Question			Answer	Marks	AO	Guidance
6	(a)		$f(3) = 3^3 - 4\times3^2 + 10\times3 - 21$ $= 27 - 36 + 30 - 21 = 0$ [So by the factor theorem] $(x-3)$ is a factor	M1 A1 [2]	2.1 2.2a	Substitutes $x = 3$ into expression for $f(x)$. Do not allow for algebraic division Argues from zero clearly seen
6	(b)		Algebraic division gives $f(x) = (x-3)(x^2 - x + 7)$ So $b = -1$ and $c = 7$	M1 A1 [2]	3.1a 1.1	Attempts to divide by $(x-3)$ as far as linear term. Allow arithmetic slips. Also allow for expanding and equating coefficients. Allow seen in correct product of factors or correct algebraic division or multiplication grid. Correct factorisation by inspection scores both marks
6	(c)		[$f(x) = 0$ when $x = 3$] or when $x^2 - x + 7 = 0$ Discriminant $(-1)^2 - 4\times3\times7 = -27 < 0$ So no additional real roots	 M1 A1 [2]	 2.1 2.5	 Finds discriminant. Also allow for equivalent argument using quadratic formula or completing the square. www Clear argument from their negative discriminant. FT their b and c. Condone missing reference to the fact that $x = 3$ is a root.