Question Number	Scheme	Marks
1.	$\int \left(3x^2-2\right)\left(\frac{2}{x^2}+4\right)\mathrm{d}x$ $\left(3x^2-2\right)\left(\frac{2}{x^2}+4\right)=6+12x^2-4x^{-2}-8$	M1, A1
	$\int \left(3x^2-2\right)\left(\frac{2}{x^2}+4\right)\mathrm{d}x=\int \left(12x^2-4x^{-2}-2\right)\mathrm{d}x=4x^3+\frac{4}{x}-2x+c$	M1, A1ft, A1 **(5 marks)**

Note: Attempts to integrate by parts send to review

M1: Attempts to multiply out and achieves the correct form of $Ax^2+\frac{B}{x^2}+\text{constant}\quad A,B\neq 0$, Condone slips and it may be left unsimplified but with the powers correctly processed. May be implied by further work.

A1: For $12x^2-4x^{-2}-2$ but allow this unsimplified with the terms uncollected. May be implied by further work.

M1: For an attempt to integrate scored for $\int x^n\mathrm{d}x\to x^{n+1},\ n\neq -1,$ on any term in x following an attempt to expand. The index must be processed, i.e. $x^2\to x^3$ and not x^{2+1}.

A1ft: Correct follow through on any **two terms** from $ax^2\to\frac{ax^3}{3}\qquad b\to bx\qquad cx^{-2}\to -cx^{-1}$.

The terms **do not have to be collected** but the coefficient for each term must be simplified so $-4\times\frac{x^{-1}}{-1}$ would not be one of the valid terms for this mark.
Accept e.g. $"-2"x^1$ for $"-2"x$
Does not need to be an expression for this mark i.e. terms may be on separate lines.
Ignore other incorrect terms for this mark.

A1: $4x^3+\frac{4}{x}-2x+c$ or exact simplified equivalent **including the + *c***. So accept $\frac{4}{x}\leftrightarrow 4x^{-1}$
Accept e.g. $-2x^1$
Condone spurious notation such as an integral sign at the start or a dx at the end.
Do not ISW if candidates proceed say to multiply by x to get rid of the fractional terms.