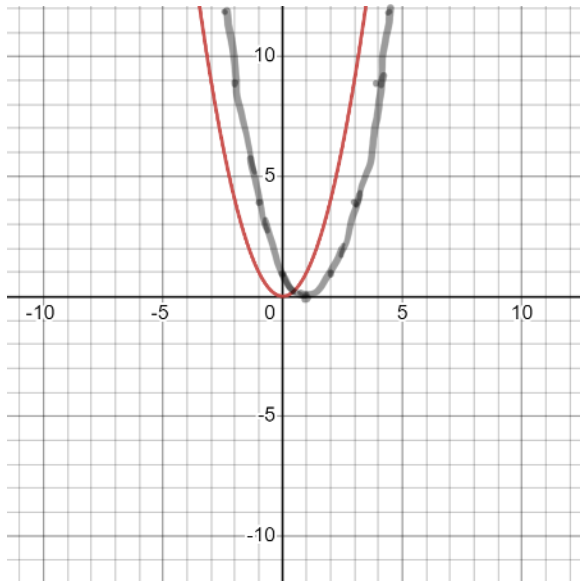
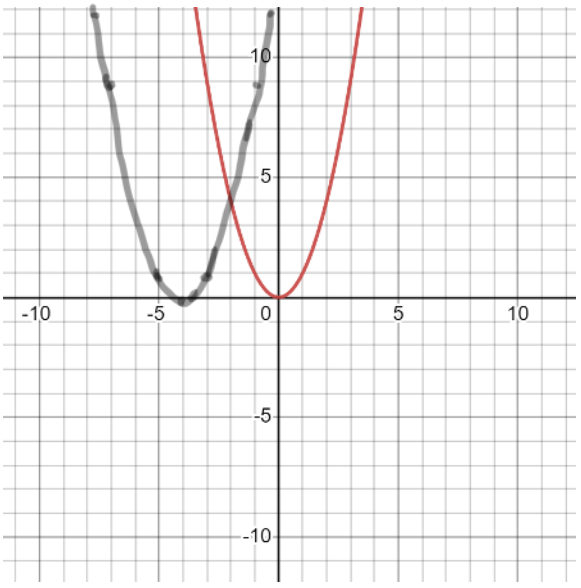
(c) $y = f(-x)$ (1,5) (1 mark)

(d) $y = f(x) - 3$ (-1,2) (1 mark)

(e) $y = -f(x)$ (minimum point) (-1,-5) (1 mark)

QT Transforming Graphs

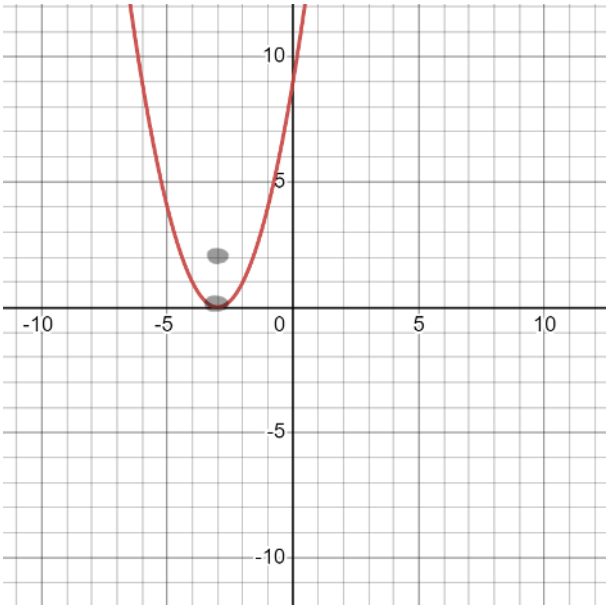
3. The graph of $y = f(x)$ is shown.

(a) Sketch the graph of $y = -f(x)$	(b) Sketch the graph of $y = f(-x)$
	
(c) Sketch the graph of $y = f(x - 1)$	(c) Sketch the graph of $y = f(x + 4)$
	

(8 marks)

QT Transforming Graphs

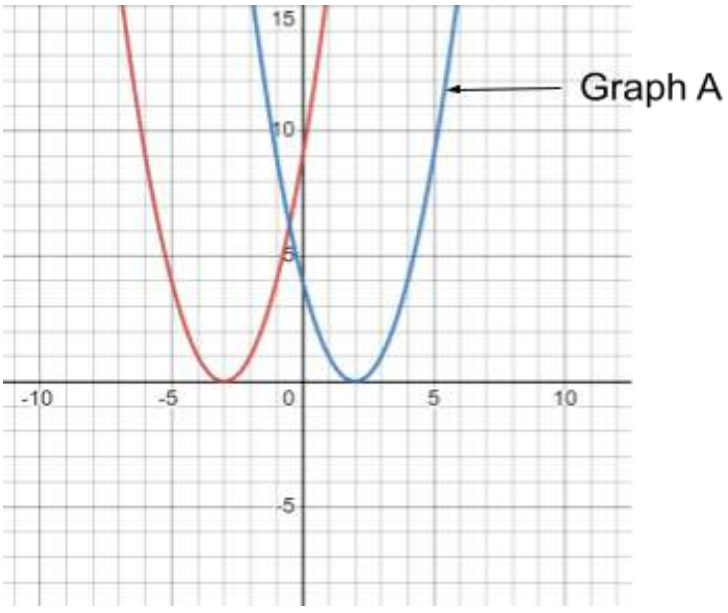
4. The curve with the equation $y = f(x)$ is translated so that the point (-3,0) is mapped to the point (-3,2).
Find the equation of the translated curve.



$y = f(x) + 2$

(2 marks)

5. The graph of $y = f(x)$ is shown on the grid. Graph A is a translation of $y = f(x)$.
Write down the equation of graph A.



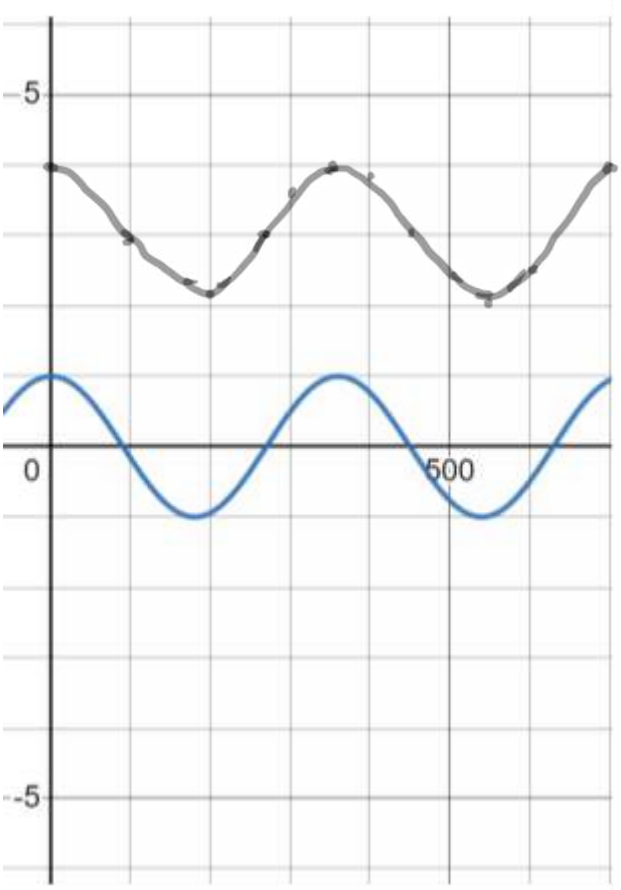
$y = f(x - 5)$

(2 marks)

QT Transforming Graphs

6. Shown below is the graph of $y = cos\, x$

On the grid sketch the graph of $y = 3 + cos\, x$



(2 marks)

7. Describe the transformation which maps the graph of $y = sin(x)$ to the following:

(a) $sin\,(x - 30)$ Translation by the vector $\begin{pmatrix} 30 \\ 0 \end{pmatrix}$ (2 marks)

(b) $-\,sin\,(x)$ Reflection with mirror line of x axis. (2 marks)