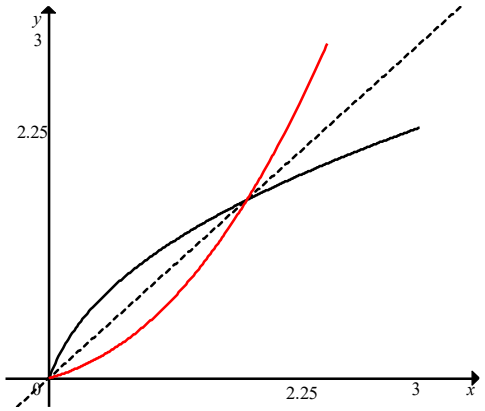
Question	Answer	Marks	Partial Marks
7(a)	$\left[\frac{6x^2}{2}-\frac{x^3}{3}\right]_0^5$	**B1**	
	Area under line: $0.5\times5\times5$ oe	**B1**	
	Fully actioned correct plan: $3(25)-\frac{5^3}{3}-\left(3(0)-\frac{0^3}{3}\right)-0.5\times5\times5$ oe	**M1**	
	$\frac{125}{6}$ oe isw	**A1**	**dep** on all previous marks
	Alternative method		
	$\int_0^5(5x-x^2)\mathrm{d}x$	**(B1)**	
	$\left[\frac{5x^2}{2}-\frac{x^3}{3}\right]_0^5$	**(B1)**	
	Correct use of correct limits $2.5(25)-\frac{5^3}{3}-\left(2.5(0)-\frac{0^3}{3}\right)$	**(M1)**	
	$\frac{125}{6}$ oe isw	**(A1)**	**dep** on all previous marks
7(b)(i)	$\frac{(2x-6)^{-2}}{-2\times2}+\sin x\ (+c)$ oe, isw	**3**	**B1** for sin$x$ **B2** for $\frac{(2x-6)^{-2}}{-2\times2}$ or **B1** for $\frac{(2x-6)^{-2}}{-2}$ soi
7(b)(ii)	$\frac{x^7}{2}+x^3+\frac{1}{2x}$ oe	**B1**	
	$\frac{x^8}{16}+\frac{x^4}{4}+\frac{1}{2}\ln x\,(+c)$ oe or $\frac{x^8}{16}+\frac{x^4}{4}+\frac{1}{2}\ln 2x\,(+c)$ oe	**B2**	**B1** for any two correct

Question	Answer	Marks	Partial Marks
8(a)(i)	[Domain f^{-1}] $0 \leqslant x \leqslant 2.25$ oe	**B2**	**B1** for either end correct or for 0 and 2.25 in an incorrect inequality
	[Range f^{-1}] $0 \leqslant f^{-1} \leqslant 3$	**B1**	
8(a)(ii)	$x = 1.6$ oe or $x = 0$	**2**	**B1** for each
8(a)(iii)		**2**	**B1** for attempt at correct graph of inverse function drawn over correct domain soi **B1** for correct shape with intersection in approximately correct location
8(b)(i)	For a complete method to find the inverse, including changing the subject and swapping the variables	**M1**	
	$\left[g^{-1}(x) = \right]\sqrt[3]{\dfrac{x^3-3}{8}}$ oe mark final answer	**A1**	
8(b)(ii)	[k =] 0	**1**	
8(b)(iii)	$\sqrt[3]{8e^{12x}+3}$ mark final answer	**1**	