

6 Functions f and g are defined by

$$f(x) = (x + 3)^2 - 12 \quad \text{for } x \geq 0,$$

$$g(x) = 2x - 5 \quad \text{for } x \in \mathbb{R}.$$

(a) State the range of f .

[1]

(b) Find an expression for $f^{-1}(x)$.

[2]

(c) Solve the equation $gf(x) = 69$.

[4]