Question		Answer	Marks	AO	Guidance	
2	(a)	$R=5$	B1	1.1	**B0** for $R=\pm5, \sqrt{25}$ etc. unless replaced with 5	No working required for this mark. **Ignore working**
		$R\cos\alpha=3$ $R\sin\alpha=4 \Rightarrow \tan\alpha=\frac{4}{3}$	M1	1.1	**M1** for $\tan\alpha=k$ where $k=\pm\frac{3}{4}, \pm\frac{4}{3}$ **or** equivalent e.g. $\cos\alpha=\pm\frac{3}{R}$, $\sin\alpha=\pm\frac{4}{R}$ **with** their value of R (but not just R and do not allow reciprocals for this mark). 53.1 (or better) with no working implies **M1**	**SC** If $\cos\alpha=3, \sin\alpha=4$ $\Rightarrow \tan\alpha=\frac{4}{3}$ explicitly seen then this scores **M1 A0** but do not penalise again in **(b)** (if correct answer seen)
		$\alpha=53.13$	A1	1.1	**www** awrt 53.13 (at least **4** sf required) so 53.1 (or 53) is **A0** (but if an awrt 53.13 seen then isw if replaced with a less accurate value)	53.13010235… - an answer in radians scores **A0** 53.13 from $R\sin(x-\alpha)$ soi
			[3]			
2	(b)	$x=53.13+\arcsin\left(\frac{2}{5}\right)$	M1	1.1	M1 for $x=\alpha+\arcsin\left(\frac{2}{R}\right)$ or $x-\alpha=\arcsin\left(\frac{2}{R}\right)$ with their R and α substituted	**SC B1** for 76.7 only (in the given range) from using an alternative method e.g. $9\sin^2 x=(2+4\cos x)^2$
		$x=76.7$	A1	1.1	awrt 76.7 (at least **3** sf required) – ignore any answers given outside the range $0<x<90$ but do not award this mark if any other values in this range are given – **www but see SC in (a)**	**Correct answer with no working seen scores SC B1** Answer in radians scores **A0**
			[2]			