

Circle 2 Int 2 PP 2001 -2008

A

2001 P2 calculator

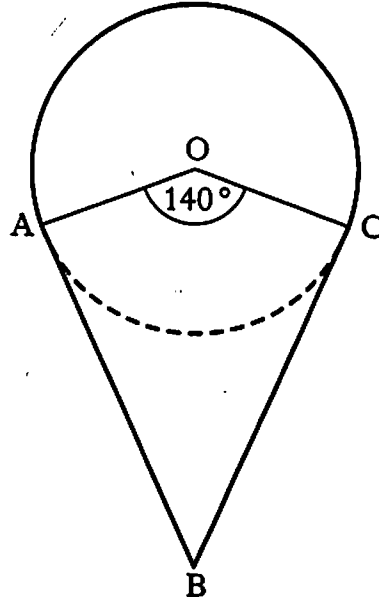
Marks

10. The diagram shows a mirror which has been designed for a new hotel.

The shape consists of a sector of a circle and a kite AOCB.

- The circle, centre O, has a radius of 50 centimetres.
- Angle AOC = 140° .
- AB and CB are tangents to the circle at A and C respectively.

Find the perimeter of the mirror.

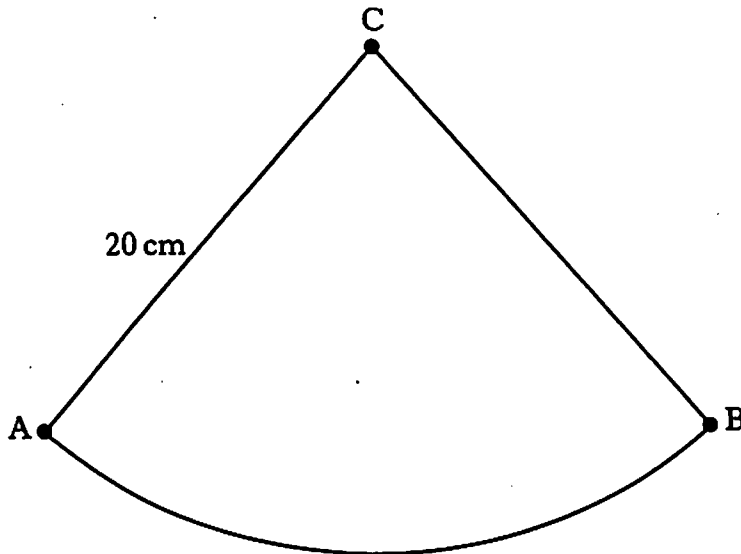


5

B

2002 P2 calculator

4. A pendulum travels along an arc of a circle, centre C.



The length of the pendulum is 20 centimetres.

The pendulum swings from A to B.

The length of the arc AB is 28.6 centimetres.

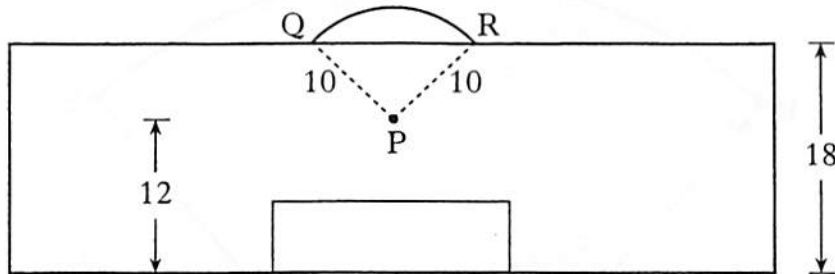
Find the angle through which the pendulum swings from A to B.

4

Circle 2 Int 2 PP 2001 -2008

C 2006 P2 calculator

8. The diagram shows the penalty area in a football pitch.
All measurements are given in yards.



The penalty spot is marked at point P.

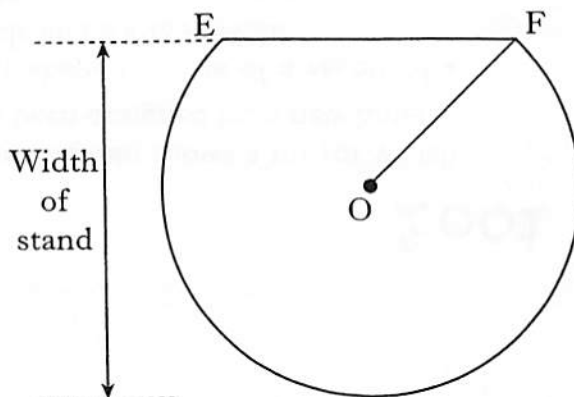
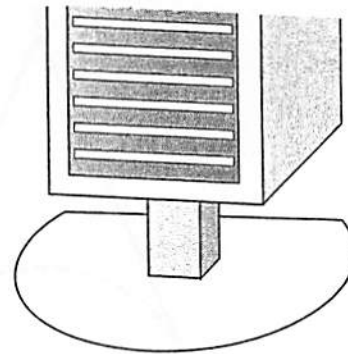
QR is an arc of a circle, centre P, radius 10 yards.

The width of the penalty area is 18 yards and the distance of the penalty spot from the goal line is 12 yards, as shown.

- (a) Calculate the size of angle QPR. 3
- (b) Calculate the length of arc QR. 2

D 2006 P2 calculator

4. The diagram shows the base of a compact disc stand which has the shape of part of a circle.



- The centre of the circle is O.
- EF is a chord of the circle.
- EF is 18 centimetres.
- The radius, OF, of the circle is 15 centimetres.

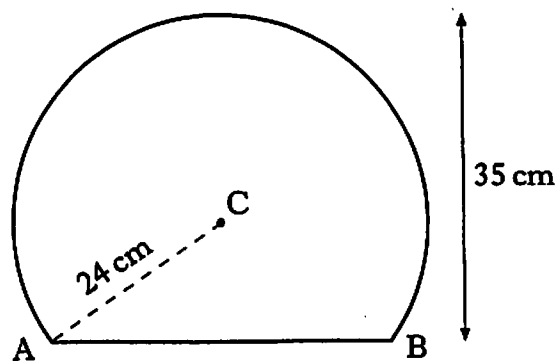
Find the width of the stand.

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2007 P2 calculator

E

14. A mirror is shaped like part of a circle.



The radius of the circle, centre C, is 24 centimetres.
The height of the mirror is 35 centimetres.

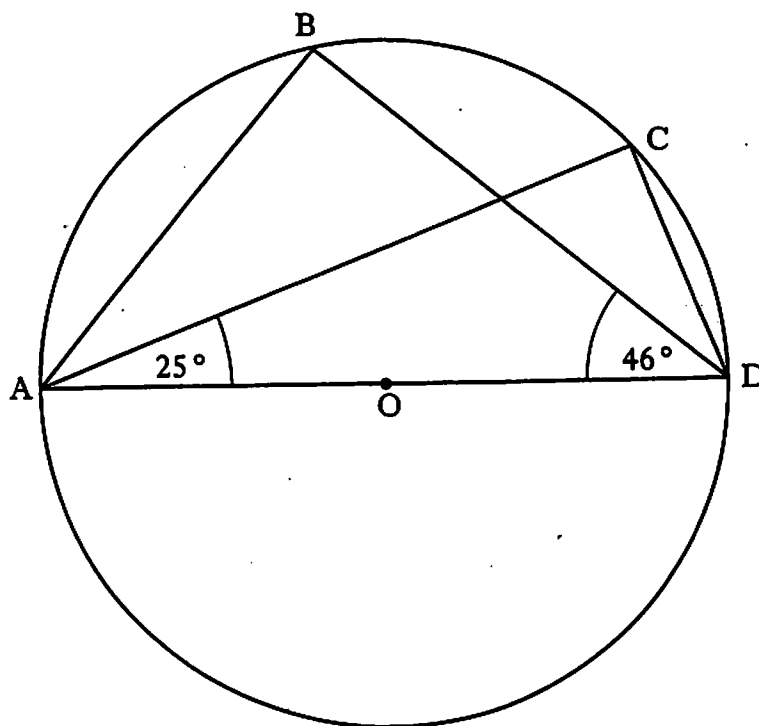
Calculate the length of the base of the mirror, represented in the diagram by AB.

3

F

7.

2008 P1 non-calculator



AD is a diameter of a circle, centre O.

B and C are points on the circumference of the circle.

Angle CAD = 25° .

Angle BDA = 46° .

Calculate the size of angle BAC.

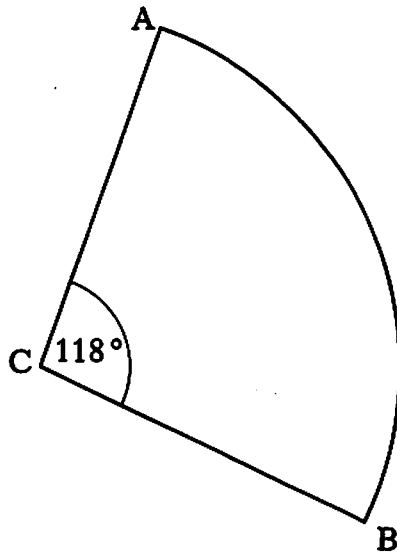
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G

2007 P2 calculator

2. The diagram below shows a sector of a circle, centre C.



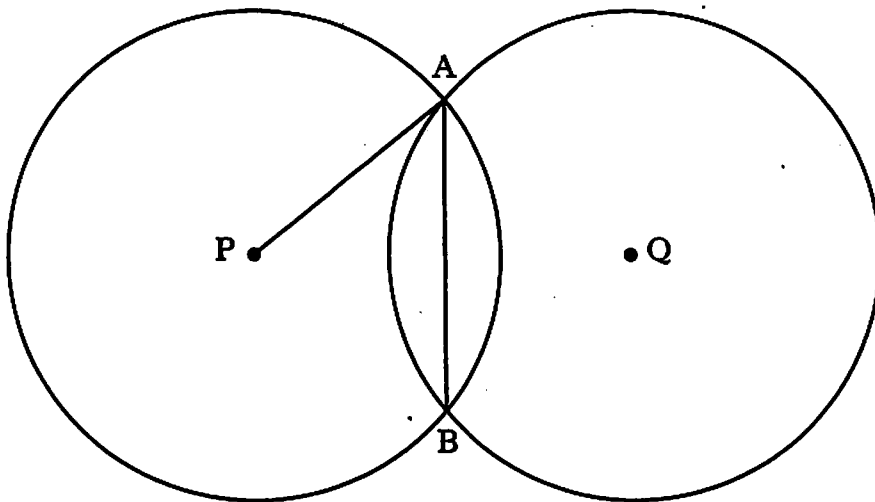
The radius of the circle is 10.5 centimetres and angle ACB is 118° .
Calculate the length of arc AB.

3

H

2008 P2 calculator

9. Two identical circles, with centres P and Q, intersect at A and B as shown in the diagram.



The radius of each circle is 10 centimetres.
The length of the common chord, AB, is 12 centimetres.

Calculate PQ, the distance between the centres of the two circles.

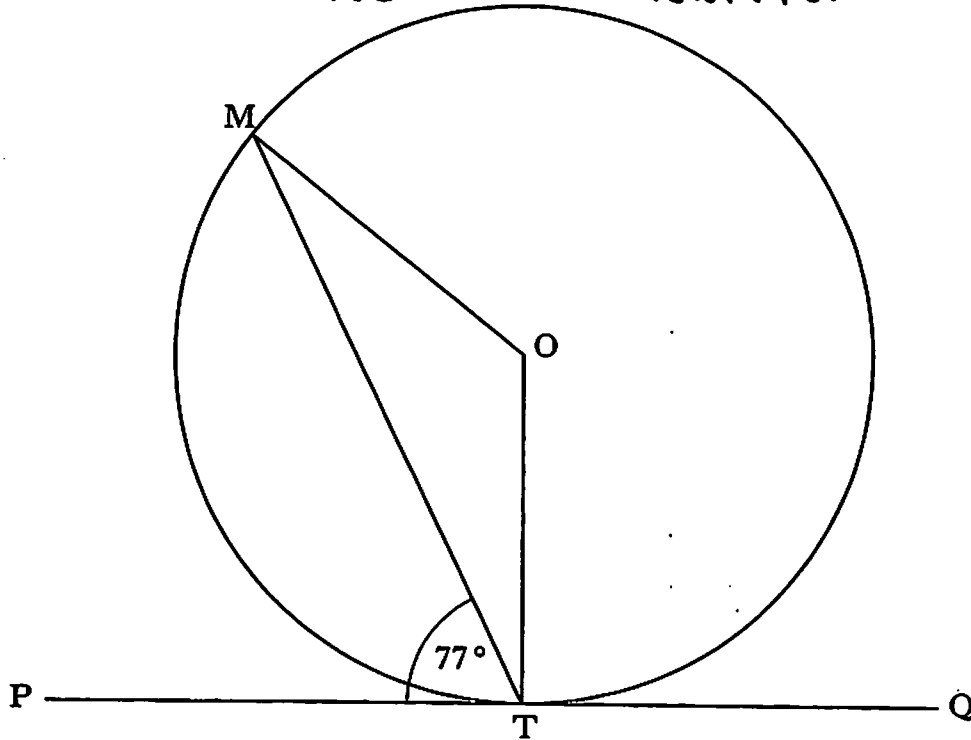
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Circle 2 Int 2 PP 2001 -2008

I

4.

2007 P2 calculator



The tangent PQ touches the circle, centre O , at T .
Angle MTP is 77° .

- (a) Calculate the size of angle MOT . 2
- (b) The radius of the circle is 8 centimetres.
Calculate the length of chord MT . 3