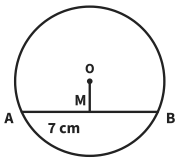
Circle Theorems: Chords

1

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.



AM = MB = 7 cm

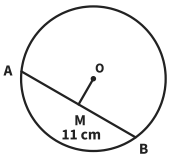
AB = 2 × 7

Reason The perpendicular from the centre to a chord bisects the chord.

AB = _____

2

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.



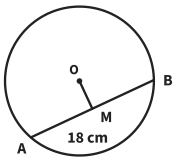
AM = MB = 11 cm

Reason The perpendicular from the centre

AB = _____

3

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find MB.

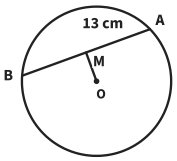


Reason The

MB = _____

4

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.

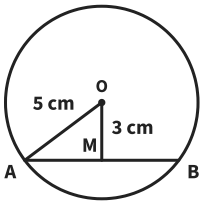


Reason

AB = _____

5

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.

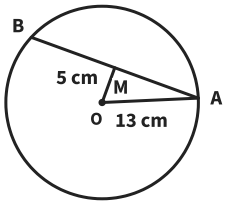


$AM^2 = 5^2 - 3^2$

AB = _____

6

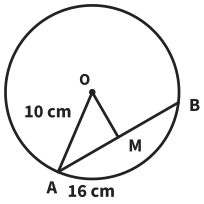
O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.



AB = _____

7 *Notice the change!*

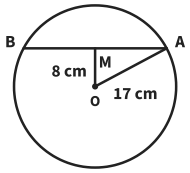
O is the centre of the circle.
OM is perpendicular to the chord AB.
Find OM.



OM = _____

8

OM is perpendicular to AB.
Zara says AB = 15 cm. Explain her mistake and find AB.

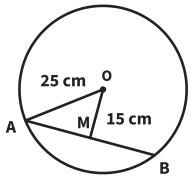


AB = _____

Circle Theorems: Chords *further practice*

9

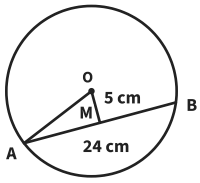
O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB.



AB = _____

10

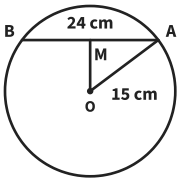
O is the centre of the circle.
OM is perpendicular to the chord AB.
Find the radius OA.



OA = _____

11

O is the centre of the circle.
OM is perpendicular to the chord AB.
Find OM.



OM = _____

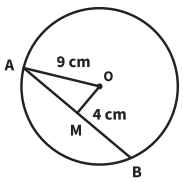
12

A straight path crosses a round lawn of radius 17 m. At its nearest, the path passes 8 m from the centre of the lawn. How long is the path across the lawn?

Answer _____

13

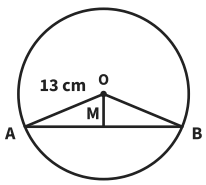
O is the centre of the circle.
OM is perpendicular to the chord AB.
Find AB to 1 decimal place.



AB = _____

14

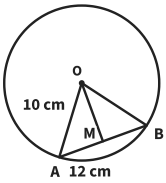
O is the centre and OM is perpendicular to AB. OA = 13 cm and OM = 5 cm.
Find the perimeter of triangle OAB.



Answer _____

15

O is the centre and OM is perpendicular to AB. Find the area of triangle OAB.



Answer _____

16

O is the centre of a circle and AB is a chord. Explain why triangle OAB is isosceles.

So _____