Question Number	Scheme	Marks
1.	$\left(\mathrm{f}(x) = 3x^3 + 2\sin x - 4x^{-2}\right)$	
(a)	$\mathrm{f}'(x) = 9x^2 + 2\cos x + 8x^{-3}$	M1A1A1 (3)
(b)	$\int \mathrm{f}(x)\,\mathrm{d}x = \frac{3x^4}{4} - 2\cos x - \frac{4x^{-1}}{-1} + c$	M1A1A1B1 (4) **(7)**

Notes

(a)

M1 for an attempt at differentiating any of the terms, (see General Guidance) ,

Note; If you need to base your decision for the M mark on the 2sin *x* term,

then $\left(\frac{\mathrm{d}(\sin x)}{\mathrm{d}x} \to +\cos x\right)$

A1 for at least 2 terms correct (need not be simplified)

A1 all three terms fully correct (need not be simplified)

(b)

M1 for an attempt at integrating any of the terms, (see General Guidance)

Note; If you need to base your decision for the M mark on the 2sin *x* term,

then $\left(\int \sin x\ \mathrm{d}x \to -\cos x\right)$

A1 for at least 2 terms correct (need not be simplified)

A1 for all three terms correct (need not be simplified)

B1 for + *c*

Note: Any attempt to integrate their f'(*x*) is M0