Q	Marking instructions	AO	Marks	Typical solution
11	Selects a correct method to find $p(x)$ For example Integrates to obtain at least one correct term in x Or Differentiates a general quartic and obtains at least one correct coefficient	3.1a	M1	$p(x) = 2x^4 - x^3 - 10x + c$ $p\left(\frac{1}{2}\right) = 0$ $\Rightarrow 2\left(\frac{1}{2}\right)^4 - \left(\frac{1}{2}\right)^3 - 10\left(\frac{1}{2}\right) + c = 0$ $\Rightarrow c = 5$ $\Rightarrow p(x) = \frac{8x^4}{4} - \frac{3x^3}{3} - 10x + 5$
	Obtains at least two correct terms in x Or Compares and obtains at least two correct coefficients	1.1a	M1	
	Obtains $\frac{8x^4}{4} - \frac{3x^3}{3} - 10x + c$ OE $2x^4 - x^3 - 10x + c$ Missing +c can be recovered if they go on to obtain $(2x - 1)(x^3 - 5)$ or $2x^4 - x^3 - 10x + 5$	1.1b	A1	
	Selects a correct method to find the constant term of $p(x)$ For example Substitutes $\frac{1}{2}$ into their quartic $2x^4 - x^3 - 10x$ (+ c = 0) must not be equated to anything other than 0. Or Uses algebraic division or inspection to obtain a cubic factor with at least two terms with the correct coefficient of x^3 for their $2x^4 - x^3 - 10x$ (+ c) PI by correct answer	3.1a	M1	
	Deduces $(p(x) =) \frac{8x^4}{4} - \frac{3x^3}{3} - 10x + 5$ OE $(p(x) =) 2x^4 - x^3 - 10x + 5$ may be in factorised form $(2x - 1)(x^3 - 5)$	2.2a	A1	
	Question 11 Total		**5**	