Name: _____

GCSE (1 – 9)

Transforming Graphs

Instructions

• Use **black** ink or ball-point pen.
• Answer all questions.
• Answer the questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**

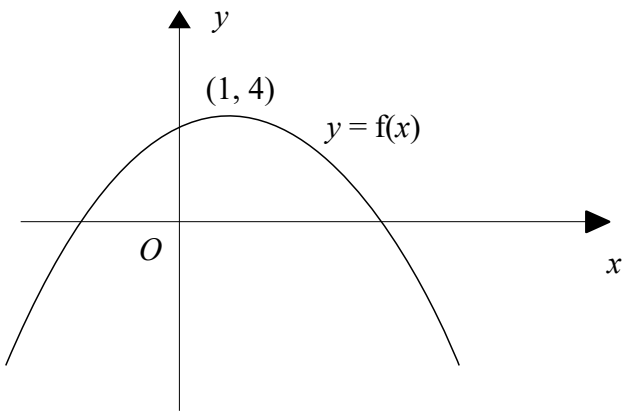
Information

• The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

• Read each question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every question.
• Check your answers if you have time at the end

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



The coordinates of the maximum point of this curve are (1, 4).

Write down the coordinates of the maximum point of the curve with equation

(a) $y = f(x + 3)$

…….....

(1)

(b) $y = -f(x)$

…….....

(1)

(c) $y = f(x) - 3$

…….....

(1)

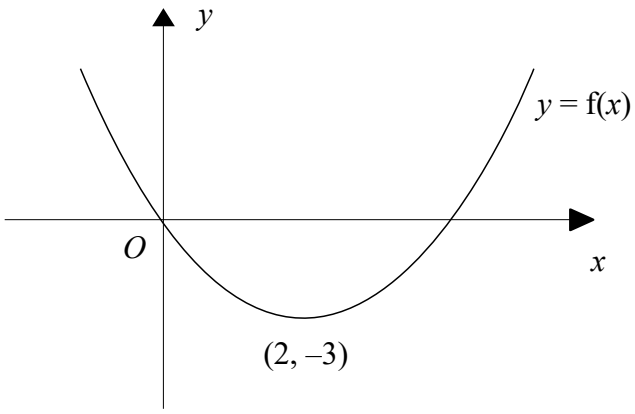
(d) $y = f(-x)$

…….....

(1)

(Total for question 1 is 4 marks)

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



The coordinates of the minimum point of this curve are (2, –3).

Write down the coordinates of the minimum point of the curve with equation

(a) $y = f(x + 2)$

…….....

(1)

(b) $y = –f(x)$

…….....

(1)

(c) $y = f(x) + 2$

…….....

(1)

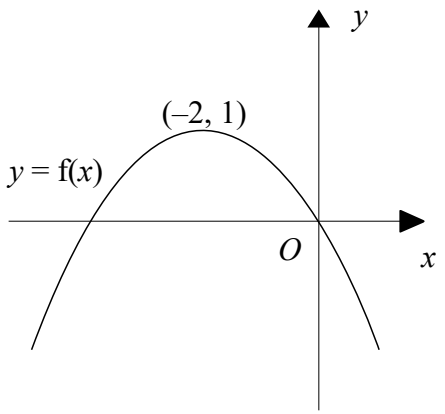
(d) $y = f(–x)$

…….....

(1)

(Total for question 2 is 4 marks)

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



The coordinates of the maximum point of this curve are (–2, 1).

Write down the coordinates of the maximum point of the curve with equation

(a) $y = f(x - 3)$

…….....

(1)

(b) $y = f(-x)$

…….....

(1)

(c) $y = -f(x + 2)$

…….....

(1)

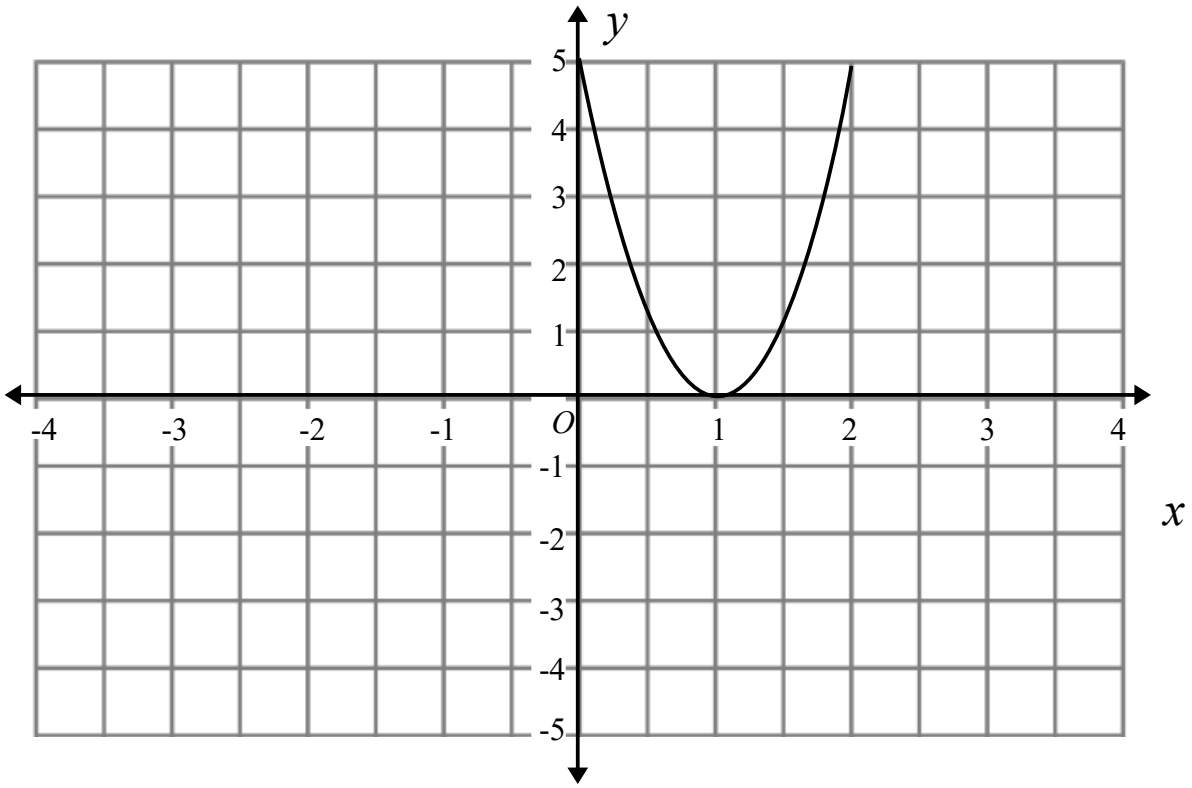
(d) $y = f(-x) - 1$

…….....

(1)

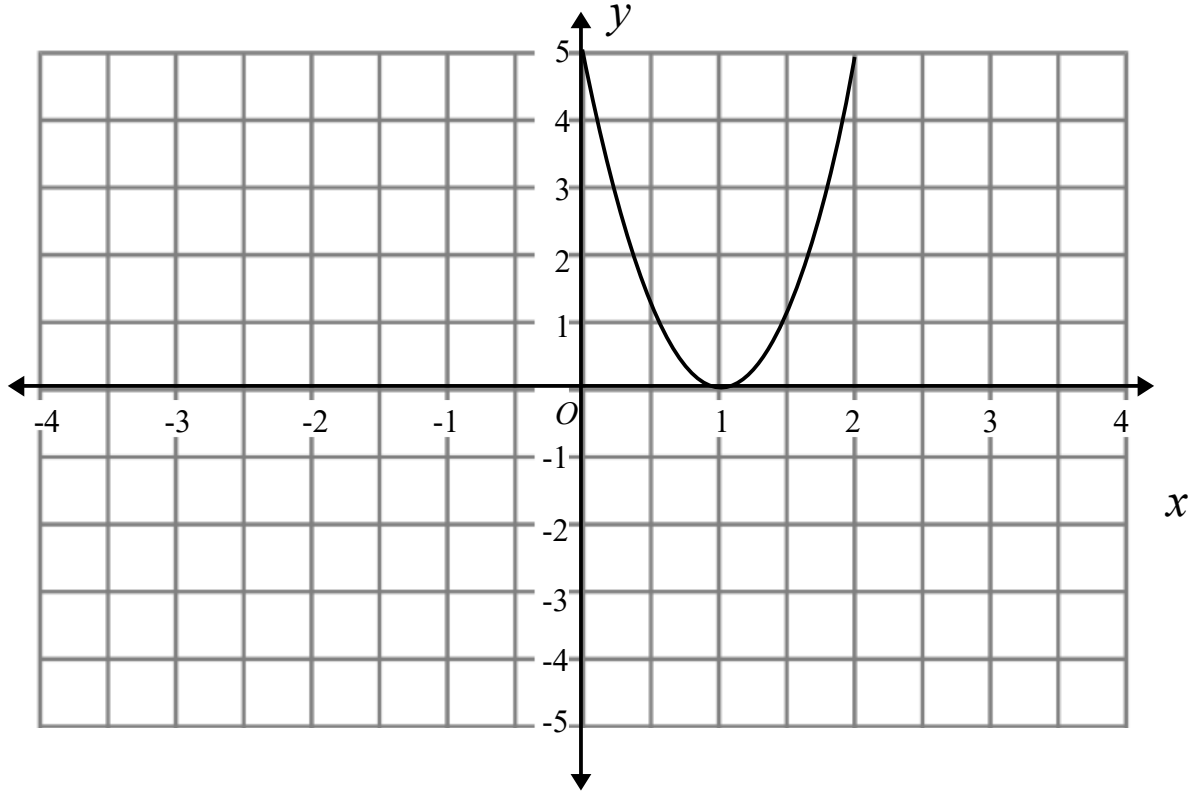
(Total for question 3 is 4 marks)

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



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

(2)

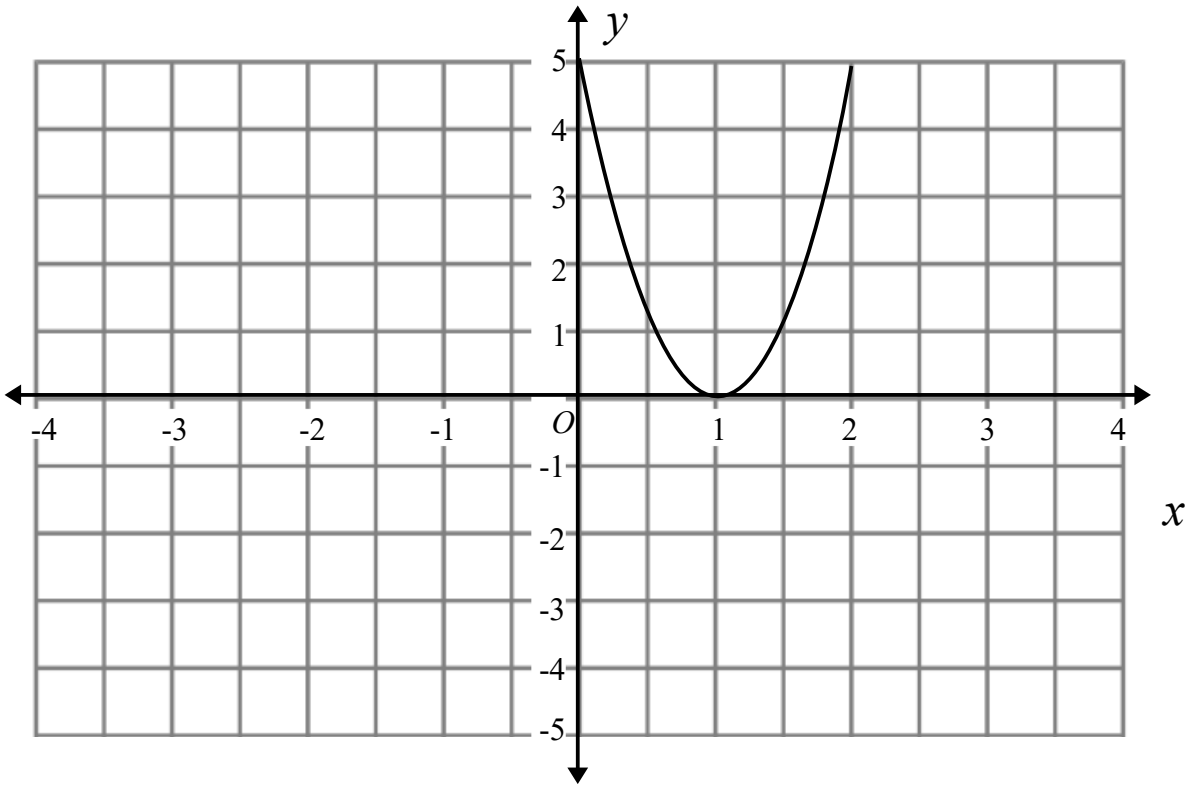


(b) On the grid above, sketch the graph of $y = f(x + 2)$

(2)

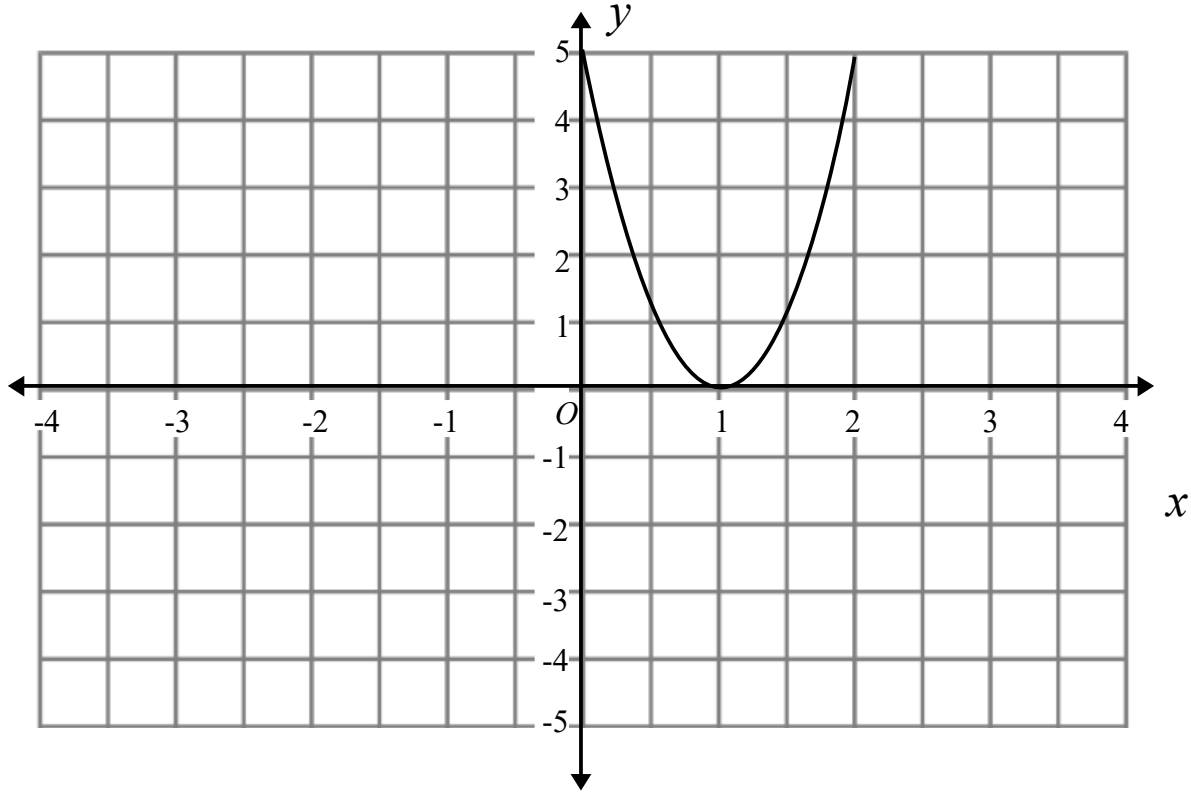
(Total for question 4 is 4 marks)

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



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

(2)

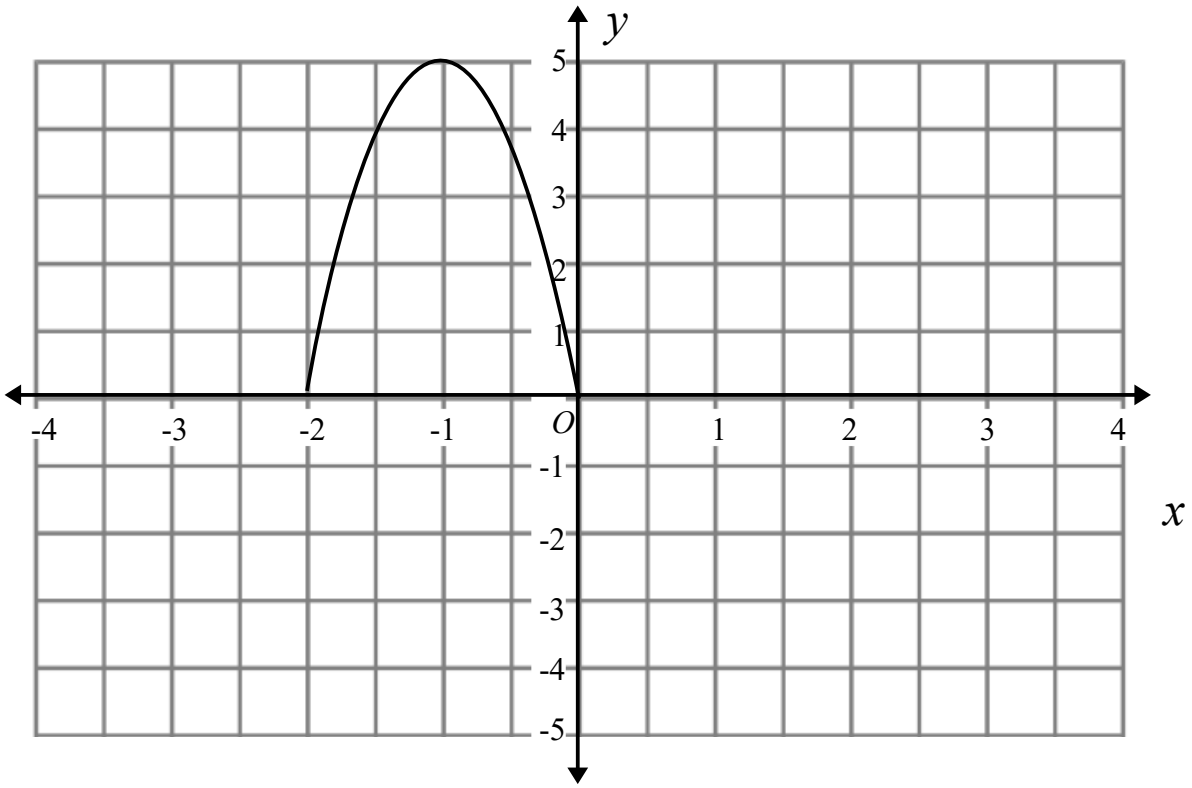


(b) On the grid above, sketch the graph of $y = f(x) - 2$

(2)

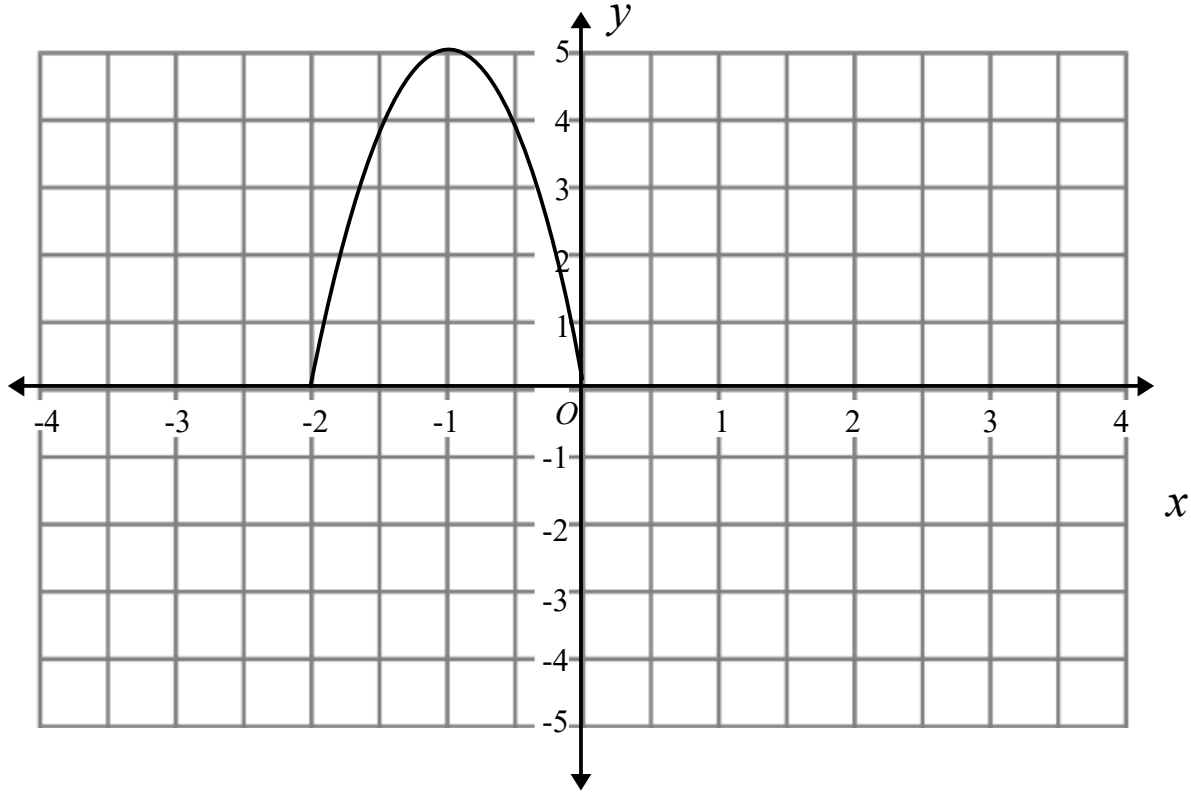
(Total for question 5 is 4 marks)

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



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

(2)

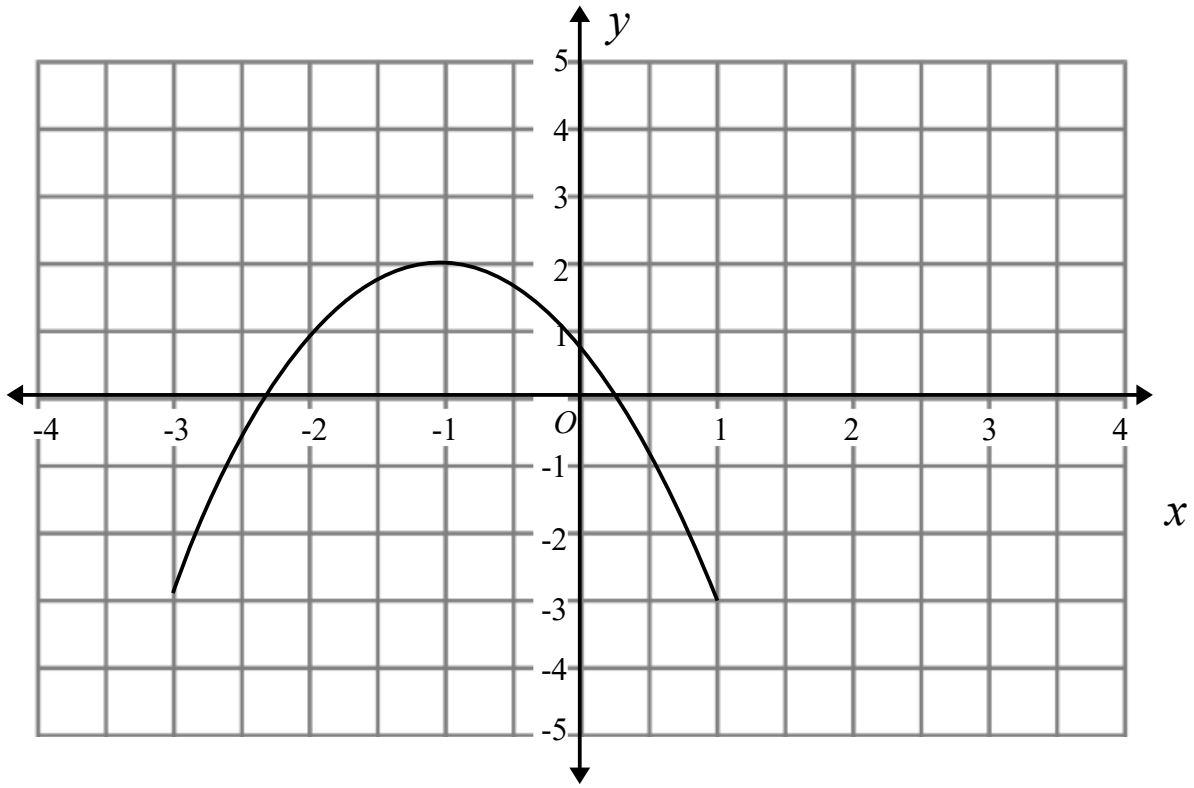


(b) On the grid above, sketch the graph of $y = f(x - 1)$

(2)

(Total for question 6 is 4 marks)

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



(a) On the grid above, sketch the graph of $y = f(x - 1)$.

(1)

The graph of $y = f(x)$ has a turning point at $(-1, 2)$.

(b) Write down the coordinates of the turning point of $y = f(-x) + 2$

…….....

(1)

(Total for question 7 is 2 marks)