Q	Marking Instructions	AO	Marks	Typical Solution
5(a)	Recalls $A=\frac{1}{2}r^2\theta$ or $l=r\theta$ PI by use in equation	AO1.2	B1	Area of sector gives $\frac{1}{2}r^2\theta=9,\ \theta=\frac{18}{r^2}$
	Constructs two equations at least one correct	AO1.1a	M1	Perimeter of sector gives $2r+r\theta=15$
	Eliminates θ FT incorrect equations	AO1.1a	M1	$2r+\frac{18}{r}=15$
	Constructs a rigorous mathematical argument to show required result, clearly constructing two correct simultaneous equations and eliminating θ **AG**	AO2.1	R1	$2r^2+18=15r$ $2r^2-15r+18=0$ **(AG)**
(b)	Solves a quadratic equation and finds two values of θ	AO3.1a	M1	$r=\frac{3}{2},r=6$ $r=6\Rightarrow\theta=\frac{1}{2}$ $r=\frac{3}{2}\Rightarrow\theta=8$ $8>2\pi\therefore\theta\neq 8$ so only one possible value of θ
	Finds two correct values of r	AO1.1b	B1	
	Finds both values of θ	AO1.1b	A1	
	Gives a valid reason for rejecting one of 'their' values	AO2.4	R1	
	Total		**8**	