

12 The equation of a curve is $f(x) = 3x^2 + 2x$.

- (a)** Determine an expression for the gradient of the chord joining the points $(a, f(a))$ and $(a+h, f(a+h))$. Express your answer as simply as possible in terms of a and h . **[3]**
- (b)** Use your answer to part **(a)** to determine an expression for the gradient of $f(x)$ at the point where $x = a$. **[1]**