Q	Marking instructions	AO	Marks	Typical solution
8(a)(i)	Uses $\tan\theta = \frac{\sin\theta}{\cos\theta}$ identity	1.2	M1	$3\sin\theta\tan\theta = 5\cos\theta - 2$ $3\sin\theta\frac{\sin\theta}{\cos\theta} = 5\cos\theta - 2$ $3\sin^2\theta = 5\cos^2\theta - 2\cos\theta$ $3(1 - \cos^2\theta) = 5\cos^2\theta - 2\cos\theta$ $8\cos^2\theta - 2\cos\theta - 3 = 0$ $(4\cos\theta - 3)(2\cos\theta + 1) = 0$
	Uses $\sin^2\theta + \cos^2\theta = 1$ identity	1.2	M1	
	Manipulates to obtain the given equation	2.1	R1	
	Subtotal		**3**	

Q	Marking instructions	AO	Marks	Typical solution
8(a)(ii)	Obtains any two solutions (AWRT)	1.1a	M1	$\theta = \pm 41°$ and $\pm 120°$
	Obtains all four solutions (AWRT)	1.1b	A1	
	Subtotal		**2**	

Q	Marking instructions	AO	Marks	Typical solution
8(b)	Deduces that the required solutions are double their previous solutions PI by $\pm 83°$ or $\pm 82°$ or $\pm 240°$	2.2a	M1	$\frac{1}{2}\theta = \pm 41.4$ and $\pm 120°$ $\theta = \pm 83°$
	Obtains $\pm 83°$ or AWRT $\pm 83°$ and no further solutions.	1.1b	A1	
	Subtotal		**2**	

	Question Total		**7**	