

Q	Marking instructions	AO	Marks	Typical solution
7(a)	States correct coordinates of $B$ or $C$ Or States the correct x coordinates of $B$ and $C$	1.1a	M1	$A$ is (0, 2) $B$ is (1, 0) $C$ is (2, 0)
	Obtains $A(0, 2)$ , $B(1, 0)$ and $C(2, 0)$	1.1b	A1	
	<b>Subtotal</b>		<b>2</b>	

Q	Marking instructions	AO	Marks	Typical solution
7(b)(i)	Integrates in two parts with limits $O$ to $B$ and $B$ to $C$	3.1a	M1	$\int_0^1 (x^2 - 3x + 2) dx$ $= \left[ \frac{1}{3}x^3 - \frac{3}{2}x^2 + 2x \right]_0^1$ $= \left[ \frac{1}{3} - \frac{3}{2} + 2 \right] = \frac{5}{6}$ $\int_1^2 (x^2 - 3x + 2) dx$ $\left[ \frac{1}{3}x^3 - \frac{3}{2}x^2 + 2x \right]_1^2$ $\left[ \frac{1}{3} \times 8 - \frac{3}{2} \times 4 + 2 \times 2 \right] - \left( \frac{5}{6} \right)$ $= -\frac{1}{6}$ Total area = $\frac{5}{6} - \left(-\frac{1}{6}\right) = 1$
	Integrates quadratic function with at least one term correct	1.1a	M1	
	Integrates completely correctly	1.1b	A1	
	Substitutes the two sets of their limits and subtracts the $BC$ value from the $OB$ value or uses the modulus for the $BC$ value	1.1a	M1	
	Completes calculation of total area convincingly to given answer. AG	2.1	R1	
	<b>Subtotal</b>		<b>5</b>	

Q	Marking instructions	AO	Marks	Typical solution
7(b)(ii)	Explains that the area between $B$ and $C$ is treated as negative (OE)	2.3	E1	The calculator treats the area between $B$ and $C$ as negative.
	<b>Subtotal</b>		<b>1</b>	

	<b>Question Total</b>		<b>8</b>	
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