

9 (a) Given that $f(x) = x^2 - 4x + 2$, find $f(3 + h)$

Express your answer in the form $h^2 + bh + c$, where b and $c \in \mathbb{Z}$.

[2 marks]

9 (b) The curve with equation $y = x^2 - 4x + 2$ passes through the point $P(3, -1)$ and the point Q where $x = 3 + h$.

Using differentiation from first principles, find the gradient of the tangent to the curve at the point P .

[3 marks]