Paper: 1MA1/3H				
Question	**Working**	**Answer**	**Mark**	**Notes**
13 **Q1**		$(x + 3)^2 - 16$	M1 A1	for $(x + 3)^2$ or $(x^2 + 6x - 7 =)\ x^2 + 2ax + a^2 + b$ cao

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19 (i) **Q2**	3, 8	M1	for $a = 3$, may be seen in working or as part of an expression, eg $(x - 3)^2 - 9$	9 does not have to be seen for this mark
		A1	for $a = 3$, $b = 8$	
(ii)	3, –8	B1	for 3, –8 **or** ft (i)	

Paper: 1MA1/1H				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21 (a)	$\frac{1}{4}$	M1	for f(1) = 3 × 1^2 + 1 (= 4) **and** a clear intention to find g("4") **or** for $\frac{4}{\left(3\times1^2+1\right)^2}$ **or** for stating gf(x), eg $\frac{4}{\left(3x^2+1\right)^2}$ oe	
Q3		A1	oe	
(b)	$\sqrt[4]{\frac{48}{x-1}}$	M1	for finding fg(x), eg $3\times\left(\frac{4}{x^2}\right)^2+1$ **or** $\frac{48}{x^4}+1$	
		M1	for start of method to find the inverse of fg(x), eg $y-1=3\times\left(\frac{4}{x^2}\right)^2$ **or** $y-1=\frac{48}{x^4}$ **or** $x-1=\frac{48}{y^4}$ **or** $x-1=3\times\left(\frac{4}{y^2}\right)^2$	
		M1	for $y^4=\frac{48}{x-1}$ **or** $x^4=\frac{48}{y-1}$ **or** for a final answer of $\sqrt[4]{\frac{48}{y-1}}$	
		A1	oe	

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
22 **Q4**	(3, 36)	P1	for factorising –3 from the expression, eg $-3(x^2 - 6x - 3)$ **or** $-3(x^2 - 6x) + 9$	
		P1	for starting the process to complete the square, eg $(x - 3)^2 - 9$	ft from their factorising if only one error
		P1	for completing the process of completing the square, eg $-3[(x - 3)^2 - 12]$ **or** $-3(x - 3)^2 + 36$	
		A1	cao	An answer only and no working is 0 marks

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Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
21 **Q5**	(7, −196) supported	P1 P1 A1	for process as far as $4(x^2 - 14x)$ or $(2x - 14)^2 + c$ or for $(x - 7)^2 - 49$ for full process to complete the square eg $4((x - 7)^2 - 49)$ or $(2x - 14)^2 - 196$ for conclusion from correct use of completing the square	c may be 0