Question	Scheme	Marks	AOs
1	$\frac{1}{2}r^2(4.8)$	M1	1.1a
	$\frac{1}{2}r^2(4.8)=135 \Rightarrow r^2=\frac{225}{4} \Rightarrow r=7.5$ o.e.	A1	1.1b
	length of minor arc $=7.5(2\pi-4.8)$	dM1	3.1a
	$=15\pi-36 \quad \{a=15, b=-36\}$	A1	1.1b
		(4)	
1 Alt	$\frac{1}{2}r^2(4.8)$	M1	1.1a
	$\frac{1}{2}r^2(4.8)=135 \Rightarrow r^2=\frac{225}{4} \Rightarrow r=7.5$ o.e.	A1	1.1b
	length of major arc $=7.5(4.8)\ \{=36\}$		
	length of minor arc $=2\pi(7.5)-36$	dM1	3.1a
	$=15\pi-36 \quad \{a=15, b=-36\}$	A1	1.1b
		(4)	
			(4 marks)

Question 1 Notes:

M1: Applies formula for the area of a sector with $\theta=4.8$; i.e. $\frac{1}{2}r^2\theta$ with $\theta=4.8$

Note: Allow M1 for considering ratios. E.g. $\frac{135}{\pi r^2}=\frac{4.8}{2\pi}$

A1: Uses a correct equation $\left(\text{e.g. } \frac{1}{2}r^2(4.8)=135\right)$ to obtain a radius of 7.5

dM1: Depends on the previous M mark.

A complete process for finding the length of the minor arc AB, by either

- (their r)$\times(2\pi-4.8)$
- 2π(their r) – (their r)(4.8)

A1: Correct exact answer in its simplest form, e.g. $15\pi-36$ or $-36+15\pi$