

Q	Marking Instructions	AO	Marks	Typical Solution
5	Uses correct formula and notation for this function; must have substituted $(x + h)$ correctly	1.1a	M1	$\lim_{h \rightarrow 0} \frac{4(x + h)^2 + (x + h) - (4x^2 + x)}{h}$
	Multiplies out $4(x + h)^2$ correctly	1.1b	B1	$\lim_{h \rightarrow 0} \frac{4x^2 + 8xh + 4h^2 + x + h - 4x^2 - x}{h}$
	Obtains numerator with no x^2 or x terms PI	1.1b	A1	$\lim_{h \rightarrow 0} \frac{8xh + 4h^2 + h}{h}$
	Completes rigorous argument, including dividing by h and correctly using limit	2.1	R1	$\lim_{h \rightarrow 0} (8x + 4h + 1)$ $= 8x + 1$
	Total		4	