

**Answer all ELEVEN questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**1**

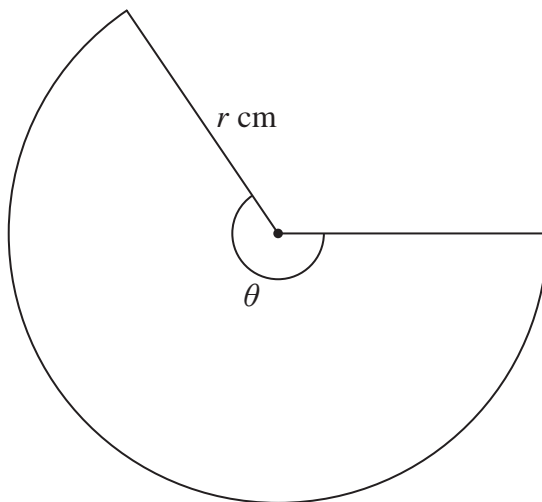


Diagram **NOT**  
accurately drawn

**Figure 1**

Figure 1 shows a sector of a circle. The circle has radius  $r$  cm and the sector has angle  $\theta$  radians. The sector has an arc length of  $18\pi$  cm and an area of  $126\pi$  cm<sup>2</sup>.

Find

- (i) the value of  $r$ ,
- (ii) the exact value of  $\theta$ .

(5)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

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**Question 1 continued**

(Total for Question 1 is 5 marks)

