

The diagram shows a sector OAB of a circle with centre O and radius r cm. Angle  $AOB = \theta$  radians. It is given that the length of the arc AB is 9.6 cm and that the area of the sector OAB is 76.8 cm<sup>2</sup>.

a)	Find the area of the shaded region.	[5]
<b>b</b> )	Find the perimeter of the shaded region.	[2]