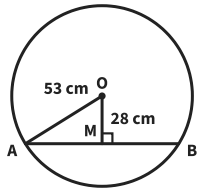
Circle theorems: chords

1

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



$AM^2 =$ 53 $^2 -$ 28 ^{2}

$AM =$ ____ cm

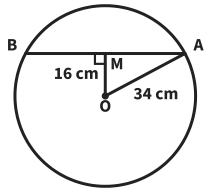
the perpendicular from the centre bisects the chord

$AB = 2 \times$ ____

AB = _____

2

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



$AM^2 =$ ____ $^2 -$ ____ ^{2}

$AM =$ ____ cm

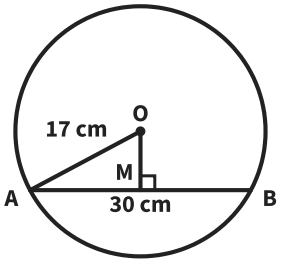
the perpendicular from the centre bisects the chord

$AB = 2 \times$ ____

AB = _____

3

O is the centre and M is the midpoint of the chord AB. Find the distance OM.



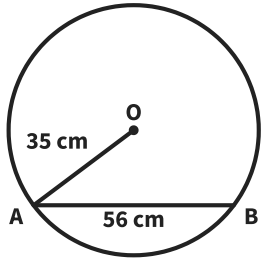
$AM = 30 \div 2 =$ ____ cm

$OM^2 =$ ____ $^2 -$ ____ ^{2}

OM = _____

4

O is the centre. The radius is 35 cm and the chord AB is 56 cm. Find the distance from O to AB. Give reasons.



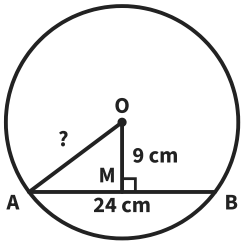
_____

_____

Distance = _____

5 *Notice the change!*

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



$AM =$ ____ cm

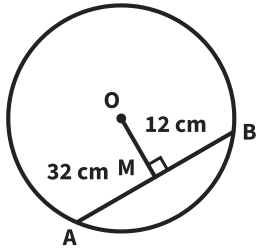
the perpendicular from the centre bisects the chord

$OA^2 =$ ____ $^2 +$ ____ ^{2}

OA = _____

6

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



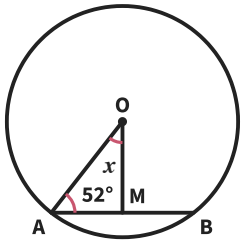
_____

_____

Radius = _____

7

O is the centre and M is the midpoint of the chord AB. Find angle x.



Angle OMA = ____ °

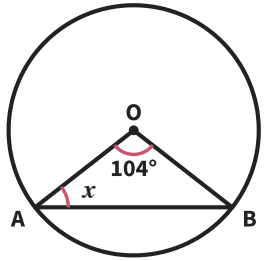
the line from the centre to the midpoint of a chord meets it at 90°

$x = 180 - 90 -$ ____

x = _____

8

O is the centre of the circle. Find angle x. Give reasons.



_____

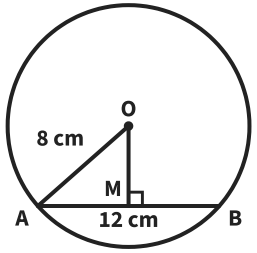
_____

x = _____

Circle theorems: chords *further practice*

9

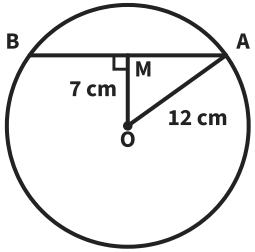
O is the centre and M is the midpoint of the chord AB. Find OM to 1 decimal place.



OM = _____

10

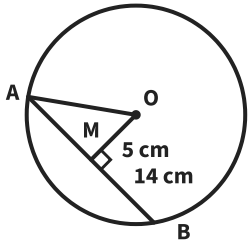
O is the centre. OM is perpendicular to the chord AB. Find the length of AB to 1 decimal place.



AB = _____

11

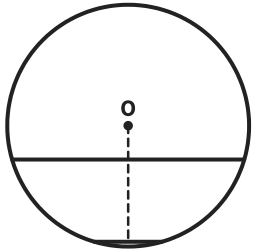
O is the centre. OM is perpendicular to the chord AB. Find the radius to 1 decimal place.



Radius = _____

12

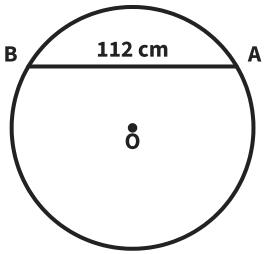
A circle has radius 25 cm.
Two parallel chords, 48 cm and 14 cm long, are on the same side of the centre O. How far apart are the chords?



Distance apart = _____

13

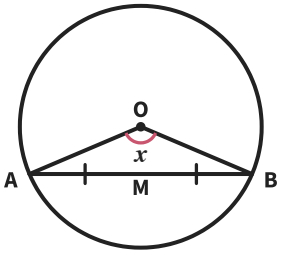
A round window has a radius of 65 cm.
A straight lead strip AB across the glass is 112 cm long. How far is the strip from the centre O?



Distance = _____

14

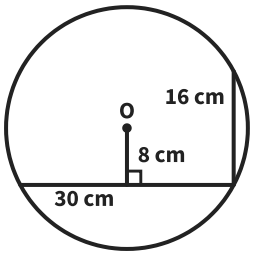
O is the centre and M is the midpoint of the chord AB. Angle OBM = 23°.
Find angle AOB, marked x. Give reasons.



x = _____

15

In a circle with centre O, a chord 30 cm long is 8 cm from O. Another chord is 16 cm long. How far is it from O?



Distance = _____

16

Sam says a chord 12 cm from the centre of a circle of radius 13 cm is 5 cm long.
Is he right? Explain.

