Question Number	Scheme	Marks
1. (a)	$\left(1-\frac{1}{6}x\right)^9 = 1+9\left(-\frac{1}{6}x\right)^1+\frac{9\times8}{2}\left(-\frac{1}{6}x\right)^2+\frac{9\times8\times7}{3!}\left(-\frac{1}{6}x\right)^3+\ldots$	M1
	$=1-\frac{3}{2}x+x^2-\frac{7}{18}x^3$	A1, A1 **(3)**
(b)	$(10x+3)\left(1-\frac{3}{2}x+x^2-\frac{7}{18}x^3\right)$	
	Coefficient of $x^3 = 10\times1+3\times-\frac{7}{18}=\frac{53}{6}$	M1 A1 **(2)** **(5 marks)**

(a)

M1: For an attempt at the binomial expansion. Score for a correct attempt at any of term 2, 3 or 4.

Accept sight of ${}^9C_1\left(\pm\frac{1}{6}x\right)^1$ or ${}^9C_2\left(\pm\frac{1}{6}x\right)^2$ or ${}^9C_3\left(\pm\frac{1}{6}x\right)^3$ condoning the omission of brackets.

Coefficients may appear from Pascal's triangle but should be correct for the term.

A1: For any two simplified terms of $-\frac{3}{2}x+x^2-\frac{7}{18}x^3$

A1: For $1-\frac{3}{2}x+x^2-\frac{7}{18}x^3$ ignoring terms with greater powers. Allow as a list, allow $+-\frac{3}{2}x$ etc but the fractions must be simplified. Accept $1x^2$. ISW following a correct expression (e.g. if multiply through by 2). If given as decimals they must be exact (recurring if appropriate).

(b)

M1: For attempting to find $10b\pm3c$ combined to a single term for their $(10x+3)\left(1+ax+bx^2+cx^3+\right)$

A1: cao for $\frac{53}{6}$ but condone $\frac{53}{6}x^3$ and isw. Accept embedded in an expansion with other terms as long as simplified to correct single x^3 term. If given as a decimal must be exact recurring.