

- A function  $f$  is defined by  $f(x) = x^2 - 2x + 5$  for  $x \in \mathbb{R}$ . A sequence of transformations is applied in the following order to the graph of  $y = f(x)$  to give the graph of  $y = g(x)$ .

Stretch parallel to the  $x$ -axis with scale factor  $\frac{1}{2}$

### Reflection in the y-axis

Stretch parallel to the  $y$ -axis with scale factor 3

Find  $g(x)$ , giving your answer in the form  $ax^2 + bx + c$ , where  $a$ ,  $b$  and  $c$  are constants. [4]

This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.