Question	Answer	Marks	Partial Marks
5(a)	$2\left(x-\frac{1}{2}\right)^2+\frac{5}{2}$	**3**	**B2** for $2\left(x-\frac{1}{2}\right)^2$ or **B1** for $\left(x-\frac{1}{2}\right)^2$ or $a = 2$ and $b = –0.5$ oe **B1** for $\frac{5}{2}$ or $c = 2.5$ oe
5(b)	$\frac{1}{2}$	**B1**	**FT** *–their b*
5(c)	$f \geqslant \frac{5}{2}$	**B1**	**FT** *their c*
5(d)	$\left[f^{-1}(x) =\right] \frac{1}{2}-\sqrt{\frac{1}{2}\left(x-\frac{5}{2}\right)}$ oe or $\left[f^{-1}(x) =\right] \frac{2-\sqrt{8x-20}}{4}$ oe	**3**	**M1 FT** for a complete method to find the inverse with a correct order of operations **FT** an expression of the form $f(x) = a(x+b)^2+c$ **A1 FT** for $\left[f^{-1}(x) =\right] \frac{1}{2} \pm \sqrt{\frac{1}{2}\left(x-\frac{5}{2}\right)}$ oe **FT** *their* $\frac{1}{2}$ and *their* $\frac{5}{2}$
6(a)	$\cos\theta = -\sqrt{\frac{5}{6}}$ oe, isw	**B2**	**B1** for $\cos\theta = \sqrt{\frac{5}{6}}$ oe or $\cos\theta = \pm\sqrt{\frac{5}{6}}$ oe
6(b)	$\sin\theta = -\sqrt{\frac{1}{6}}$ oe, isw	**B1**	
6(c)	$\frac{5-[1]\sqrt{6}}{\sqrt{5}}$	**2**	**M1** for $[\sec\theta + \cot\theta =] \frac{1}{\cos\theta}+\frac{1}{\tan\theta}$ or $\frac{1}{\cos\theta}+\frac{\cos\theta}{\sin\theta}$ soi or for $\frac{1}{their\cos\theta}+\frac{5}{\sqrt{5}}$ oe or $\frac{1}{their\cos\theta}+\frac{their\cos\theta}{their\sin\theta}$

© Cambridge University Press & Assessment 2025