



The diagram shows a sector of a circle, centre O , where $OB = OC = 15$ cm. The size of angle BOC is $\frac{2}{5}\pi$ radians. Points A and D on the lines OB and OC respectively are joined by an arc AD of a circle with centre O . The shaded region is bounded by the arcs AD and BC and by the straight lines AB and DC . It is given that the area of the shaded region is $\frac{209}{5}\pi$ cm².

Find the perimeter of the shaded region. Give your answer in terms of π .

[5]

