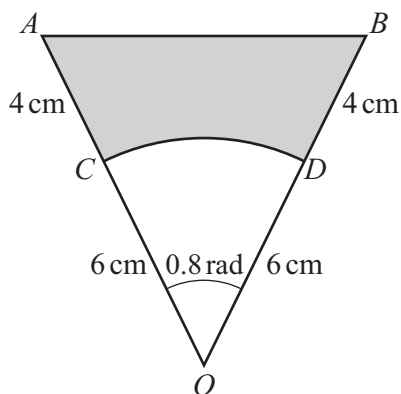




The diagram shows a triangle OAB where $OA = OB = 10$ cm and angle $AOB = 0.8$ radians. Points C and D on OA and OB respectively are such that the arc CD is part of a circle with centre O and radius 6 cm. The shaded region is bounded by the arc CD and the line segments CA , AB and BD .

- (a) Find the perimeter of the shaded region. [3]

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- (b) Find the area of the shaded region. [3]

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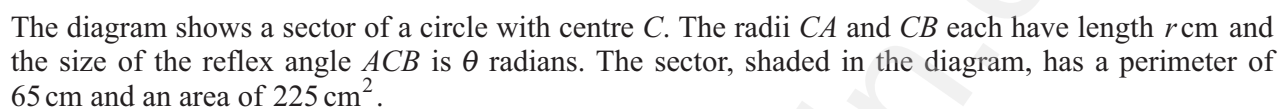
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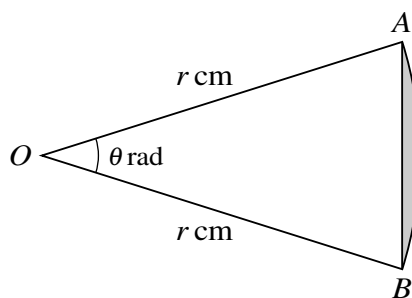
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- [illegible]

- [illegible]

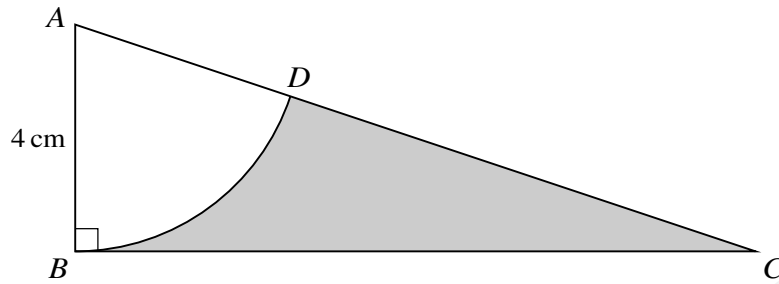


(a) Find the area of the shaded region. [5]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. A faint watermark reading "paperpenguni" is visible diagonally across the center.

(b) Find the perimeter of the shaded region. [2]

5



The diagram shows a triangle ABC , in which angle $ABC = 90^\circ$ and $AB = 4$ cm. The sector ABD is part of a circle with centre A . The area of the sector is 10 cm^2 .

- (a) Find angle BAD in radians. [2]

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- (b) Find the perimeter of the shaded region. [4]

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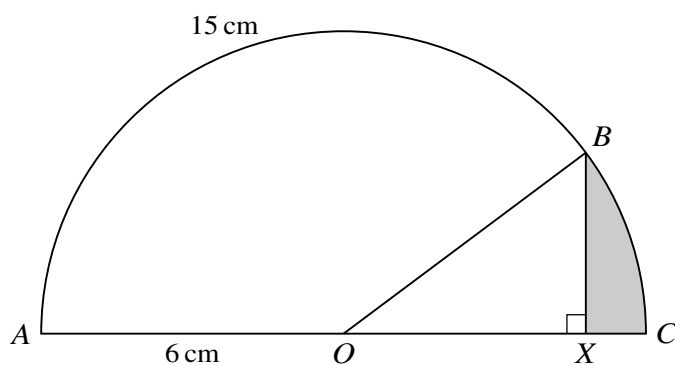
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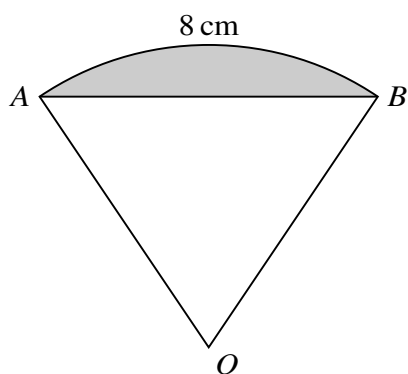


In the diagram, ABC is a semicircle with diameter AC , centre O and radius 6 cm. The length of the arc AB is 15 cm. The point X lies on AC and BX is perpendicular to AX .

Find the perimeter of the shaded region BXC .

[6]

pastpaperpenghu

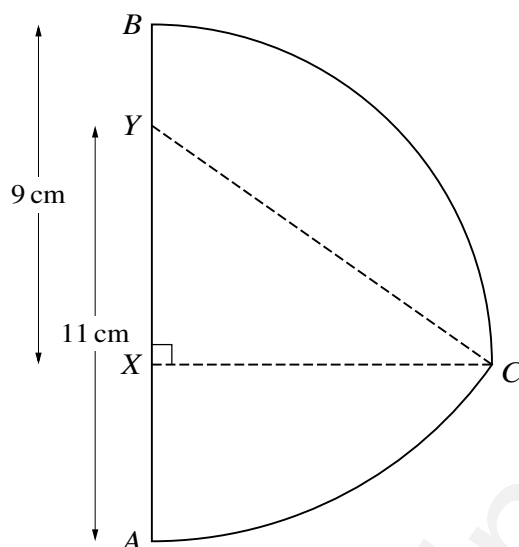


The diagram shows a sector OAB of a circle with centre O . The length of the arc AB is 8 cm. It is given that the perimeter of the sector is 20 cm.

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

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. A faint, diagonal watermark reading "Pastpaperpengulu" is visible across the center of the page.

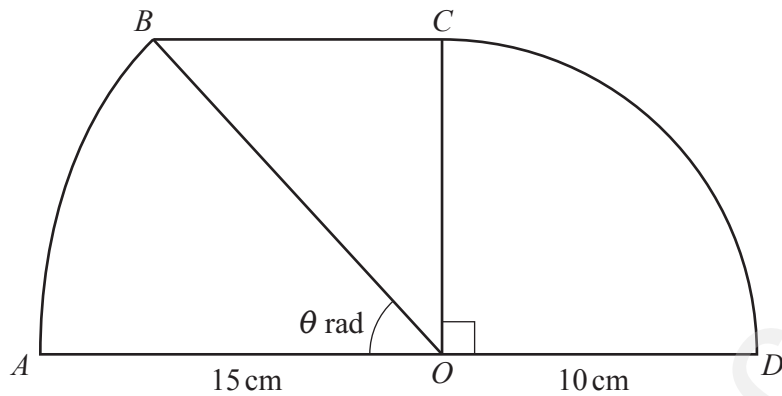
[illegible]



(a) Show that angle $XYC = 0.9582$ radians, correct to 4 significant figures. [1]

[illegible]

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In the diagram, AOD and BC are two parallel straight lines. Arc AB is part of a circle with centre O and radius 15 cm. Angle $BOA = \theta$ radians. Arc CD is part of a circle with centre O and radius 10 cm. Angle $COD = \frac{1}{2}\pi$ radians.

- (a) Show that $\theta = 0.7297$, correct to 4 decimal places. [1]

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- (b) Find the perimeter and the area of the shape $ABCD$. Give your answers correct to 3 significant figures. [7]

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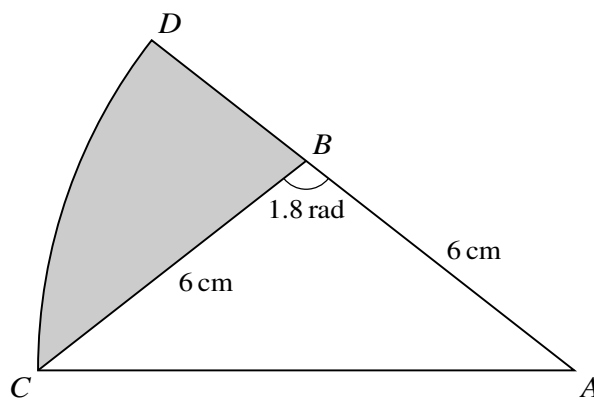
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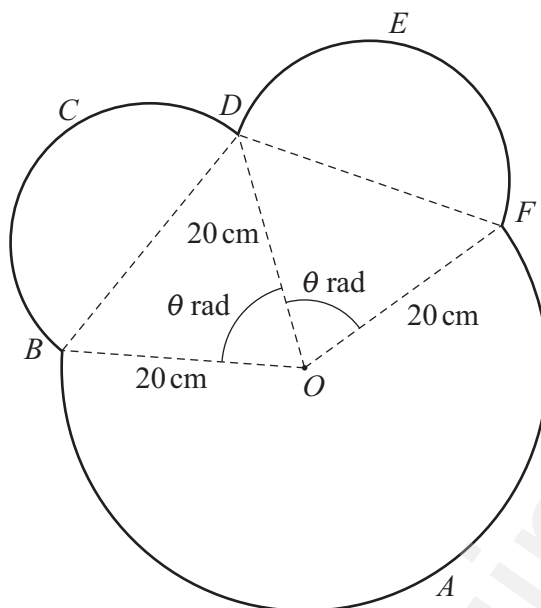
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(a) Find the perimeter of the shaded region. [5]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run horizontally across the page. A faint, diagonal watermark with the text "pastpaperbangla" is visible across the center of the page.

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The diagram shows a metal plate $ABCDEF$ consisting of five parts. The parts BCD and DEF are semicircles. The part $BAFO$ is a sector of a circle with centre O and radius 20 cm, and D lies on this circle. The parts OBD and ODF are triangles. Angles BOD and DOF are both θ radians.

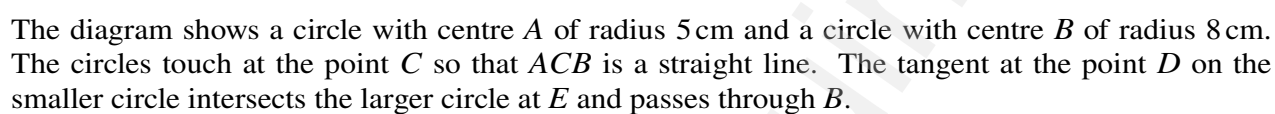
- (a) Given that $\theta = 1.2$, find the area of the metal plate. Give your answer correct to 3 significant figures. [5]

[illegible]



- (b) Given instead that the area of each semicircle is $50\pi \text{ cm}^2$, find the exact perimeter of the metal plate. [5]



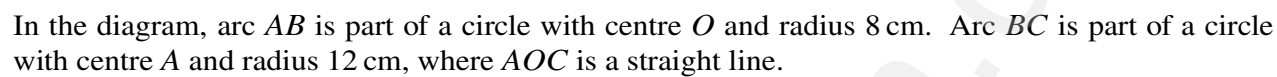


- [5]

This image shows a blank sheet of white paper with horizontal ruling lines. The page features a solid top line, followed by two dotted lines, and then alternating solid and dotted lines down to the bottom. A large, light gray diagonal watermark reading "Pastpaperpen" is visible across the center.

(b) Find the area of the shaded region.

[3]



- [2]

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. A faint watermark reading "Pastpaperpengulu" is visible diagonally across the center.

(b) Find the area of the shaded region.

[4]

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(c) Find the perimeter of the shaded region.

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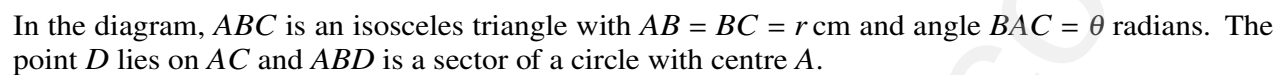
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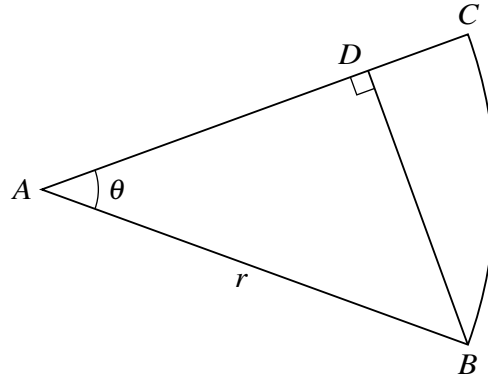
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- pastpaperpenquil

[illegible]



The diagram shows a sector ABC of a circle with centre A and radius r . The line BD is perpendicular to AC . Angle CAB is θ radians.

- (a) Given that $\theta = \frac{1}{6}\pi$, find the exact area of BCD in terms of r . [3]

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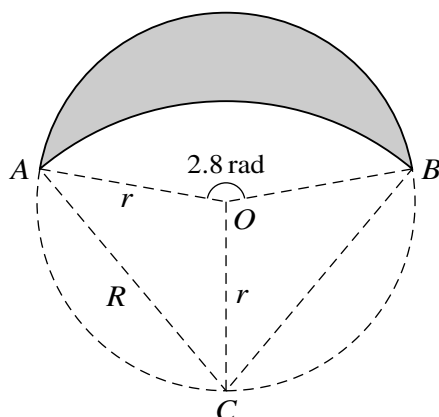
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This image shows a blank sheet of white paper designed for handwriting practice. It features multiple horizontal rows, each defined by two parallel dotted lines. A large, light gray watermark with the text "basstrapenguin.com" is oriented diagonally from the bottom-left towards the top-right across the entire page.

10



The diagram shows points A , B and C lying on a circle with centre O and radius r . Angle AOB is 2.8 radians. The shaded region is bounded by two arcs. The upper arc is part of the circle with centre O and radius r . The lower arc is part of a circle with centre C and radius R .

- (a) State the size of angle ACO in radians. [1]

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- (b) Find R in terms of r . [1]

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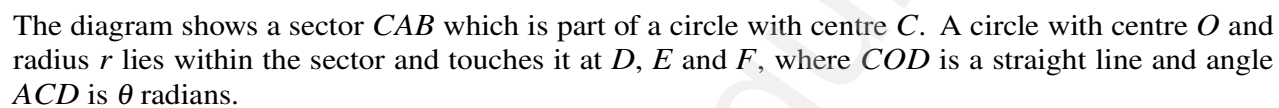
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[7]

[illegible]



- [3]

[illegible]

It is now given that $r = 4$ and $\theta = \frac{1}{6}\pi$.

- (b) Find the perimeter of sector CAB in terms of π . [3]

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- (c) Find the area of the shaded region in terms of π and $\sqrt{3}$. [4]

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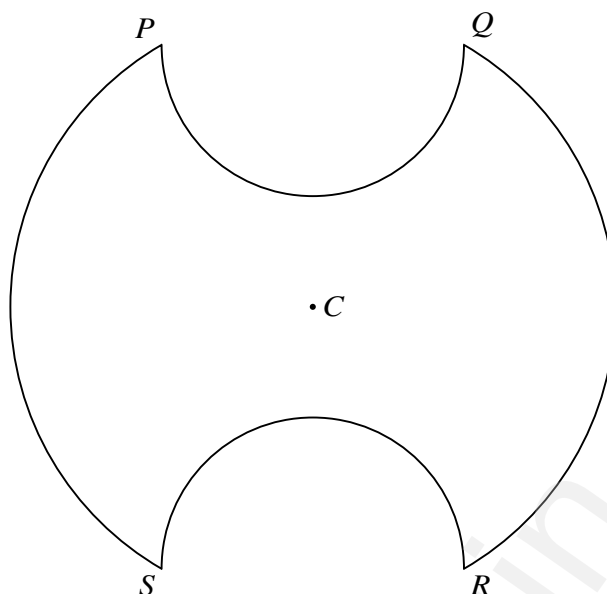
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The diagram shows a symmetrical metal plate. The plate is made by removing two identical pieces from a circular disc with centre C . The boundary of the plate consists of two arcs PS and QR of the original circle and two semicircles with PQ and RS as diameters. The radius of the circle with centre C is 4 cm, and $PQ = RS = 4$ cm also.

- (a) Show that angle $PCS = \frac{2}{3}\pi$ radians. [2]

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- (b) Find the exact perimeter of the plate. [3]

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[5]

[illegible]