

7

$$f : x \mapsto 3x - 2, \quad x \in \mathbb{R},$$

$$g : x \mapsto \frac{2x+3}{x-1}, \quad x \in \mathbb{R}, x \neq 1.$$

(i) Obtain expressions for $f^{-1}(x)$ and $g^{-1}(x)$, stating the value of x for which $g^{-1}(x)$ is not defined. [4]

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

(ii) Solve the equation $fg(x) = \frac{7}{3}$.

[3]