

# Reflecting and Translating Functions

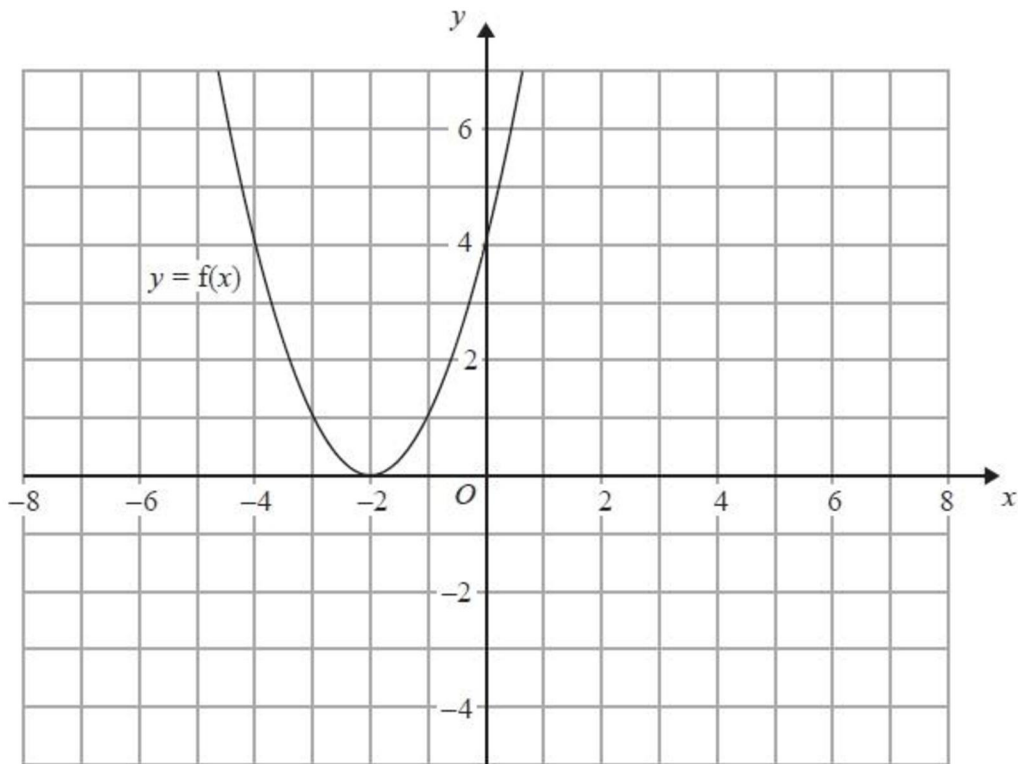
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# 1) Reflecting and Translating Functions: Easier

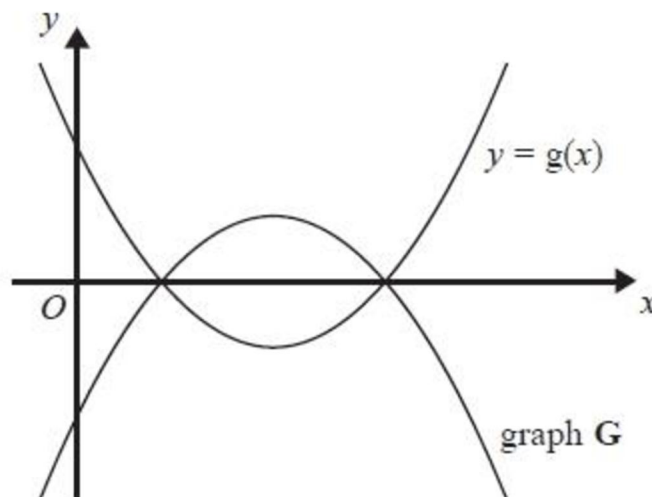
**Q1.** The graph of  $y = f(x)$  is shown on the grid.



(a) On the grid above, sketch the graph of  $y = f(x + 3)$

(2)

The graph of  $y = g(x)$  is shown below.



The graph **G** is the reflection of  $y = g(x)$  in the  $x$ -axis.

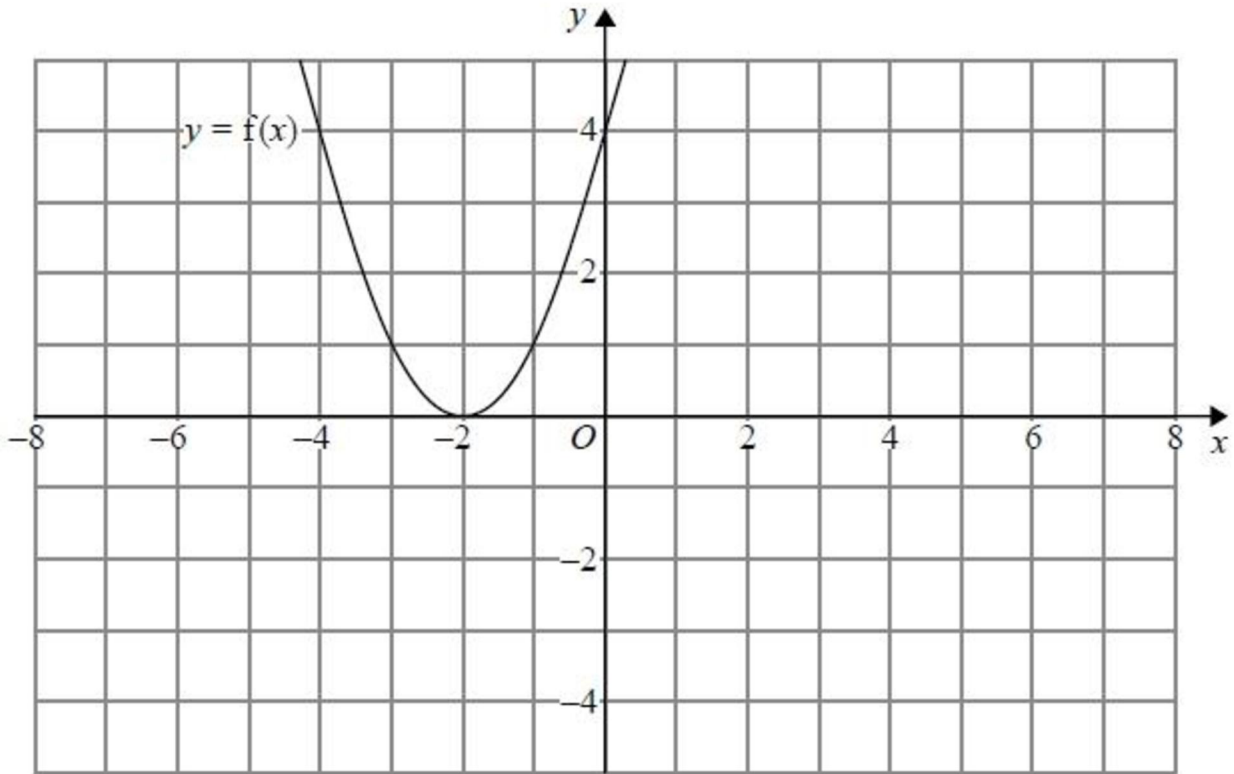
(b) Write down an equation of graph **G**.

.....

(1)

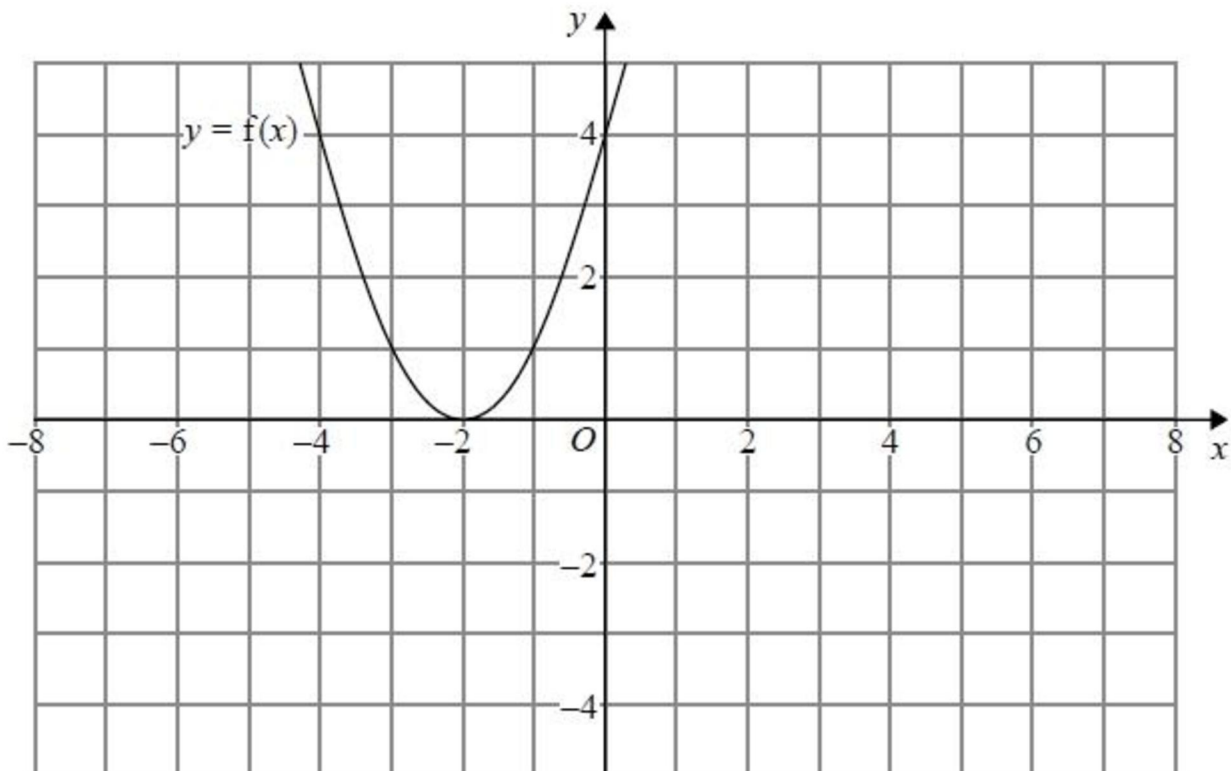
# 1) Reflecting and Translating Functions: Medium

Q2. The graph of  $y = f(x)$  is shown on both grids below.



(a) On the grid above, sketch the graph of  $y = f(-x)$

(1)



(b) On this grid, sketch the graph of  $y = -f(x) + 3$

(1)

## 1) Reflecting and Translating Functions: Harder

**Q3.**

The graph of  $y = f(x)$  is transformed to give the graph of  $y = -f(x + 3)$

The point  $A$  on the graph of  $y = f(x)$  is mapped to the point  $P$  on the graph of  $y = -f(x + 3)$

The coordinates of point  $A$  are  $(9, 1)$

Find the coordinates of point  $P$ .

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

**(Total for question is 2 marks)**