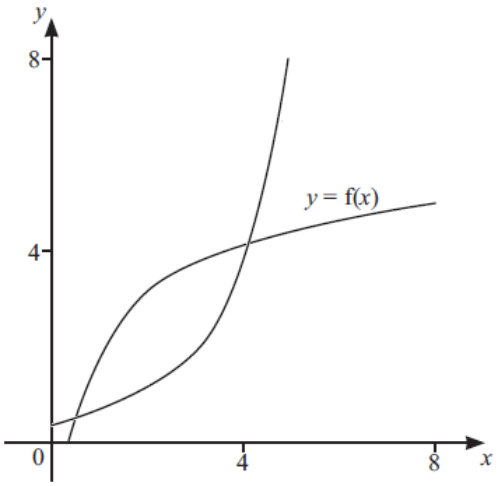
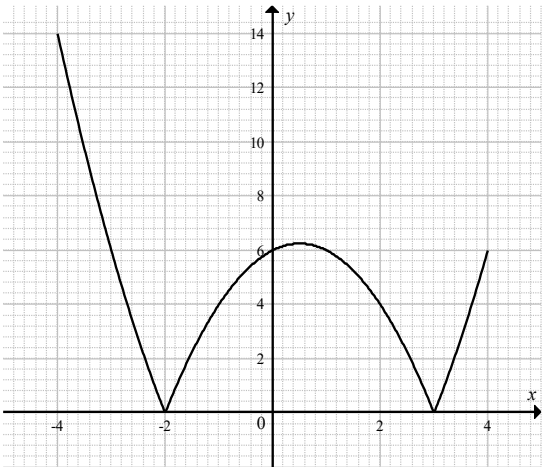
Question	Answer	Marks	Guidance
2(a)(i)		**B1**	• Correct inverse function drawn with correct shape over correct domain and range • 2nd intersection at roughly (4, 4)
2(a)(ii)	Reflection in $y = x$ oe	**B1**	
2(b)(i)	Complete method including change of subject and swop of variables at some point	**M2**	**M1** for $\ln y = \sqrt{x-2}$ or $\ln x = \sqrt{y-2}$ soi
	$\left[g^{-1}(x) =\right] (\ln x)^2 + 2$	**A1**	Final answer
2(b)(ii)	$g^{-1}(x) \geqslant 2$	**B1**	
2(b)(iii)	$e^{\frac{1}{x}}$ or $\sqrt[x]{e}$ or $e^{x^{-1}}$	**B2**	Final answer **B1** for $e^{\sqrt{\frac{1}{x^2}+2-2}}$ soi oe
3(a)(i)	$\left(x-\frac{1}{2}\right)^2 - \frac{25}{4}$ oe isw	**B2**	**B1** for $\left(x-\frac{1}{2}\right)^2$ or for $(x+a)^2 - \frac{25}{4}$ OR **B1** for $a = -\frac{1}{2}, b = -\frac{25}{4}$ stated
3(a)(ii)	$(-\textit{their } a, \textit{ their } b)$ oe	**B2**	**STRICT FT** from **part (i)** **B1 STRICT FT** for x-coordinate = $-$*their a* or for y-coordinate = *their b*

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Question	Answer	Marks	Guidance
3(b)	Correct graph  	**B3**	**B2** for correct shape with cusps and intercepts at (–2, 0), (3, 0) and (0, 6) and maximum in 1st quadrant or **B1** for correct shape with cusps on x-axis and incorrect intercepts or **B1** for correct shape with no cusps (e.g. having minima) **and** intercepts at (–2, 0), (3, 0) and at (0, 6)
3(c)	*their* $-2.7 < x < -1$, $2 < x <$ *their* 3.7	**B2**	**STRICT FTB2 dep** on a graph **with correct intercepts** earning at least **B1** in **part (b)** **and** their curve crossing $y = 4$ in four places **STRICT FTB1** for either '*their* $-2.7 < x < -1$' or ' $2 < x <$ *their* 3.7' OR **B1 FT** for *their* 4 critical values providing at least **B1** awarded for **part (b)** soi
4(a)(i)	$\frac{1}{5}e^{5x-2}(+c)$	**2**	**B1** for ke^{5x-2} where k is a non-zero constant
4(a)(ii)	$-\frac{1}{3}\ln(4-3x)(+c)$	**2**	**B1** for $-\frac{1}{3}\ln 4-3x$ or $kln(4-3x)$ where k is a non-zero constant
4(b)	$2\tan\left(\frac{1}{2}x\right)$	**M2**	**M1** for $k\tan\left(\frac{1}{2}x\right)$ where k is a non-zero constant
	Fully justified completion to given answer e.g. $2\tan\frac{\pi}{4}-2\tan\frac{\pi}{6}=2\left(1-\frac{\sqrt{3}}{3}\right)$	**A1**	Or $2(\tan\frac{\pi}{4}-\tan\frac{\pi}{6})=2\left(1-\frac{\sqrt{3}}{3}\right)$
5(a)	60 480 Final answer	**B1**	

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