25	[chord AB =] $\sqrt{5^2+5^2-2\times5\times5\times\cos 50}$ **or** 2 × 5 × sin25 (= 10sin25 or 4.226...)		6	M1 oe
	[$\angle APB$ =] $\cos^{-1}(\frac{4^2+4^2-"4.226..."^2}{2\times4\times4})$ (=63.77...) **or** [$\angle OPA$ =] $\sin^{-1}(\frac{0.5\times"4.226..."}{4})$ (= 31.88...)			M1 oe may use other methods but must be a complete method for $\angle APB$ **or** $\angle OPA$ (see below for sine rule)
	[Area sector AOB =] $\frac{50}{360}\times\pi\times5^2$ (= $\frac{125}{36}\pi$ or 10.9...)			M1 oe independent
	[Area sector APB =] $\frac{"63.77..."}{360}\times\pi\times4^2$ (= 8.90...)			M1 oe NB: 2 × "31.88…" = "63.77…"
	$\left(\frac{50}{360}\pi\times5^2-\frac{1}{2}\times5^2\times\sin 50\right)+\left(\frac{"63.77..."}{360}\times\pi\times4^2-\frac{1}{2}\times4^2\times\sin"63.77..."\right)$			M1 oe (10.9…– 9.57…) + (8.90… – 7.17…)
	Working not required, so correct answer scores full marks (unless from obvious incorrect working)	3.06		A1 allow 3 – 3.1
	Alternative version (using line of symmetry *OP* in quadrilateral *OAPB*)			**Total 6 marks**
	[$\angle OPA$] $= \sin^{-1}\left(\frac{5\sin 25}{4}\right)$ (= 31.88..)		6	M1 oe (see above for cosine rule & trig)
	[Area sector APB =] $\frac{2\times"31.88..."}{360}\times\pi\times4^2$ (= 8.90...)			M1 oe
	[Area $OAPB$ =] 2 × ½ × 5 × 4 × sin(180 – "31.88.." – 25) (=16.75...)			M1 oe
	[Area sector AOB =] $\frac{50}{360}\times\pi\times5^2$ (= $\frac{125}{36}\pi$ = 10.9...)			M1 oe independent
	[Area **R** =] "10.9..." + "8.90..." – "16.75..."			M1 oe
	Working not required, so correct answer scores full marks (unless from obvious incorrect working)	3.06		A1 allow 3 – 3.1
				Total 6 marks