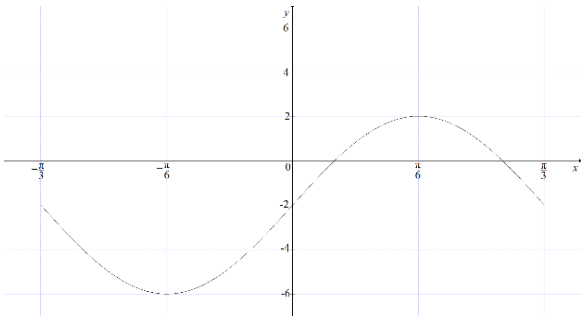
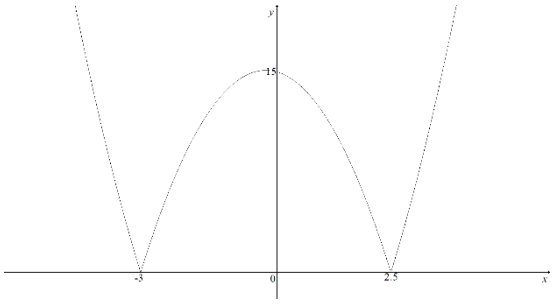
Question	Answer	Marks	Guidance
1		**3**	**B1** for a curve starting at $\left(-\frac{\pi}{3},-2\right)$ and finishing at $\left(\frac{\pi}{3},-2\right)$ **B1** for a curve, must have implied symmetry about $\frac{\pi}{6}$ and $-\frac{\pi}{6}$, one complete cycle only. **B1** for a curve passing through (0, –2) and distinct maximum at $\left(\frac{\pi}{6}, 2\right)$ and distinct minimum at only $\left(-\frac{\pi}{6},-6\right)$
2(a)	$2\left(x+\frac{1}{4}\right)^2-\frac{121}{8}$	**2**	**B1** for $a=\frac{1}{4}$ **B1** for $b=-\frac{121}{8}$
2(b)	$\left(-\frac{1}{4},-\frac{121}{8}\right)$	**2**	**FTB1** for each, follow through on *their a* and *b* from **(a)** or **SC1** if differentiation is used ie $\frac{dy}{dx}=4x+1=0$ then $\left(-\frac{1}{4},-\frac{121}{8}\right)$
2(c)		**3**	**B1** for a correct shape. Must have the parabola part of the curve in the first and second quadrant with cusps and correct curvature and a max in the **2nd** quadrant. Ignore labelling of their maximum point if incorrect coordinates **B1** for a curve $\left(\frac{5}{2},0\right)$ and (–3, 0) **B1** for a curve (0, 15)
2(d)	$k=\frac{121}{8}$	**B1**	**FT** Follow through on *their* $-b$