Question	Answer	Marks	Guidance
(a)	$\left[\frac{\mathrm{d}y}{\mathrm{d}x}=\right]\frac{1}{2}x^{-1/2}-2x^{-3/2}$	**B1 B1**	Allow unsimplified versions.
	At $x = 1$, $\frac{\mathrm{d}y}{\mathrm{d}x}=\frac{1}{2}-2=-\frac{3}{2}$	**M1**	Substitute $x = 1$ into a differentiated y.
	Equation of tangent is $y-5=-\frac{3}{2}(x-1)$	**A1**	WWW Or $y=-\frac{3}{2}x+\frac{13}{2}$.
		4	

Question	Answer	Marks	Guidance
(b)	$\frac{x^{3/2}}{3/2}+8x^{1/2}$	**B1**	OE Integrate to find area under curve, allow unsimplified versions.
	$\left[\left(\frac{128}{3}+32\right)-\left(\frac{2}{3}+8\right)\right]$	**M1**	Apply limits 1 → 16 to an integrated expression.
	Area under line = 15 × 5 = 75	**B1**	Or by $\int_1^{16} 5\mathrm{d}x$.
	Required area = 75 – 66 = 9	**A1**	
		4	