Q	Marking instructions	AO	Marks	Typical solution
9(a)	Substitutes the coordinates $(1, 2)$ and $(9, 2)$ to generate two equations. Allow one slip.	1.1a	M1	$2 = 1 - a + b$ $1 = -a + b$ $2 = 9 - 3a + b$ $-7 = -3a + b$
	Obtains two correct equations ACF	1.1b	A1	$a = 4$
	Obtains convincingly $a = 4$ and $b = 5$ If $a = 4$ is assumed to obtain $b = 5$ scores M1 A0 R0	1.1b	R1	$b = 5$
	Subtotal		**3**	

Q	Marking instructions	AO	Marks	Typical solution
9(b)	Integrates $x - 4\sqrt{x} + 5$, at least one term correct, using their b value Condone non-substitution of a	3.1a	M1	Area under curve $= \int_{1}^{9} (x - 4\sqrt{x} + 5)\, dx$ $\left[\dfrac{1}{2}x^2 - \dfrac{8}{3}x^{\frac{3}{2}} + 5x \right]_{1}^{9}$
	Obtains $\dfrac{1}{2}x^2 - \dfrac{8}{3}x^{\frac{3}{2}} + 5x$ FT their b value	1.1b	A1F	
	Substitutes correct limits into their integrated expression, including subtraction	1.1a	M1	$\dfrac{27}{2} - \dfrac{17}{6} = \dfrac{32}{3}$
	Obtains area of $\dfrac{32}{3}$ OE including 10.6 recurring	1.1b	A1	Area of rectangle is $2 \times 8 = 16$
	Finds their integrated area -16 Or $16 -$ their integrated area Allow area obtained from calculator Provided $0 <$ their integrated area < 16	1.1a	M1	Shaded area is $16 - \dfrac{32}{3} = \dfrac{16}{3}$
	Completes reasoned argument to obtain correct area of $\dfrac{16}{3}$ AG	2.1	R1	
	Subtotal		**6**	

	Question 9 Total		**9**	