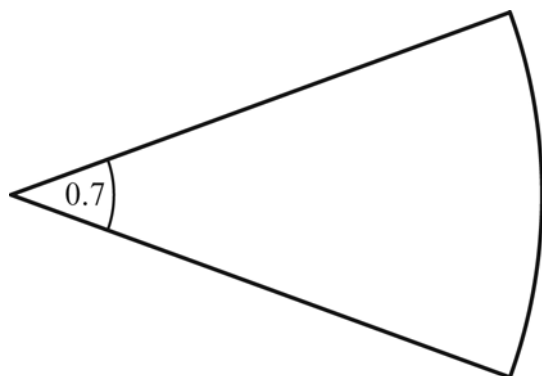


Self-assessment: 11 Geometry of triangles and circles

1. The diagram shows a sector of a circle. The angle at the centre is 0.7 radians, and the area of the sector is 96 cm^2 .



- (a) Find the radius of the circle.
- (b) Find the perimeter of the sector.

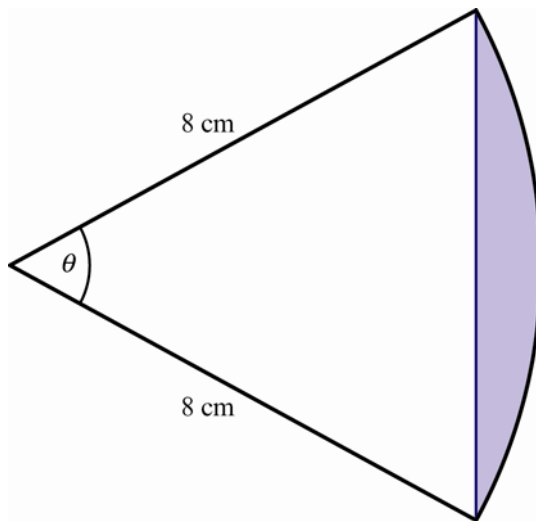
(accessible to students on the path to grade 3 or 4) [7 marks]

2. In triangle ABC, $AB = 7 \text{ cm}$, $BC = 9 \text{ cm}$, and $\hat{B} = 136^\circ$.

- (a) Calculate the perimeter of the triangle.
- (b) Find the size of angle \hat{A} .

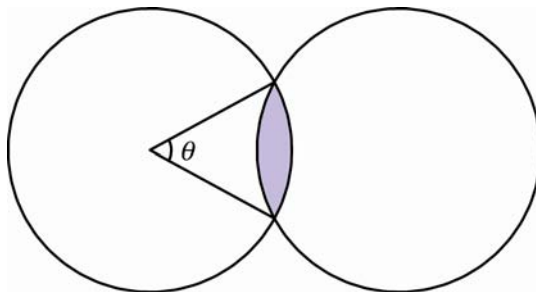
(accessible to students on the path to grade 3 or 4) [9 marks]

3. (a) The diagram shows a sector of a circle with radius 8 cm. The shaded region has perimeter 9.5 cm.



Find the size of the angle marked θ .

- (b) In the second diagram, both circles have radius 8 cm and the angle θ has the value found above.



Find the area of the shaded region.

(accessible to students on the path to grade 5 or 6) [14 marks]