5 **(a)** The function $f(x)$ is defined for all values of x as $f(x) = |ax - b|$, where a and b are positive constants.

(i) The graph of $y = f(x) + c$, where c is a constant, has a vertex at (3, 1) and crosses the y-axis at (0, 7).

Find the values of a, b and c. **[3]**

(ii) Explain why $f^{-1}(x)$ does not exist. **[1]**

(b) The function $g(x)$ is defined for $x \geqslant \frac{q}{p}$ as $g(x) = |px - q|$, where p and q are positive constants.

(i) Find, in terms of p and q, an expression for $g^{-1}(x)$, stating the domain of $g^{-1}(x)$. **[3]**

(ii) State the set of values of p for which the equation $g(x) = g^{-1}(x)$ has no solutions. **[1]**