Question Number	Scheme	Marks
1(a)	$(1-4x)^7$	
	Correct form for term 3 or term 4: Either $\frac{7\times6}{2}(...x)^2$ **or** $\frac{7\times6\times5}{6}(...x)^3$ o.e.	M1
	$\frac{7\times6}{2}(-4x)^2$ **or** $\frac{7\times6\times5}{6}(-4x)^3$ o.e.	A1
	$=\underline{1-28x}+336x^2-2240x^3$	B1, A1
		(4)
(b)	Sets $"336"\times5-"28"k=1316$	M1
	$(k=)\ 13$	A1
		(2)
		(6 marks)

(a) Note that a correct expression scores 4/4

M1: Correct form for x^2 or x^3. Look for the correct binomial coefficient with the correct power of x. You do not need to be concerned with the -4 which may have been omitted.

Allow alternative equivalent notation for the binomial coefficient for this mark e.g. ${}^7C_2$ or ${}^7C_5$ or $\binom{7}{2}$ or $\frac{7!}{2!5!}$ etc

Condone invisible brackets for this mark e.g. ${}^7C_2\ 1^5-4x^2$

A1: Correct x^2 **or** x^3 term (which may be unsimplified). They must have a numerical expression or value for their binomial coefficient for this mark. i.e. do not allow e.g. ${}^7C_3$

Do not condone poor bracketing for this mark but may be implied by further work.

B1: For the series starting $1-28x$ (terms may be in any order or as a list)

Condone $1-28x^1$ but not e.g. $1+-28x$

isw if they subsequently incorrectly attempt to simplify their answer.

A1: $336x^2-2240x^3$ Do not accept e.g. $336x^2+-2240x^3$ unless already penalised for B1.

Allow the terms to be written as a list.

isw once the correct simplified terms have been found

(b)

M1: Adds the correct two terms using their coefficients from (a) and sets equal to 1316. (Allow misread)

Look for $"336"\times5\pm"28"k=1316$ i.e. they do not need to proceed to a value for k for this mark

If they still have x and x^2 present in the equation then these must be removed or implied by further work to score the mark. Condone transcription errors from their part (a).

If just a value is stated following an incorrect part (a), then you will need to check this.

A1: $(k=)\ 13$