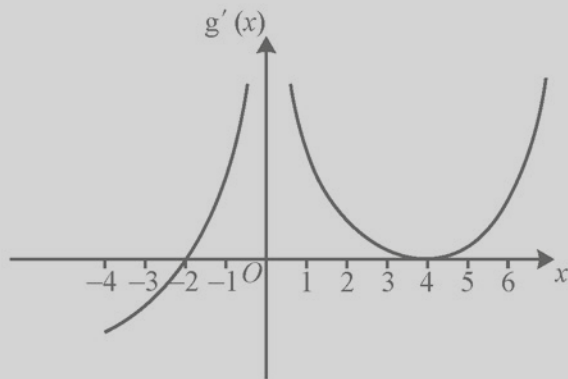**5** **(a)** The graph of the function $y = f(x)$ passes through the point P with coordinates $(2, 6)$, and is a one-one function. State the coordinates of the point corresponding to P on each of the following curves.

    (i) $y = f(x) + 3$ **[1]**

    (ii) $y = 2f(3x - 1)$ **[2]**

    (iii) $y = f^{-1}(x)$ **[1]**

(b)

The diagram shows part of the graph of $y = g'(x)$. This is the graph of the gradient function of $y = g(x)$. The graph intersects the x-axis at $x = -2$ and $x = 4$.

    (i)   State the x-coordinate of any stationary points on the graph of $y = g(x)$.   **[1]**

    (ii)   State the set of values of x for which $y = g(x)$ is a decreasing function.   **[1]**

    (iii)   State the x-coordinate of any points of inflection on the graph of $y = g(x)$.   **[1]**