

(a) By completing the square, find the range of f . [3]

[3]

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dotted lines, providing a guide for letter height and placement. The lines are evenly spaced across the entire page, leaving ample room for writing practice. There is no text or other markings on the page.

The function g is defined by $g(x) = 4x + k$ for $x \in \mathbb{R}$ where k is a constant.

- (b)** It is given that the graph of $y = g^{-1}f(x)$ meets the graph of $y = g(x)$ at a single point P .

Determine the coordinates of P .

[6]

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.