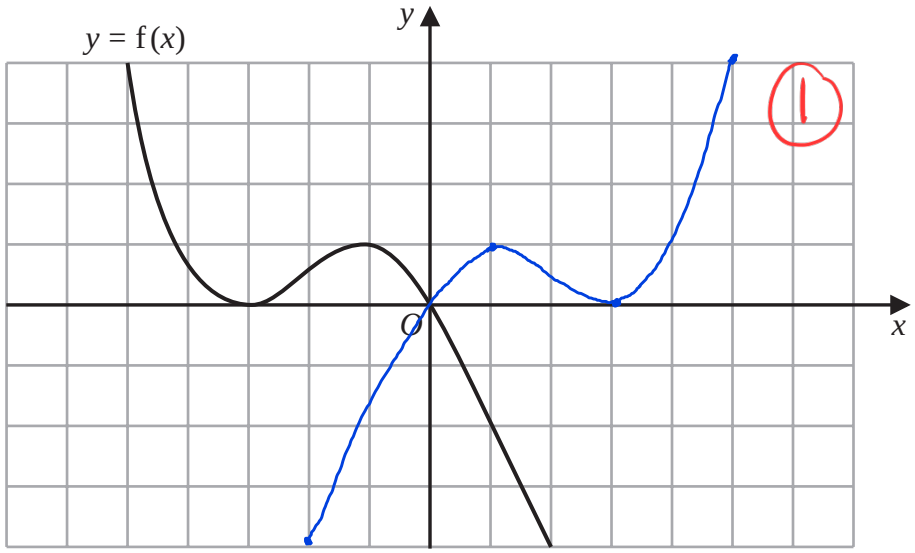
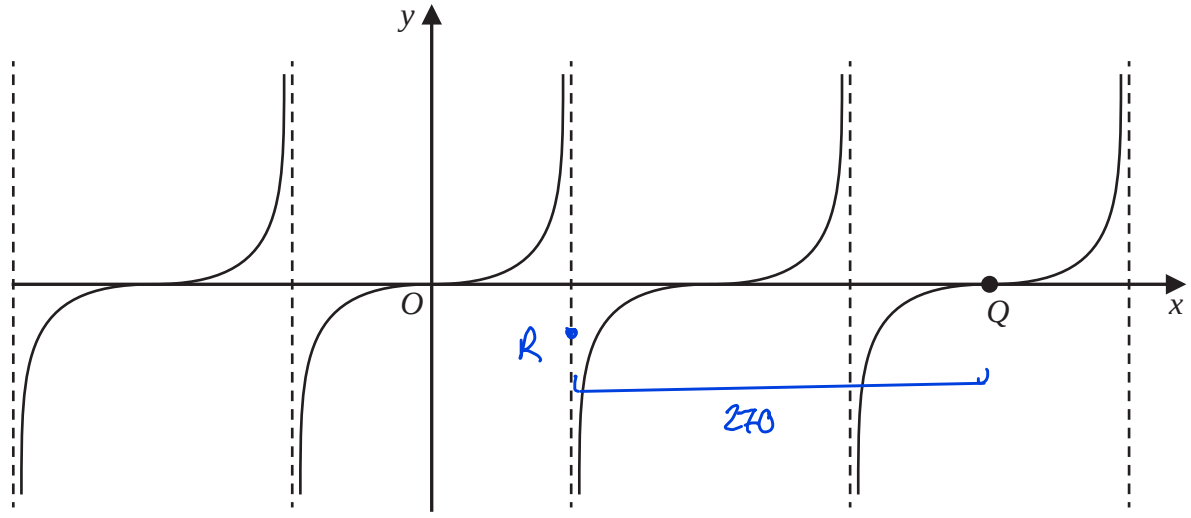
1 The graph of $y = f(x)$ is shown on the grid below.



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

(1)

Here is a sketch of the graph of $y = \tan x°$



The graph of $y = \tan x°$ is translated to give the graph of $y = g(x)$

Following the translation the point Q, shown on the graph above, moves to point R.
Point R has coordinates $(90, -5)$

(b) Find an expression for $g(x)$ in terms of x.

Q has coordinates (360, 0)

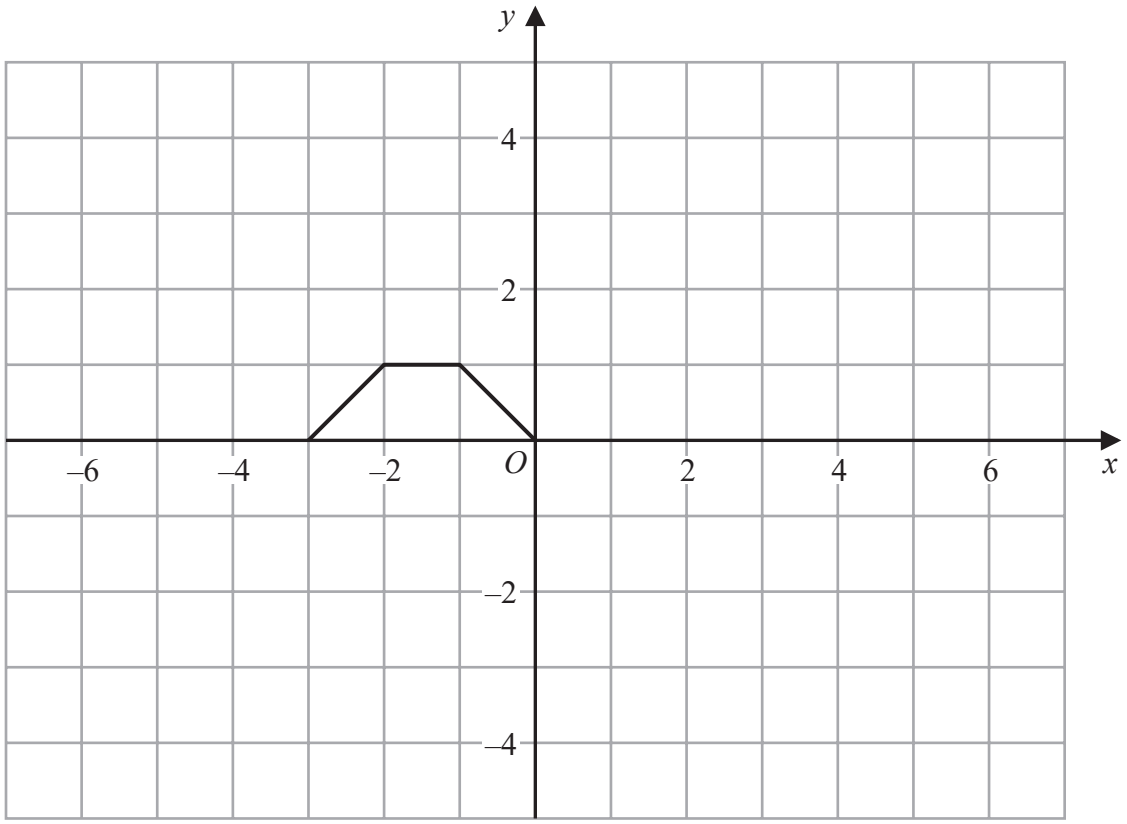
so graph has shifted left by
360 − 90 = 270 (1)
and shifted down by 5.

(1)
$g(x) = \tan(x + 270°) - 5$

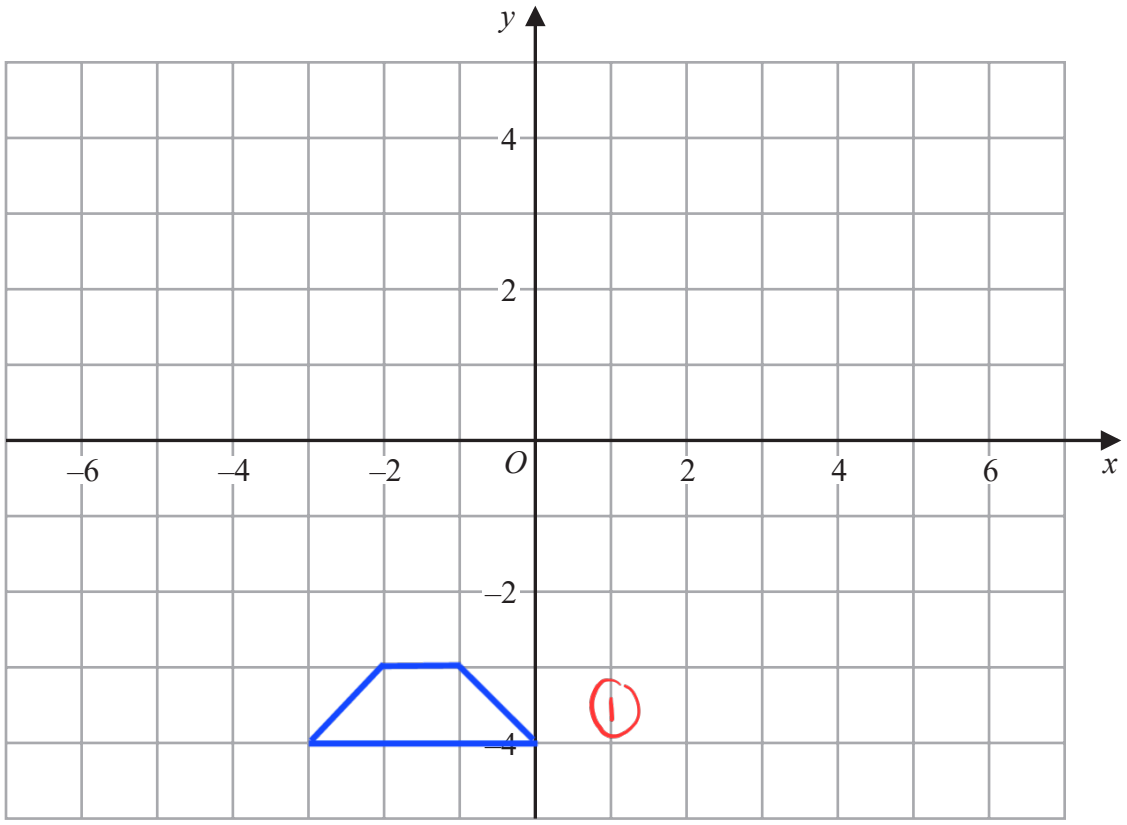
(2)

(Total for Question 1 is 3 marks)

2 Here is the graph of $y = f(x)$

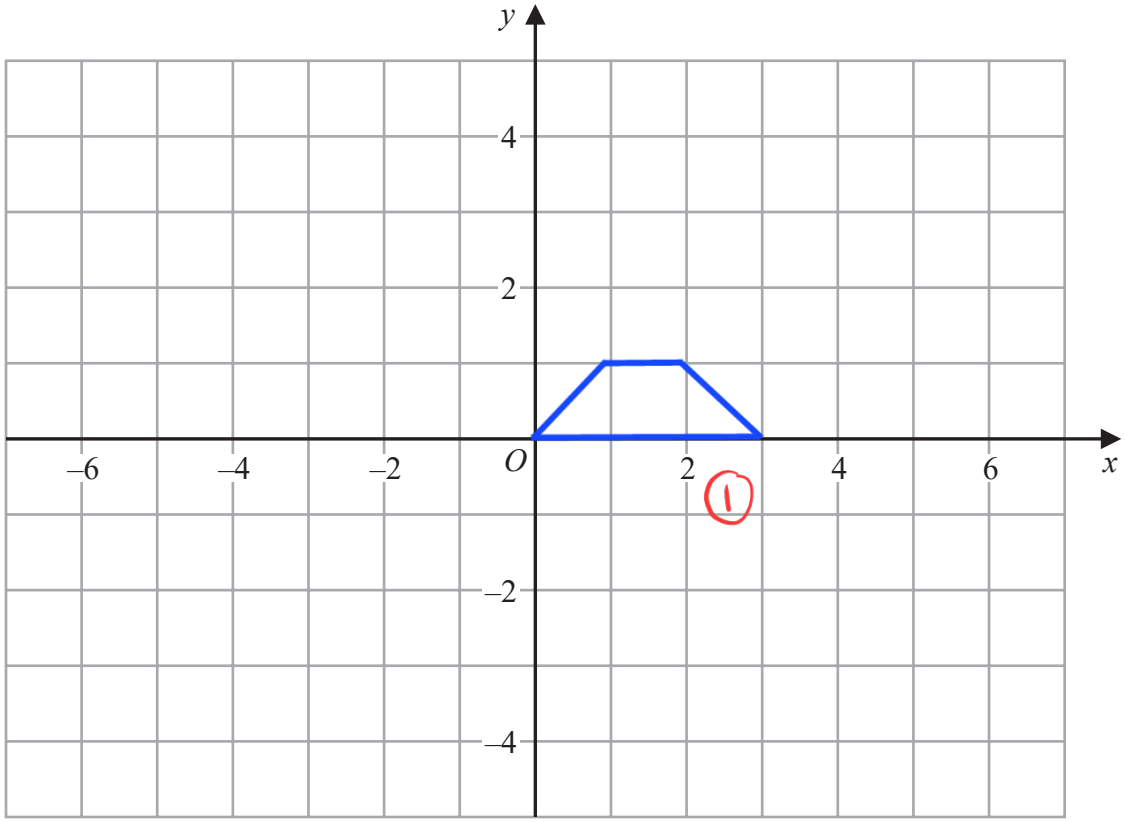


(a) On the grid below, draw the graph of $y = f(x) - 4$



(1)

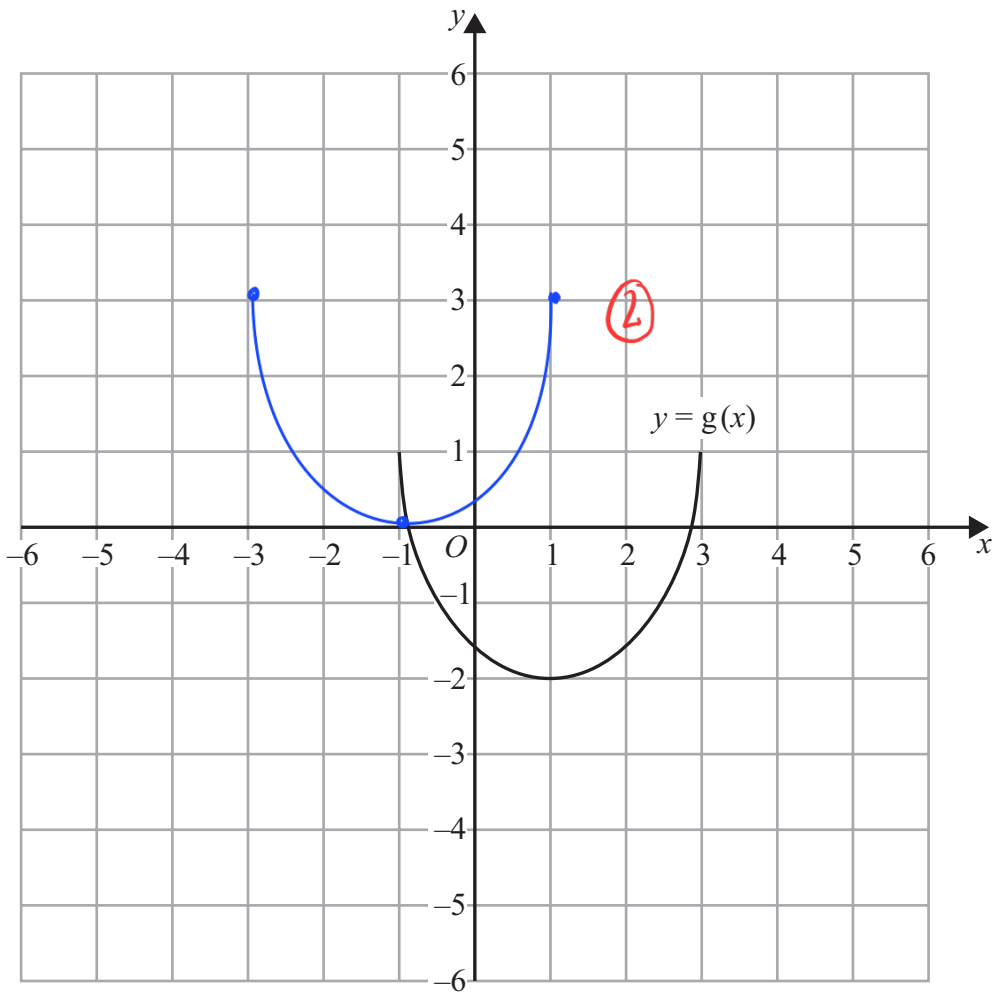
(b) On the grid below, draw the graph of $y = f(-x)$



(1)

(Total for Question 2 is 2 marks)

3 The graph of $y = g(x)$ is shown on the grid.



On the grid, draw the graph of $y = g(-x) + 2$

y-coordinate of the image translates by (+2)

x-coordinate of the image becomes (−)

(Total for Question 3 is 2 marks)