

- 3** **(i)** Express $3x^2 - 6x + 2$ in the form $a(x + b)^2 + c$, where a , b and c are constants. [3]
- (ii)** The function f , where $f(x) = x^3 - 3x^2 + 7x - 8$, is defined for $x \in \mathbb{R}$. Find $f'(x)$ and state, with a reason, whether f is an increasing function, a decreasing function or neither. [3]