

ARC LENGTH & AREA OF SECTOR OF A CIRCLE

1

The diagram shows a circle with centre O .

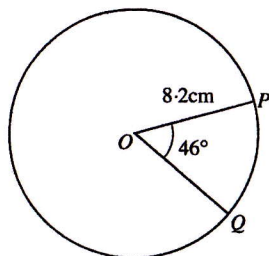


Diagram not drawn to scale.

- (a) The circle has a radius of 8.2 cm and $\widehat{POQ} = 46^\circ$. Calculate the length of the arc PQ .

$$\frac{46}{360} \times 2 \times \pi \times 8.2 = 5.6 \text{ cm}$$

[3]

- (b) Calculate the area of the minor sector POQ

$$\frac{46}{360} \times \pi \times 8.2^2 = 27.0 \text{ cm}^2$$

Turn over.

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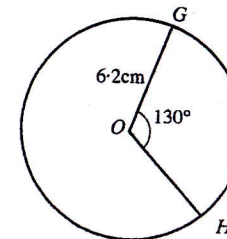


Diagram not drawn to scale.

The diagram shows a circle with centre O and radius 6.2 cm. The points G and H lie on the circumference of the circle and $\widehat{GOH} = 130^\circ$.

Calculate the length of arc GH , giving your answer to an appropriate degree of accuracy.

$$\frac{130}{360} \times 2 \times \pi \times 6.2 = 14.1 \text{ cm}$$

[3]

14.

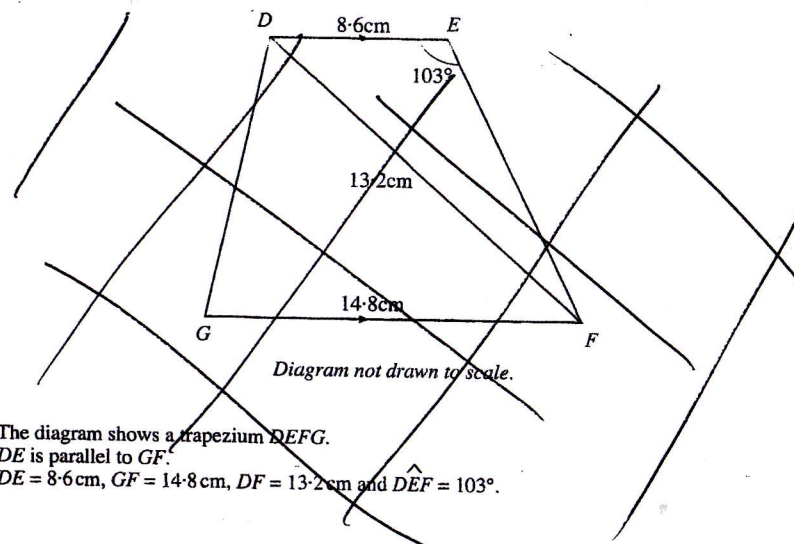


Diagram not drawn to scale.

The diagram shows a trapezium $DEFG$.
 DE is parallel to GF .
 $DE = 8.6 \text{ cm}$, $GF = 14.8 \text{ cm}$, $DF = 13.2 \text{ cm}$ and $\widehat{DEF} = 103^\circ$.