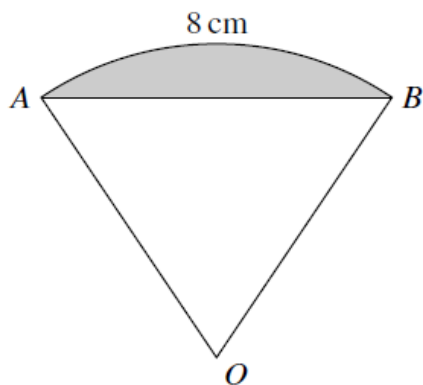


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The diagram shows a sector  $OAB$  of a circle with centre  $O$ . The length of the arc  $AB$  is 8 cm. It is given that the perimeter of the sector is 20 cm.

- (a) Find the perimeter of the shaded segment. [4]

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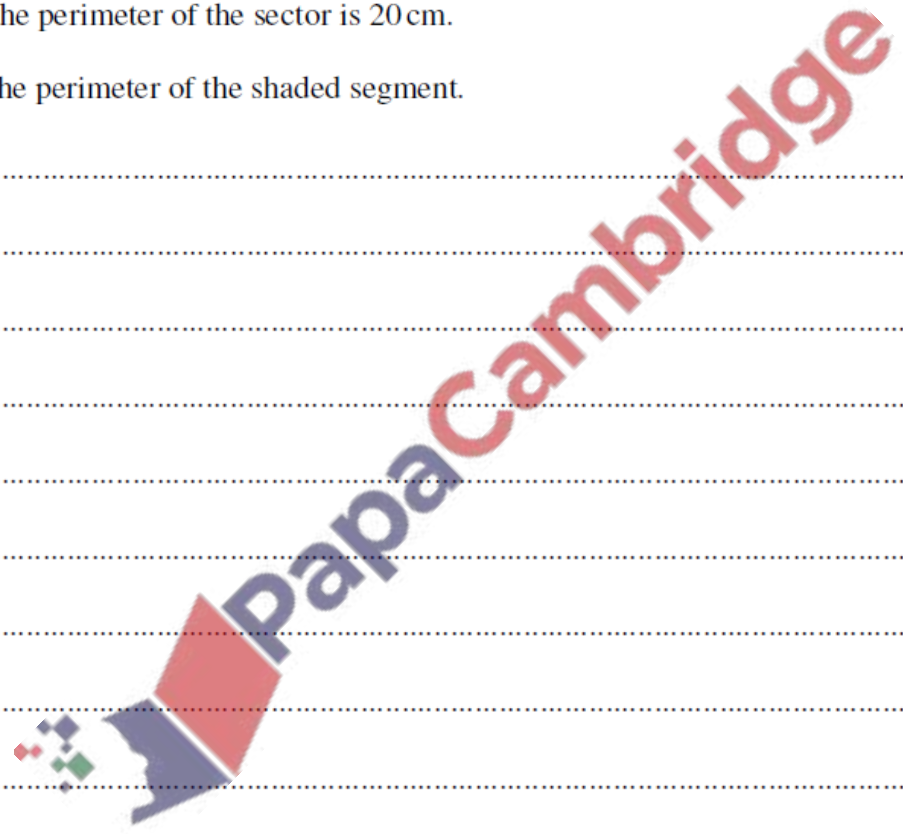
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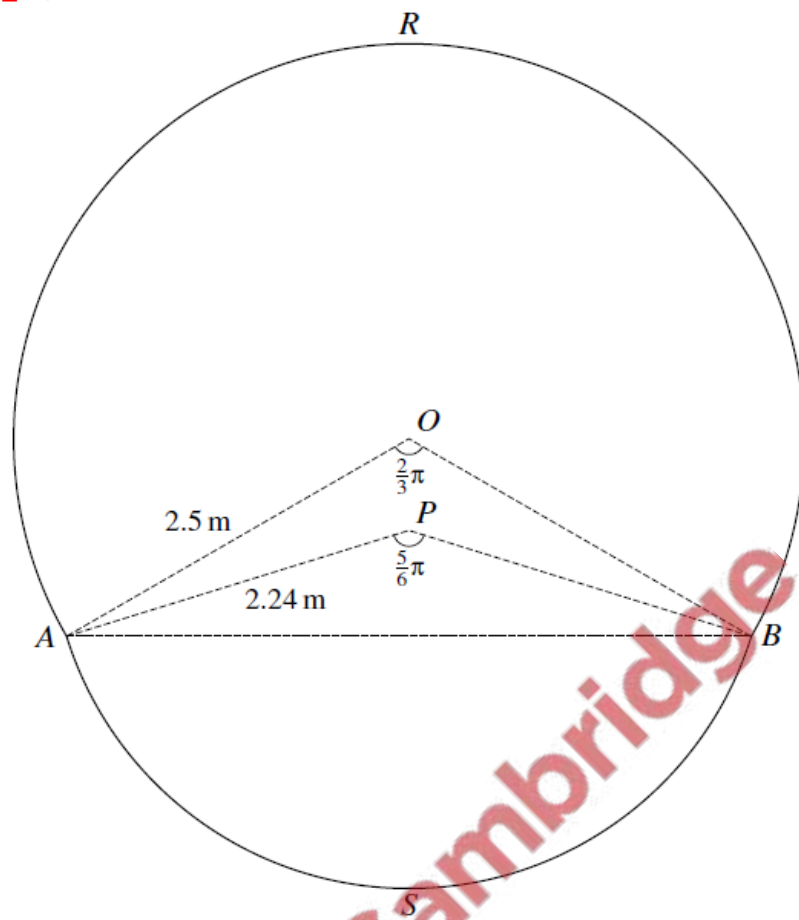
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The diagram shows a cross-section  $RASB$  of the body of an aircraft. The cross-section consists of a sector  $OARB$  of a circle of radius 2.5 m, with centre  $O$ , a sector  $PASB$  of another circle of radius 2.24 m with centre  $P$  and a quadrilateral  $OAPB$ . Angle  $AOB = \frac{2}{3}\pi$  and angle  $APB = \frac{5}{6}\pi$ .

- (a) Find the perimeter of the cross-section  $RASB$ , giving your answer correct to 2 decimal places.

[3]

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