

Question number	Scheme	Marks
2 (a)	$f(1) = 1 + p + q = -12$ $p + q = -13$ $f(4) = 64 + 4p + q = 30$ $4p + q = -34$ $3p = -21$ $p = -7$ and $q = -6$	M1 A1 M1 A1 M1 A1 (6)
(b)	$3^3 - 7 \times 3 - 6 = 27 - 21 - 6 = 0$ *	B1 cso (1)
(c)	$(x-3)(x^2 + 3x + 2)$ $(x-3)(x+2)(x+1)$	M1 M1 A1 (3)
(d)	$x = 3$ $x = -2$ $x = -1$	B1 ft (1)
		<b>[11]</b>
<b>Notes</b>		
(a)	For substitution of 1 into $f(x)$ For $p + q = -13$ oe For substitution of 4 into $f(x)$ For $4p + q = -34$ oe For solving simultaneously $p = -7$ and $q = -6$ For substituting 3 into $f(x)$ and obtaining the given result For $(x-3)(x^2 + 3x + 2)$ For factorising the quadratic $(x-3)(x+2)(x+1)$ For $x = 3$ $x = -2$ $x = -1$ or follow through part (c)	
M1		
A1		
M1		
A1		
M1		
A1		
(b)		
B1cso		
(c)		
M1		
M1		
A1		
(d)		
B1ft		