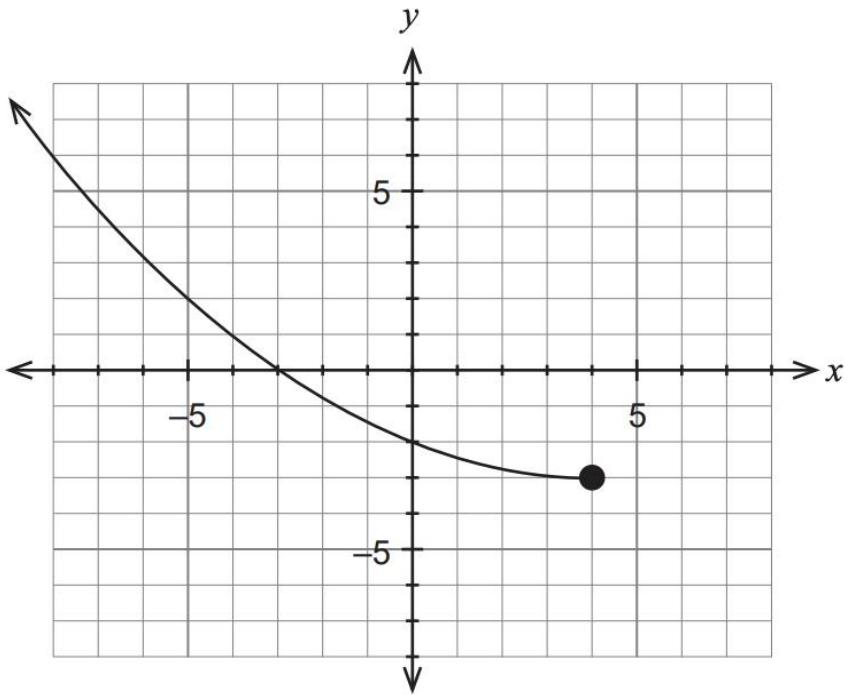
Question 5 **(6 marks)**

The graph of $y = g(x)$ is shown below.



(a) Sketch the graph of $y = g^{-1}(x)$ on the axes above. (3 marks)

(b) Given that $g(x) = \frac{1}{16}(x-4)^2 - 3$ where $x \leq 4$, determine the defining rule for $y = g^{-1}(x)$. (3 marks)