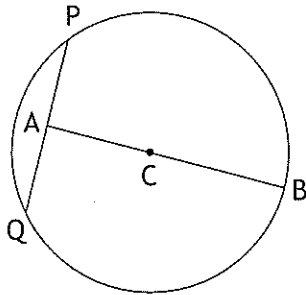


12. The diagram below shows a circle, centre C.



The radius of the circle is 15 centimetres.  
A is the mid-point of chord PQ.  
The length of AB is 27 centimetres.  
Calculate the length of PQ.

MARKS

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MARGIN

4



\* X 7 4 7 7 5 0 1 1 2 \*

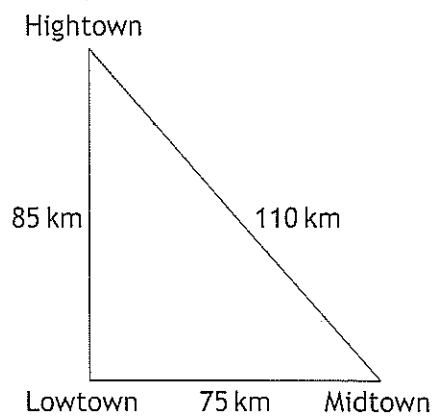
MARKS

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6. The diagram below shows the position of three towns.  
Lowtown is due west of Midtown.

The distance from

- Lowtown to Midtown is 75 kilometres.
- Midtown to Hightown is 110 kilometres.
- Hightown to Lowtown is 85 kilometres.



Is Hightown directly north of Lowtown?

Justify your answer.

4

[Turn over

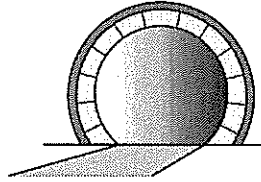


\* X 7 4 7 7 5 0 2 0 9 \*

13. The picture shows the entrance to a tunnel which is in the shape of part of a circle.

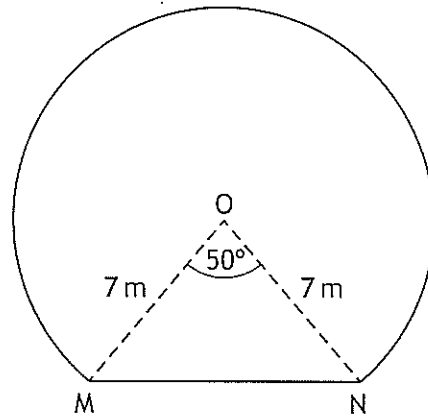
MARKS

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The diagram below represents the cross-section of the tunnel.

- The centre of the circle is O.
- MN is a chord of the circle.
- Angle MON is  $50^\circ$ .
- The radius of the circle is 7 metres.



Calculate the area of the cross-section of the tunnel.

5

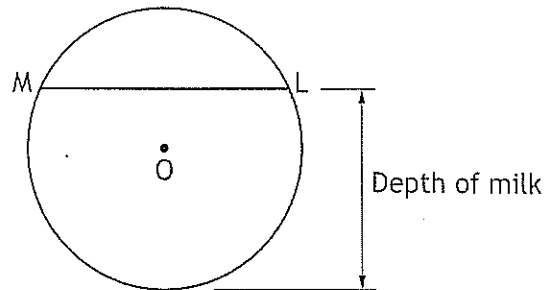
[END OF QUESTION PAPER]



\* X 7 4 7 7 5 0 2 1 4 \*

MARKS DO NOT WRITE IN THIS MARGIN

12. The diagram below shows the circular cross-section of a milk tank.



The radius of the circle, centre O, is 1.2 metres.

The width of the surface of the milk in the tank, represented by ML in the diagram, is 1.8 metres.

Calculate the depth of the milk in the tank.

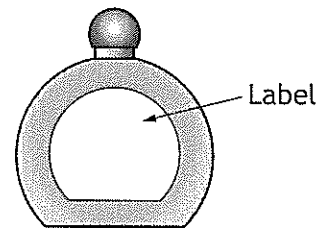
4



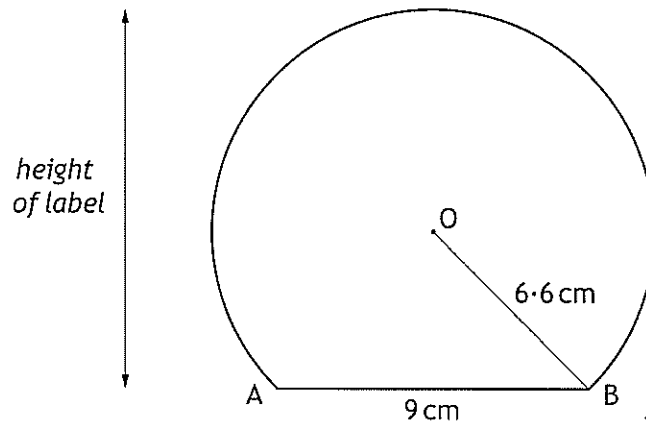
MARKS

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15. This perfume bottle has a label in the shape of part of a circle.



A diagram of the label is shown below.



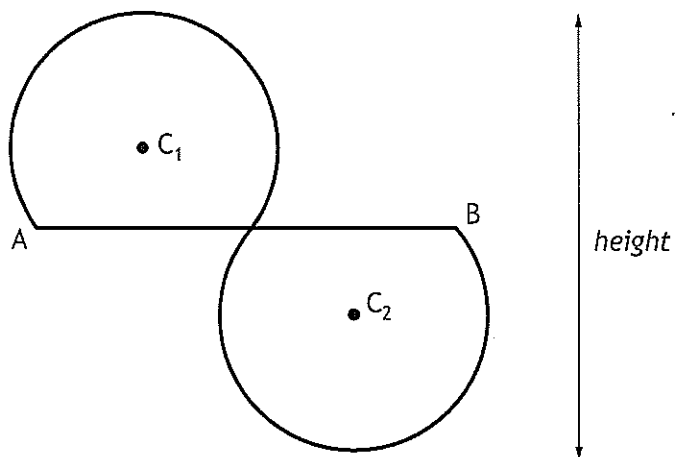
- The centre of the circle is O.
- The chord AB is 9 centimetres.
- The radius OB is 6.6 centimetres.

Find the height of the label.

4



13. Two identical shapes are used to form a logo.  
Each shape is part of a circle.



- The circles have centres  $C_1$  and  $C_2$ .
- The radius of each circle is 14 centimetres.
- The logo has half-turn symmetry about the mid-point of AB.
- AB is 48 centimetres long.

Calculate the height of the logo.

4

