Question 1

Question number	Scheme	Marks
(a).	$(1+\frac{x}{4})^8 = 1 + 2x + ..,$	B1
	$+\frac{8\times 7}{2}(\frac{x}{4})^2 + \frac{8\times 7\times 6}{2\times 3}(\frac{x}{4})^3,$	M1 A1
	$= \quad +\frac{7}{4}x^2 + \frac{7}{8}x^3$ or $= \quad +1.75x^2 + 0.875x^3$	A1 (4)
(b)	States or implies that $x = 0.1$	B1
	Substitutes their value of x (provided it is <1) into series obtained in (a)	M1
	i.e. $1 + 0.2 + 0.0175 + 0.000875, = 1.2184$	A1 cao (3) 7
Alternative for (b) Special case	Starts again and expands $(1+0.025)^8$ to $1 + 8\times 0.025 + \frac{8\times 7}{2}(0.025)^2 + \frac{8\times 7\times 6}{2\times 3}(0.025)^3, = 1.2184$ (Or $1 + 1/5 + 7/400 + 7/8000 = 1.2184$)	B1,M1,A1
Notes	**(a) B1** must be simplified The **method** mark **(M1)** is awarded for an attempt at Binomial to get the third and/or fourth term – need correct binomial coefficient combined with correct power of x. Ignore bracket errors or errors in powers of 4. Accept any notation for ${}^8C_2$ and ${}^8C_3$, e.g. $\binom{8}{2}$ and $\binom{8}{3}$ (unsimplified) or 28 and 56 from Pascal's triangle. (The terms may be listed without + signs) First **A1** is for two completely correct unsimplified terms **A1** needs the fully simplified $\frac{7}{4}x^2$ *and* $\frac{7}{8}x^3$. **(b) B1** – states or uses $x = 0.1$ or $\frac{x}{4} = \frac{1}{40}$ **M1** for substituting their value of x ($0 < x < 1$) into expansion (e.g. 0.1 (correct) or 0.01, 0.00625 or even 0.025 but **not** 1 nor 1.025 which would earn **M0**) **A1** Should be answer printed cao (not answers which round to) and should follow correct work. **Answer with no working at all** is B0, M0, A0 States 0.1 then just writes down answer is B1 M0A0	

Question 2

Question number	Scheme	Marks
	$\left[(2-3x)^5\right] = \ldots \quad +\binom{5}{1}2^4(-3x)+\binom{5}{2}2^3(-3x)^2+\ldots, \quad \ldots\ldots$	M1
	$= 32, \ -240x, \ +720x^2$	B1, A1 , A1
		Total 4
Notes	**M1**: The **method** mark is awarded for an attempt at Binomial to get the second and/or third term – need **correct** binomial coefficient combined **with correct power of *x***. Ignore errors (or omissions) in powers of 2 or 3 or sign or bracket errors. Accept any notation for ${}^5C_1$ and ${}^5C_2$, e.g. $\binom{5}{1}$ and $\binom{5}{2}$ (unsimplified) or 5 and 10 from Pascal's triangle This mark may be given if no working is shown, but either or both of the terms including x is correct. **B1**: must be simplified to 32 (writing just 2^5 is **B0**). **32** must be the only constant term in the final answer- so 32 +80 - 3x+80 +9 x^2 is B0 but may be eligible for M1A0A0 . **A1**: **is cao and is for** $-240\,x$. (not +-240x) The x is required for this mark **A1**: is c.a.o and is for $720x^2$ (can follow omission of negative sign in working) A list of correct terms may be given credit i.e. series appearing on different lines Ignore extra terms in x^3 and/or x^4 (isw)	
Special Case	Special Case: *Descending powers* of x would be $(-3x)^5+2\times5\times(-3x)^4+2^2\times\binom{5}{3}\times(-3x)^3+..$ i.e. $-243x^5+810x^4-1080x^3+..$ This is a misread but award as s.c. M1B1A0A0 if completely "correct" or M1 B0A0A0 for <u>correct</u> binomial coefficient in any form with the correct power of x	
Alternative Method	**Method 1:** $\left[(2-3x)^5\right]=2^5(1+\binom{5}{1}(-\frac{3x}{2})+\binom{5}{2}(\frac{-3x}{2})^2+..\ )$ is **M1B0A0A0 {** The M1 is for the expression **in the bracket** and as in first method– need **correct** binomial coefficient combined with correct power of x. Ignore bracket errors or errors (or omissions) in powers of 2 or 3 or sign or bracket errors} – answers must be simplified to $=32,-240x,+720x^2$ for full marks (awarded as before) $\left[(2-3x)^5\right]=2(1+\binom{5}{1}(-\frac{3x}{2})+\binom{5}{2}(\frac{-3x}{2})^2+..\ )$ would also be awarded **M1B0A0A0** **Method 2: Multiplying out** : B1 for 32 and M1A1A1 for other terms with M1 awarded if x or x^2 term is correct. Completely correct is 4/4	

Question 3

Question Number	Scheme		Marks
	$(2-5x)^6$		
	$(2^6 =)\ 64$	Award this when first seen (not $64x^0$)	B1
	$+6\times(2)^5(-5x)+\frac{6\times5}{2}(2)^4(-5x)^2$	Attempt binomial expansion with correct structure for at least one of these terms. E.g. a term of the form: $\binom{6}{p}\times(2)^{6-p}(-5x)^p$ with $p=1$ or $p=2$ consistently. Condone sign errors. Condone missing brackets if later work implies correct structure and allow alternative forms for binomial coefficients e.g. ${}^6C_1$ or $\binom{6}{1}$ or even $\left(\frac{6}{1}\right)$	M1
	$-960x$	Not $+-960x$	A1 (first)
	$(+)6000x^2$		A1 (Second)
			(4)
Way 2	$64(1\pm\ldots\ldots\ldots\ldots)$	**64 and** $(1\pm\ldots\ldots$ – Award when first seen.	B1
	$\left(1-\frac{5x}{2}\right)^6=1\ \underline{-6\times\frac{5x}{2}}+\underline{\frac{6\times5}{2}\left(-\frac{5x}{2}\right)^2}$	Correct structure for at least one of the underlined terms. E.g. a term of the form: $\binom{6}{p}\times(kx)^p$ with $p=1$ or $p=2$ consistently and $k\neq\pm5$ Condone sign errors. Condoned missing brackets if later work implies correct structure but it must be an expansion of $(1-kx)^6$ where $k\neq\pm5$	M1
	$-960x$	Not $+-960x$	A1
	$(+)6000x^2$		A1
			(4)

Question 4

Question Number	Scheme	Marks
(a)	$(2+3x)^4$ - Mark (a) and (b) together $2^4 + {}^4C_1 2^3(3x) + {}^4C_2 2^2(3x)^2 + {}^4C_3 2^1(3x)^3 + (3x)^4$ First term of 16 $({}^4C_1 \times ... \times x) + ({}^4C_2 \times ... \times x^2) + ({}^4C_3 \times ... \times x^3) + ({}^4C_4 \times ... \times x^4)$ $=(16+)\ 96x + 216x^2 + 216x^3 + 81x^4$ Must use Binomial – otherwise A0, A0	 B1 M1 A1 A1 (4)
(b)	$(2-3x)^4 = 16 - 96x + 216x^2 - 216x^3 + 81x^4$	B1ft (1) 5
Alternative method (a)	$(2+3x)^4 = 2^4(1+\frac{3x}{2})^4$ $2^4(1 + {}^4C_1(\frac{3x}{2}) + {}^4C_2(\frac{3x}{2})^2 + {}^4C_3(\frac{3x}{2})^3 + (\frac{3x}{2})^4)$ Scheme is applied exactly as before	
	Notes for Question	
(a) (b)	B1: The constant term should be 16 in their expansion M1: Two binomial coefficients must be correct and must be with the correct power of x. Accept ${}^4C_1$ or $\binom{4}{1}$ or 4 **as a coefficient, and** ${}^4C_2$ or $\binom{4}{2}$ or 6 **as another**…….. Pascal's triangle may be used to establish coefficients. A1: Any two of the final four terms correct (i.e. two of $96x + 216x^2 + 216x^3 + 81x^4$) in expansion following Binomial Method. A1: All four of the final four terms correct in expansion. (Accept answers without + signs, can be listed with commas or appear on separate lines) B1ft: Award for correct answer as printed above or **ft their previous answer** provided it has **five terms** ft and must be **subtracting the** x **and** x^3 **terms** Allow terms in (b) to be in descending order and allow +-96x and +-216x^3 in the series. (Accept answers without + signs, can be listed with commas or appear on separate lines)	
	e.g. The common error $2^4 + {}^4C_1 2^3 3x + {}^4C_2 2^2 3x^2 + {}^4C_3 2^1 3x^3 + 3x^4 = (16) + 96x + 72x^2 + 24x^3 + 3x^4$ would earn B1, M1, A0, A0, and if followed by $=(16) - 96x + 72x^2 - 24x^3 + 3x^4$ gets B1ft so 3/5 **Fully correct answer with no working can score B1 in part (a) and B1 in part (b).** The question stated use the Binomial theorem and if there is no evidence of its use then M mark and hence A marks cannot be earned. **Squaring the bracket and squaring again** may also earn **B1 M0 A0 A0 B1 if correct** **Omitting the final term** but otherwise correct is B1 M1 A1 A0 B0ft so 3/5 If the series is divided through by 2 or a power of 2 at the final stage after an error or omission resulting in all even coefficients then apply scheme to series before this division and ignore subsequent work (isw)	

Question 5

Question Number	Scheme	Marks
Way 1	$\left(2-\frac{1}{2}x\right)^8 = 2^8 + \binom{8}{1}.2^7\left(-\frac{1}{2}x\right)+\binom{8}{2}2^6\left(-\frac{1}{2}x\right)^2+\binom{8}{3}2^5\left(-\frac{1}{2}x\right)^3$	
	First term of 256	B1
	$\left({}^8C_1\times\ldots\times x\right)+\left({}^8C_2\times\ldots\times x^2\right)+\left({}^8C_3\times\ldots\times x^3\right)$	M1
	$=(256)-512x+448x^2-224x^3$	A1, A1
		(4)
		Total 4
Way 2	$\left(2-\frac{1}{2}x\right)^8 = 2^8\left(1-\frac{1}{4}x\right)^8 = 2^8\left(1+\binom{8}{1}.\left(-\frac{1}{4}x\right)+\binom{8}{2}\left(-\frac{1}{4}x\right)^2+\binom{8}{3}\left(-\frac{1}{4}x\right)^3\right)$ Scheme is applied exactly as before except in special case below*	
	Notes for Question	
	B1: The first term should be 256 in their expansion M1: Two binomial coefficients must be correct and must be with the correct power of x. Accept ${}^8C_1$ or $\binom{8}{1}$ or 8 **as a coefficient, and** ${}^8C_2$ or $\binom{8}{2}$ or 28 **as another……..** Pascal's triangle may be used to establish coefficients. A1: Any two of the final three terms correct (but allow +- instead of -) A1: All three of the final three terms correct and simplified. (Deduct last mark for +-512x *and* +-224x^3 in the series). Also deduct last mark for the three terms correct but unsimplified. (Accept answers without + signs, can be listed with commas or appear on separate lines) The common error $\left(2-\frac{1}{2}x\right)^8 = 256+\binom{8}{1}.2^7\left(-\frac{1}{2}x\right)+\binom{8}{2}2^6\left(-\frac{1}{2}x^2\right)+\binom{8}{3}2^5\left(-\frac{1}{2}x^3\right)$ would earn B1, M1, A0, A0 **Ignore extra terms** involving higher powers. Condone terms in reverse order i.e. $=-224x^3+448x^2-512x+(256)$ ***In Way 2 the error** $=2\left(1+\binom{8}{1}.\left(-\frac{1}{4}x\right)+\binom{8}{2}\left(-\frac{1}{4}x\right)^2+\binom{8}{3}\left(-\frac{1}{4}x\right)^3\right)$ giving $=2-4x+\frac{7}{2}x^2-\frac{7}{4}x^3$ is a **special case** B0, M1, A1, A0 i.e. 2/4	

Question 6

Question Number	Scheme		Marks
	$\left(1+\frac{3x}{2}\right)^8$		
	$1+12x$	Both terms correct as printed (allow $12x^1$ but not 1^8)	B1
	$...+\frac{8(7)}{2!}\left(\frac{3x}{2}\right)^2+\frac{8(7)(6)}{3!}\left(\frac{3x}{2}\right)^3+...$ $...+{}^8C_2\left(\frac{3x}{2}\right)^2+{}^8C_3\left(\frac{3x}{2}\right)^3+...$	$\left(\frac{8(7)}{2!}\times...\times x^2\right)$ or $\left(\frac{8(7)(6)}{3!}\times...\times x^3\right)$ or $\left({}^8C_2\times...\times x^2\right)$ or $\left({}^8C_3\times...\times x^3\right)$ M1: For <u>either</u> the x^2 term <u>or</u> the x^3 term. Requires <u>correct</u> binomial coefficient in any form <u>with the correct power of x</u>, but the other part of the coefficient (perhaps including powers of 2 and/or 3 or signs) may be wrong or missing.	M1
	<u>Special Case:</u> Allow this M1 <u>only</u> for an attempt at a descending expansion provided the equivalent conditions are met for any term <u>other than the first</u> e.g. $...+8\left(\frac{3x}{2}\right)^7(1)+\frac{8(7)}{2!}\left(\frac{3x}{2}\right)^6(1)^2+...$ $...+{}^8C_1\left(\frac{3x}{2}\right)^7+{}^8C_2\left(\frac{3x}{2}\right)^6+...$		
	$...+63x^2+189x^3+...$	A1: **Either** $63x^2$ **or** $189x^3$ A1: **Both** $63x^2$ **and** $189x^3$	A1A1
	Terms may be listed but must be positive		
			[4]
			Total 4
	Note it is common not to square the 2 in the denominator of $\left(\frac{3x}{2}\right)$ and this gives $1+12x+126x^2+756x^3$. This could score B1M1A0A0.		
	Note $...+{}^8C_2\left(1^4+\frac{3x}{2}\right)^2+{}^8C_3\left(1^3+\frac{3x}{2}\right)^3+...$ would score M0 unless a correct method was implied by later work		

Question 7

Question Number	Scheme	Marks
Way 1	$\left(2-\frac{x}{4}\right)^{10}$	
	$2^{10}+\binom{10}{1}2^{9}\left(-\frac{1}{4}x\right)+\binom{10}{2}2^{8}\left(-\frac{1}{4}x\right)^{2}+\ldots$ For **either** the x term **or** the x^2 term including a correct binomial coefficient with a correct power of x	M1
	First term of 1024	B1
	$=\underline{1024}-1280x+720x^{2}$ **Either** $-1280x$ **or** $720x^{2}$ (Allow +-1280x here)	A1
	Both $-1280x$ and $720x^{2}$ (Do not allow +-1280x here)	A1 [4]
Way 2	$\left(2-\frac{x}{4}\right)^{10}=2^{k}\left(1-10\times\frac{x}{8}+\frac{10\times 9}{2}\left(-\frac{x}{8}\right)^{2}\right)$	M1
	$1024(1\pm\ldots\ldots)$	
	$=\underline{1024}-1280x+720x^{2}$	B1A1 A1 [4]

Notes

M1: For either the x term or the x^2 term having correct structure i.e. a correct binomial coefficient in any form with the correct power of x. Condone sign errors and condone missing brackets and allow alternative forms for binomial coefficients e.g. ${}^{10}C_1$ or $\binom{10}{1}$ or even $\left(\frac{10}{1}\right)$ or 10. The powers of 2 or of ¼ may be wrong or missing.

B1: Award this for 1024 when first seen as a distinct constant term (not $1024x^0$) and not 1 + 1024

A1: For one correct term in x with coefficient simplified. Either -1280x or $720x^2$ (allow +-1280x here)

Allow $720x^2$ to come from $\left(\frac{x}{4}\right)^2$ with no negative sign. So use of + sign throughout could give M1 B1 A1 A0

A1: For both correct simplified terms i.e. -1280x and $720x^2$ (**Do not** allow +-1280x here)

Allow terms to be listed for full marks e.g. $\underline{1024,}\ -1280x,\ +720x^2$

N.B. If they follow a correct answer by a factor such as $512-640x+360x^2$ then isw

Terms may be listed. Ignore any extra terms.

Notes for Way 2

M1: Correct structure for at least one of the underlined terms. i.e. a correct binomial coefficient in any form with the correct power of x. Condone sign errors and condone missing brackets and allow alternative forms for binomial coefficients e.g. ${}^{10}C_1$ or $\binom{10}{1}$ or even $\left(\frac{10}{1}\right)$ or 10. k may even be 0 or 2^k may not be seen. Just consider the bracket for this mark.

B1: Needs 1024(1…. To become 1024

A1, A1: as before

Question 8

Question Number	Scheme		Marks
	(a) $(2-9x)^4 = 2^4 + {}^4C_1 2^3(-9x) + {}^4C_2 2^2(-9x)^2$, (b) $f(x) = (1+kx)(2-9x)^4 = A - 232x + Bx^2$		
(a) Way 1	First term of 16 in their final series		B1
	At least one of $({}^4C_1 \times \ldots \times x)$ or $({}^4C_2 \times \ldots \times x^2)$		M1
	$= (16) - 288x + 1944x^2$	At least one of $-288x$ or $+1944x^2$	A1
		Both $-288x$ and $+1944x^2$	A1
			[4]
(a) Way 2	$(2-9x)^4 = (4 - 36x + 81x^2)(4 - 36x + 81x^2)$		
		First term of 16 in their final series	B1
	$= 16 - 144x + 324x^2 - 144x + 1296x^2 + 324x^2$	Attempts to multiply a 3 term quadratic by the same 3 term quadratic to achieve either 2 terms in x or at least 2 terms in x^2.	M1
	$= (16) - 288x + 1944x^2$	At least one of $-288x$ or $+1944x^2$	A1
		Both $-288x$ and $+1944x^2$	A1
			[4]
(a) Way 3	$\{(2-9x)^4 =\}\ 2^4\left(1 - \frac{9}{2}x\right)^4$	First term of 16 in final series	B1
	$= 2^4\left(1 + \underline{4\left(-\frac{9}{2}x\right) + \frac{4(3)}{2}\left(-\frac{9}{2}x\right)^2} + \ldots\right)$	At least one of $\underline{(4 \times \ldots \times x) \text{ or } \left(\frac{4(3)}{2} \times \ldots \times x^2\right)}$	M1
	$= (16) - 288x + 1944x^2$	At least one of $-288x$ or $+1944x^2$	A1
		Both $-288x$ and $+1944x^2$	A1
			[4]
	Parts (b), (c) and (d) may be marked together		
(b)	$A = \text{"16"}$	Follow through their value from (a)	B1ft
			[1]
(c)	$\{(1+kx)(2-9x)^4\} = (1+kx)(16 - 288x + \{1944x^2 + \ldots\})$	*May be seen in part (b) or (d) and can be implied by work in parts (c) or (d).*	M1
	x terms: $-288x + 16kx = -232x$		
	giving, $16k = 56 \Rightarrow \underline{k = \frac{7}{2}}$	$\underline{k = \frac{7}{2}}$	A1
			[2]
(d)	x^2 terms: $1944x^2 - 288kx^2$		
	So, $B = 1944 - 288\left(\frac{7}{2}\right)$; $= 1944 - 1008 = 936$	See notes	M1
		936	A1
			[2]
			9

		Question Notes
(a) Ways 1 and 3	B1 cao	16
	M1	Correct binomial coefficient associated with correct power of x *i.e* $\left({}^4C_1\times\ldots\times x\right)$ or $\left({}^4C_2\times\ldots\times x^2\right)$ They may have 4 and 6 or 4 and $\frac{4(3)}{2}$ or even $\binom{4}{1}$ and $\binom{4}{2}$ as their coefficients. Allow missing signs and brackets for the M marks.
	1st A1	At least one of $-288x$ or $+1944x^2$ (allow +- $288x$)
	2nd A1	Both $-288x$ **and** $+1944x^2$ (May list terms separated by commas) Also full marks for correct answer with no working here. Again allow +- $288x$
	Note	If the candidate then divides their final correct answer through by 8 or any other common factor then isw and mark correct series when first seen. So (a) B1M1A1A1 .It is likely that this approach will be followed by (b) B0, (c) M1A0, (d) M1A0 if they continue with their new series e.g. $2-36x+283x^2+\ldots$ (Do not ft the value 2 as a mark was awarded for 16)
Way 2b	Special Case	**Slight Variation on the solution given in the scheme** $(2-9x)^4=(2-9x)(2-9x)(4-36x+81x^2)$ $=(2-9x)(8-108x+486x^2+\ldots)$ $=16-216x+972x^2-72x+972x^2$ $=(16)-288x+1944x^2+\ldots$ First term of 16 — B1 Multiplies out to give either 2 terms in x or 2 terms in x^2. — M1 At least one of $-288x$ or $+1944x^2$ — A1 Both $-288x$ **and** $+1944x^2$ — A1
		Parts (b), (c) and (d) may be marked together.
(b)	B1ft	Must **identify** $A=16$ or $A=$ *their* constant term found in part (a). Or may write just 16 if this is clearly their answer to part (b). If they expand their series and have 16 as first term of a series it is not sufficient for this mark.
(c)	M1	Candidate shows intention to multiply $(1+kx)$ by part of their series from (a) e.g. Just $(1+kx)(16-288x+\ldots)$ or $(1+kx)(16-288x+1944x^2+\ldots)$ are fine for M1.
	Note	This mark can also be implied by candidate multiplying out to find **two terms** (or coefficients) in x. i.e. f.t. their $-288x+16kx$ N.B. $-288kx=-232x$ with no evidence of brackets is M0 – allow copying slips, or use of factored series, as this is a method mark
	A1	$k=\frac{7}{2}$ o.e. so 3.5 is acceptable
(d)	M1	Multiplies out their $(1+kx)(16-288x+1944x^2+\ldots)$ to give **exactly** two terms (or coefficients) in x^2 and attempts to find B using **these two terms** and a numerical value of k.
	A1	936
	Note	Award A0 for $B=936x^2$ But allow A1 for $B=936x^2$ **followed by** $B=936$ and treat this as a correction Correct answers in parts (c) and (d) with no method shown may be awarded full credit.

Question 9

Question Number	Scheme	Marks
	$\left(3-\frac{1}{3}x\right)^5$ - $3^5 + {}^5C_1 3^4(-\frac{1}{3}x) + {}^5C_2 3^3(-\frac{1}{3}x)^2 + {}^5C_3 3^2(-\frac{1}{3}x)^3 ...$ First term of 243 $\left({}^5C_1 \times ... \times x\right) + \left({}^5C_2 \times ... \times x^2\right) + \left({}^5C_3 \times ... \times x^3\right) ...$ $=(243 ..)\ -\frac{405}{3}x + \frac{270}{9}x^2 - \frac{90}{27}x^3 ...$ $=(243 ..) - 135x + 30x^2 - \frac{10}{3}x^3 ..$	 B1 M1 A1 A1 (4) **[4]**
Alternative method	$\left(3-\frac{1}{3}x\right)^5 = 3^5(1-\frac{x}{9})^5$ $3^5(1 + {}^5C_1(-\frac{1}{9}x) + {}^5C_2(-\frac{1}{9}x)^2 + {}^5C_3(-\frac{1}{9}x)^3\ \ ...)$ Scheme is applied exactly as before	
	Notes B1: The constant term should be 243 in their expansion M1: Two of the three binomial coefficients must be correct and must be with the correct power of x. Accept ${}^5C_1$ or $\binom{5}{1}$ or 5 **as a coefficient, and** ${}^5C_2$ or $\binom{5}{2}$ or 10 **as another and** ${}^5C_3$ or $\binom{5}{3}$ or 10 as **another……..** Pascal's triangle may be used to establish coefficients. NB: If they only include the first two of these terms then the M1 may be awarded. A1: Two of the final three terms correct – may be unsimplified i.e. two of $-135x + 30x^2 - \frac{10}{3}x^3$ correct, or two of $-\frac{405}{3}x + \frac{270}{9}x^2 - \frac{90}{27}x^3$ (may be just two terms) A1: All three final terms correct and simplified. (Can be listed with commas or appear on separate lines. Accept in reverse order.) Accept correct alternatives to $-\frac{10}{3}$ e.g. $-3\frac{1}{3}$ or $-3.\dot{3}$ the recurring must be clear. 3.3 is not acceptable. Allow e.g. $+ -135x$	
	e.g. The common error $3^5 + {}^5C_1 3^4(-\frac{1}{3})x + {}^5C_2 3^3(-\frac{1}{3})x^2 + {}^5C_3 3^2(-\frac{1}{3})x^3 = (243) - 135x - 90x^2 - 30x^3$ would earn B1, M1, A0, A0, so 2/4 If extra terms are given then isw No negative signs in answer also earns B1, M1, A0, A0 If the series is divided through by 3 at the final stage after an error or omission resulting in all multiple of three coefficients then apply scheme to series before this division and ignore subsequent work (isw) **Special Case**: Only gives first three terms $=(243 ..) - 135x + 30x^2\ ...$ or $243 - \frac{405}{3}x + \frac{270}{9}x^2$ Follow the scheme to give B1 M1 A1 A0 special case. (Do not treat as misread.) Answers such as $243\ + 405 - \frac{1}{3}x + 270 - \frac{1}{9}x^2 + 90 - \frac{1}{27}x^3 ..$ gain no credit as the binomial coefficients are not linked to the x terms.	