Question	Answer	Marks	Guidance
(a)	Use $\sin 2\theta = 2\sin\theta\cos\theta$ and $\sec\theta = \frac{1}{\cos\theta}$ to obtain $6\sin\theta$	**B1**	
	Expand second term to obtain $5\sqrt{3}\cos\theta + 5\sin\theta$	**B1**	
	Simplify to obtain $11\sin\theta + 5\sqrt{3}\cos\theta$	**B1**	
	State $R = 14$	**B1 FT**	FT *their* $k_1\cos\theta + k_2\sin\theta$
	Use appropriate trigonometry to find α	**M1**	
	Obtain $\alpha = 38.21$	**A1**	AWRT
		6	
(b)	State or imply $14\sin(2\beta + 38.21) = 2$	**B1 FT**	FT *their R* and α
	Carry out correct process to find value of β between $0°$ and $90°$	**M1**	
	Obtain 66.8	**A1**	AWRT
		3	