Question	Answer	Marks	Guidance
10(a)	-18	**B1**	SOI
	$\frac{1}{18}$	**M1**	Use of $m_1 m_2 = -1$ from $f'(x)$ with $x = 1$.
	$\frac{y\ [-0]}{x-1} = \frac{1}{18}$	**A1**	OE ISW
		3	

Question	Answer	Marks	Guidance
10(b)	$\left[\mathrm{f}(x)=\right]\left\{8(2x-3)^{\frac{4}{3}}\cdot\frac{1}{2}\cdot\frac{1}{\frac{4}{3}}\right\}\left\{-10x^{\frac{5}{3}}\cdot\frac{1}{\frac{5}{3}}\right\}[+c]$ $\left[3(2x-3)^{\frac{4}{3}}-6x^{\frac{5}{3}}+c\right]$	**B1B1**	B1 for each unsimplified {}. Can be implied by equivalent simplified or partly simplified versions.
	$0=3(2(1)-3)^{\frac{4}{3}}-6(1)^{\frac{5}{3}}+c \quad [0=3-6+c]$	**M1**	Use of $x=1$ and $y=0$ in *their* integrated $f'(x)$, defined as an expression with at least one correct power, which must contain $+c$.
	$\left[f(x)\text{ or }y=\right]\ 3(2x-3)^{\frac{4}{3}}-6x^{\frac{5}{3}}+3$	**A1**	Only condone $c=3$ as their final answer if all coefficients have previously been simplified in a correct statement.
		4	
10(c)	$b^2-4ac=128^2-4\times125\times192$ and stating "<0" OR use of the quadratic formula and stating "No solutions" OR completing the square for the given quadratic and stating positive or >0. OR sketch of the given quadratic and stating positive.	**M1***	$b^2-4ac=-79616$ can be accepted in place of working.
	No turning points [in the original function.]	**DM1**	
	Decreasing because $f'(\text{any positive } x \text{ value})<0$	**A1**	WWW e.g. $f'(1)=-18$.
		3	