Question		Working	Answer	Mark	Notes	
19		$\frac{25}{2}\pi = \pi r^2 \times \frac{80}{360}$ $r = 7.5$		6	M1 A1	Equation of sector equal to $\frac{25\pi}{2}$ or a calculation that leads to r or r^2
		(APB =) $2 \times \pi \times$ "7.5" $\times \frac{80}{360}$ (= 10.471).... *(APB =)* 10.471.... (=10 π /3) $(AB^2) =$ "7.5"^{2} + "7.5"^{2} − (2 × "7.5" × "7.5" × cos80) or $\frac{AB}{\sin 80} = \frac{\text{"7.5"}}{\sin 50}$ or (*AB* =) 2 x "7.5" x sin 40 (*AB* =) 9.6418 "9.6418" + "10.4719"			M1 ft M1ft M1ft	Dep on 1st M1 Accept 10.5 or better Dep on 1st M1 Correct equation to find *AB* (= 9.6) or AB^2 (= 93 or better) must use a clearly identified radius value
			20.1		A1	Dep on 2nd and 3rd method marks awrt 20.1
						Total 6 marks

20		3.455 or 3.465 or 6.25 or 6.35 $\frac{6\times 3.465}{6.25-3.465}$		3	M1 M1	Accept $3.464\dot{9}$ for 3.465 or $6.34\dot{9}$ for 6.35 $\frac{6\times \text{UB}_a}{\text{LB}_b-\text{UB}_a}$ where 3.46 < $\text{UB}_a \leq$ 3.465 and 6.25 $\leq \text{LB}_b <$ 6.3
			7.46		A1	Dep M2 Accept 7.46499 ...
						Total 3 marks

21		(LSF =)$\sqrt{240 \div 540}$ or $\frac{2}{3}$ or $\frac{3}{2}$ or 1.5 or 3 : 2 or 2 : 3 $\left(\frac{2}{3}\right)^3$ x 2025 oe accept 0.0.66 or better for 2/3		3	M1 M1	Full method leading to correct answer
			600		A1	
						Total 3 marks