

Question	Scheme	Marks	AOs
<b>4(a)</b>	$f\left(-\frac{1}{2}\right) = p\left(-\frac{1}{2}\right)^3 - 7\left(-\frac{1}{2}\right)^2 - \left(-\frac{1}{2}\right) + q = 0$	M1	1.1b
	$-\frac{p}{8} - \frac{7}{4} + \frac{1}{2} + q = 0 \Rightarrow -p - 10 + 8q = 0$ $\Rightarrow 8q - p = 10^*$	A1*	2.1
		<b>(2)</b>	
<b>(b)</b>	$f(1) = 0 \Rightarrow p - 7 - 1 + q = 0$ $8q - p = 10, p + q = 8 \Rightarrow p = \dots, \text{ or } q = \dots$	M1	3.1a
	$p = 6, q = 2$	A1	1.1b
		<b>(2)</b>	

**(4 marks)****Notes****(a)**

M1: Attempts  $f\left(-\frac{1}{2}\right) = 0$  to obtain an equation in  $p$  and  $q$

A1\*: Proceeds with sufficient working and no errors to the printed answer

**(b)**

M1: Attempts  $f(1) = 0$  to obtain another equation in  $p$  and  $q$  and then solves with the given equation from part (a) to obtain a value for  $p$  or  $q$

A1: Correct values