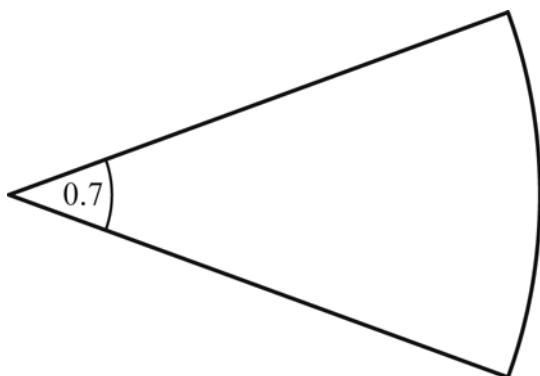


**Self-assessment: 10 Geometry of triangles and circles**

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  $96 \text{ cm}^2$ .



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

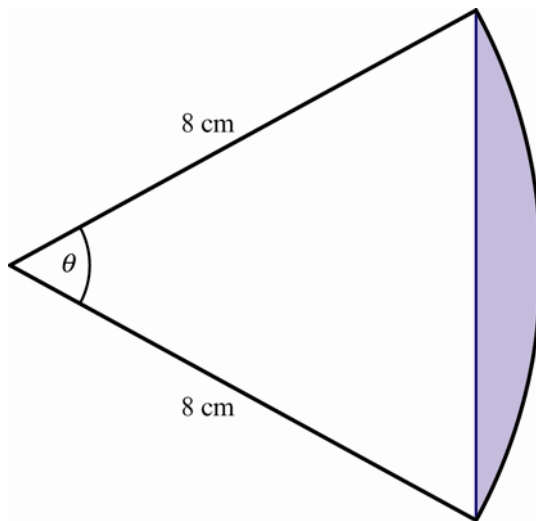
*(accessible to students on the path to grade 3 or 4) [7 marks]*

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  $\hat{A}$ .

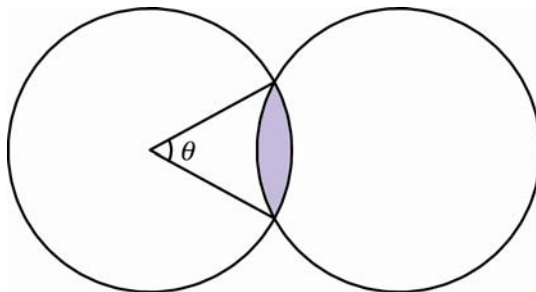
*(accessible to students on the path to grade 3 or 4) [9 marks]*

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  $\theta$ .

- (b) In the second diagram, both circles have radius 8 cm and the angle  $\theta$  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]*