Q	Marking instructions	AO	Marks	Typical solution
9(a)	Selects an appropriate method to determine A and B eg forms $x+3=A(1-x)+B(1-3x)$ **and** substitutes a value for x or compares coefficients. Or Uses cover-up method/inspection PI by correct A or B	3.1a	M1	$x+3=A(1-x)+B(1-3x)$ $x=1 \Rightarrow 4=-2B$ $B=-2$ $A=5$
	Obtains correct $A=5$ and $B=-2$	1.1b	A1	
	Subtotal		**2**	

Q	Marking instructions	AO	Marks	Typical solution
9(b)(i)	Obtains 2 correct terms ACF	1.1a	M1	$(1-x)^{-1} \approx$ $1+(-1)(-x)+\dfrac{(-1)(-2)(-x)^2}{2}$ $=1+x+x^2$
	Obtains $1+x+x^2$	1.1b	A1	
	Subtotal		**2**	

Q	Marking instructions	AO	Marks	Typical solution
9(b)(ii)	Obtains $1+3x+9x^2$	2.2a	R1	$1+3x+9x^2$
	Subtotal		**1**	

Q	Marking instructions	AO	Marks	Typical solution
9(c)(i)	Forms their $A(1+3x+9x^2)+B(1+x+x^2)$ Or Expands their $(x+3)(1+x+x^2)(1+3x+9x^2)$ with two brackets correctly expanded up to terms in x^2	3.1a	M1	$5(1+3x+9x^2)-2(1+x+x^2)$ $=3+13x+43x^2$
	Obtains $3+13x+43x^2$	1.1b	A1	
	Subtotal		**2**	

Q	Marking instructions	AO	Marks	Typical solution
9(c)(ii)	Deduces range of values for x $\lvert x\rvert < \dfrac{1}{3}$ OE	2.2a	R1	$-\dfrac{1}{3} < x < \dfrac{1}{3}$
	Subtotal		**1**	

	Question 9 Total		**8**	