

Q	Marking instructions	AO	Marks	Typical solution
5(a)	Expresses $x\sqrt{x}$ in index form. PI by correct answer ACF	1.1a	M1	$y = x^{\frac{3}{2}}$ $\frac{dy}{dx} = \frac{3}{2}x^{\frac{1}{2}}$
	Obtains the correct derivative. ACF ISW	1.1b	A1	
Subtotal			2	

Q	Marking instructions	AO	Marks	Typical solution
5(b)	Rearranges the equation of the line to isolate the term in y or x PI by gradient = 3	1.1a	M1	$6x - 2y + 5 = 0$ $2y = 6x + 5$ $\text{Gradient} = 3$ $\frac{3}{2}x^{\frac{1}{2}} = 3$ $x = 4$ $\text{From line } 2y = 6 \times 4 + 5$ $y = 14.5$ $14.5 = 4 \times 2 + k$ $k = 6.5$
	Obtains gradient of line = 3	1.1b	A1	
	Equates their gradient of line to their expression for $\frac{dy}{dx}$	3.1a	M1	
	Solves their equation correctly using their $\frac{dy}{dx}$ to obtain their x value of the contact point	1.1a	M1	
	Deduces $k = 6.5$.2.2a	A1	
Subtotal			5	

Question 5 Total			7	
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