Question	Answer	Marks	Guidance
(a)	$\left[A\hat{O}B=\right]\ \frac{2}{10}$	**B1**	OE Sight of 0.2 from $s = r\theta$ but $10\theta = 2$ is not enough. ISW if $\frac{2}{10}=\frac{\pi}{5}$.
	$[B\hat{O}C=]\frac{5\pi+6}{30}$ or $\frac{1}{6}\pi+0.2$	**B1**	OE e.g. 0.724^c AWRT or 41.5 degrees AWRT. But not $\frac{2+\frac{5\pi}{3}}{10}$ – fraction within a fraction. ISW incorrect simplifications.
	Alternative method for question 7(a)		
	OR [Arc AC =] $\frac{10\pi}{6}$ or $\left[\text{Arc } BC=\right]\frac{10\pi}{6}+2$ or 7.2	**B1**	AWRT. Sight of $\frac{10\pi}{6}$ or 5.2 or 7.2.
	$[B\hat{O}C=]\frac{5\pi+6}{30}$ or $\frac{1}{6}\pi+0.2$	**B1**	OE e.g. 0.724^c AWRT or 41.5 degrees AWRT. But not $\frac{2+\frac{5\pi}{3}}{10}$ – fraction within a fraction. ISW incorrect simplifications.
		2	

Question	Answer	Marks	Guidance
(b)	$[BP] = 10\sin\left(\frac{5\pi+6}{30}\right)$ and $[OP] = 10\cos\left(\frac{5\pi+6}{30}\right)$ [= 6.6208…] and [= 7.494…] **OR** [BP] = $10\sin\left(\frac{5\pi+6}{30}\right)$ and [O $\hat{B}$ P] = $\left(\frac{5\pi-3}{15}\right)$ [= 6.6208…] and [= 0.84719…]	**M1**	OE Any correct method for **both** lengths, for *their* angle BOC (which may have been incorrectly 'simplified' but not 0.2) or length BP and O $\hat{B}$ P. May be seen as part of $\frac{1}{2}ab\sin C$. Sight of correct method enough. Can be implied by the next A1.
	Area of $\Delta OBP = \frac{1}{2}\times 10\sin\left(\frac{5\pi+6}{30}\right)\times 10\cos\left(\frac{5\pi+6}{30}\right)$ or $\frac{1}{2}\times 10\times 10\sin\left(\frac{5\pi+6}{30}\right)\times\sin\left(\left(\frac{5\pi-3}{15}\right)\right)$ [=24.809]	**A1**	OE Can be implied by any answer in range (24.7, 24.9) or a final answer in the range (11.3, 11.5) WWW.
	[Sector BOC] = $\frac{1}{2}\times 10^2\times their\ \left(\frac{5\pi+6}{30}\right)$ $\left[=50\left(\frac{5\pi+6}{30}\right)=36.1799...\right]$	**M1**	Use of $\frac{1}{2}r^2\theta$ with *their* angle BOC (may have been incorrectly 'simplified' but not 0.2).
	Area of region BPC = 11.4	**A1**	CAO
		4	