

Question	Answer	Marks	Guidance
(a)	$\tan A = \frac{12}{5}$ or $\cos A = \frac{5}{13}$ or $\sin A = \frac{12}{13}$	M1	OR $\tan B = \frac{5}{12}$ or $\cos B = \frac{12}{13}$ or $\sin B = \frac{5}{13}$
	$A = 1.176$ $B = 0.3948$	A1	Allow 1.18 or 67.4°, Allow 0.395 or 22.6°. May be implied by $\frac{\pi}{2} - 1.176$
	$DE = 4$	B1	If trigonometry used accept AWRT 4.00
	$\text{Arcs} = 5 \times \text{their } 1.176 \text{ and } 8 \times \text{their } 0.3948$	M1	Or corresponding calculations in degrees.
	$[\text{Perimeter} = 5.880 + 3.158 + 4 =] 13.0$	A1	Accept 13. If DE is outside the given range this mark cannot be awarded.
		5	
(b)	$\text{Area of triangle} = \frac{1}{2} \times 5 \times \text{their } 12 [= 30]$	B1 FT	
	$\text{Area of sectors} = \frac{1}{2} \times 5^2 \times \text{their } 1.176 + \frac{1}{2} \times 8^2 \times \text{their } 0.3948$	M1	Or corresponding calculations in degrees
	$[\text{Area} = 30 - 14.70 - 12.63 =] 2.67$	A1	Allow 2.66 to 2.67
		3	