

- 10 (a) (i) Express $18 + 16x - 2x^2$ in the form $a + b(x + c)^2$, where a , b and c are integers. [3]

For
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A function f is defined by $f : x \rightarrow 18 + 16x - 2x^2$ for $x \in \mathbb{R}$.

- (ii) Write down the coordinates of the stationary point on the graph of $y = f(x)$. [1]

- (iii) Sketch the graph of $y = f(x)$. [2]

(b) A function g is defined by $g : x \rightarrow (x + 3)^2 - 7$ for $x > -3$.

(i) Find an expression for $g^{-1}(x)$.

[2]

*For
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(ii) Solve the equation $g^{-1}(x) = g(0)$.

[3]