

The diagram shows a circle with centre O and radius r cm. Points A and B lie on the circle and angle  $AOB = 2\theta$  radians. The tangents to the circle at A and B meet at T.

(i)	Express the perimeter of the shaded region in terms of $r$ and $\theta$ .	[3]

In the case where $r = 5$ and $\theta = 1.2$ , find the area of the shaded region.	
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