Question	Answer	Marks	Guidance
(a)	Commence division and reach quotient of the form $2x \pm 1$	**M1**	Or by inspection $8x^3 + 4x^2 + 2x + 7 = (4x^2 + 1)(2x \pm 1) + r$
	Obtain (quotient) $2x + 1$	**A1**	
	Obtain (remainder) 6	**A1**	
		3	

Question	Answer	Marks	Guidance
(b)	Obtain terms $x^2 + x$	**B1**	OE
	Obtain term of the form $a\tan^{-1} 2x$	**M1**	
	Obtain term $3\tan^{-1} 2x$	**A1**	OE
	Use $x = 0$ and $x = \frac{1}{2}$ as limits in a solution containing a term of the form $a\tan^{-1} 2x$	**M1**	$\left(\frac{1}{2}\right)^2 + \frac{1}{2} + a\frac{\pi}{4}$, need $\frac{\pi}{4}$ seen or implied
	Obtain final answer $\frac{3}{4}(1+\pi)$, or exact equivalent	**A1**	ISW, Answers in degrees score A0.
		5	