Question Number	Scheme	Marks
1	$36xe^{3x^2}\cos 2x - 12e^{3x^2}\sin 2x$	M1A1A1 (3) [3]

Mark	Notes
	$6e^{3x^2}\cos 2x$
M1	For applying the Product rule • There must be an attempt to differentiate both terms. Accept as a minimum **either** $e^{3x^2} \Rightarrow \pm axe^{3x^2}$ **or** $\cos 2x \Rightarrow -b\sin 2x$ • A correct application of product rule – accept e.g $36xe^{3x^2}\cos 2x \pm 12e^{3x^2}\sin 2x$ $\left[36xe^{3x^2}\cos 2x - 12e^{3x^2}\sin 2x\right]$
A1	For either $36xe^{3x^2}\cos 2x$ or $-12e^{3x^2}\sin 2x$ Need not be simplified
A1	For the fully correct expression $36xe^{3x^2}\cos 2x - 12e^{3x^2}\sin 2x$ Need not be simplified. Accept for example: $6\times 6xe^{3x^2}\cos 2x - 6\times 2\times e^{3x^2}\sin 2x$