

Question		Answer	Marks	AO	Guidance
5	(a)	<p>DR</p> $\frac{dy}{dx} = 3x^2 - 10x + 6$ <p>When $x = 0$ $\frac{dy}{dx} = 6$</p> <p>Tangent goes through origin so equation is $y = 6x$ cao</p>	<p>M1</p> <p>M1</p> <p>A1</p> <p>[3]</p>	<p>1.1</p> <p>1.1</p> <p>1.1</p>	<p>At least two terms correct</p> <p>FT <i>their</i> $\frac{dy}{dx}$</p> <p>Need reasoning eg $y - 0 = 6(x - 0)$ or use of $y = mx + c$ $y = 6x$ implies previous M mark</p>
5	(b)	<p>DR</p> <p>When $x = 1$ $\frac{dy}{dx} = -1$</p> <p>Gradient of normal is 1</p> <p>$[(y - 2) = (x - 1)]$ so $y = x + 1$</p>	<p>M1</p> <p>M1</p> <p>A1</p> <p>[3]</p>	<p>1.1</p> <p>1.1</p> <p>1.1</p>	<p>FT <i>their</i> $\frac{dy}{dx}$ from (a)</p> <p>FT negative reciprocal of <i>their</i> $\frac{dy}{dx}$.</p> <p>oe but constant terms should be collected</p>
5	(c)	<p>DR</p> $6x = x + 1$ $x = \frac{1}{5}, y = \frac{6}{5}$ oe	<p>M1</p> <p>A1</p> <p>[2]</p>	<p>1.1</p> <p>1.1</p>	<p>Eliminate a variable</p> <p>FT their equations from (a) and (b) for M1 only</p>