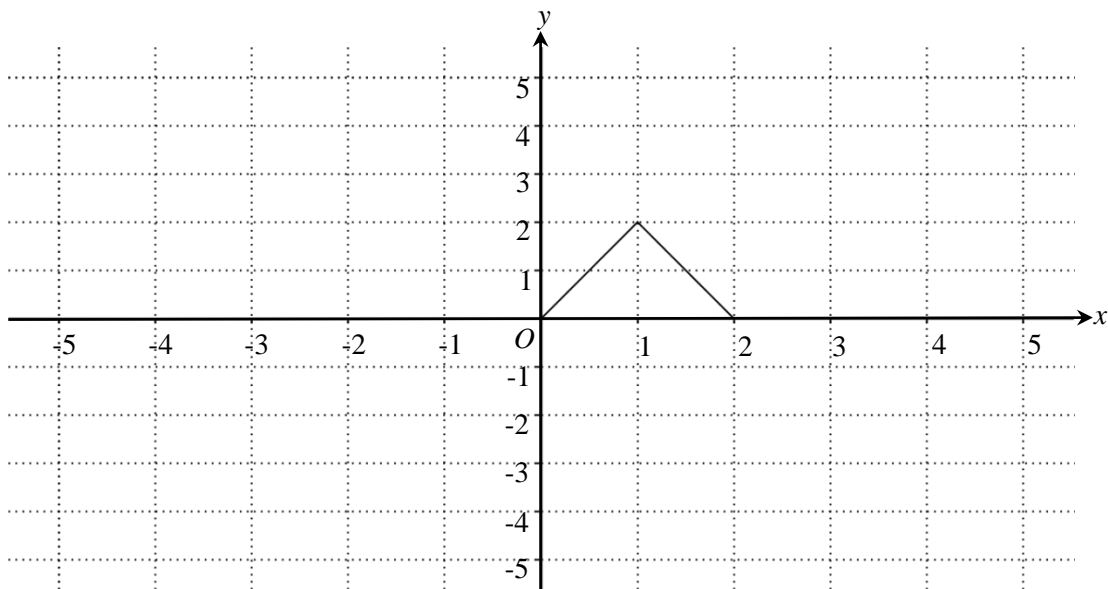


- 1 (a) The diagram below shows the graph of  $y = f(x)$ .



- (i) On the diagram in the Printed Answer Booklet draw the graph of  $y = f(x+3)$ . [2]
- (ii) Describe fully the transformation which transforms the graph of  $y = f(x)$  to the graph of  $y = -f(x)$ . [1]

- (b) The point  $(2, 3)$  lies on the graph of  $y = g(x)$ .

State the coordinates of its image when  $y = g(x)$  is transformed to

- (i)  $y = 4g(x)$  [1]
- (ii)  $y = g(4x)$ . [1]