Circle Theorems: The perpendicular from the centre to a chord bisects the chord
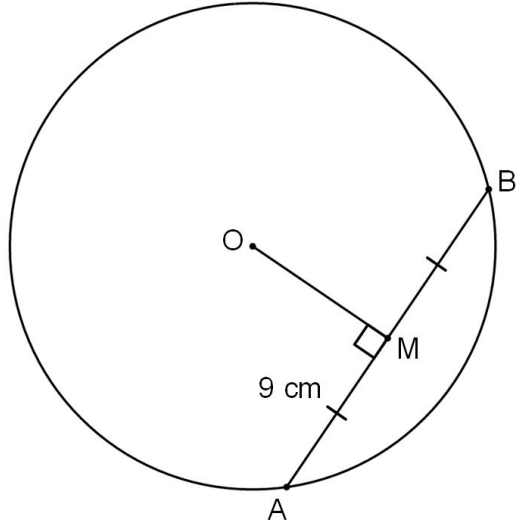
Maths

Mr Chan

The perpendicular from the centre to a chord bisects the chord
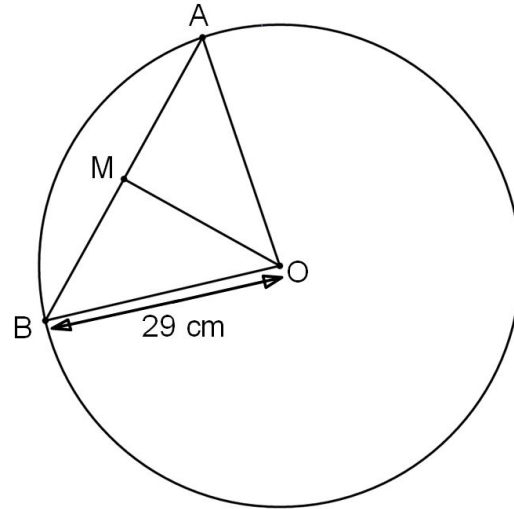
1. OM is perpendicular to the chord AB.

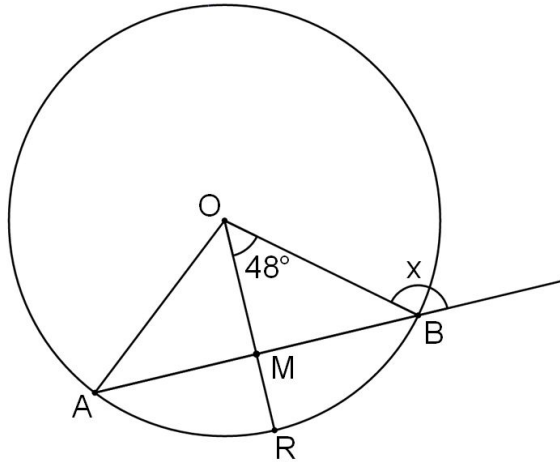

Work out the length of BM.
Give a reason for your answer.

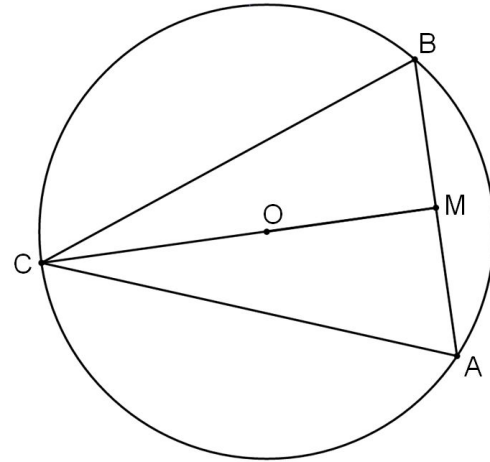2. OM is perpendicular to the chord AB. AB = 42 cm.

Work out the side length OM.

The perpendicular from the centre to a chord bisects the chord

3. The circle has centre O and OR is a radius to the circle. AB is a chord in the circle where AM=MB.

Work out the value of angle x.

4. OM is perpendicular to the chord AB. The circle has a radius of 9 cm. CO:OM=3:2. Chord AB = 9 cm.

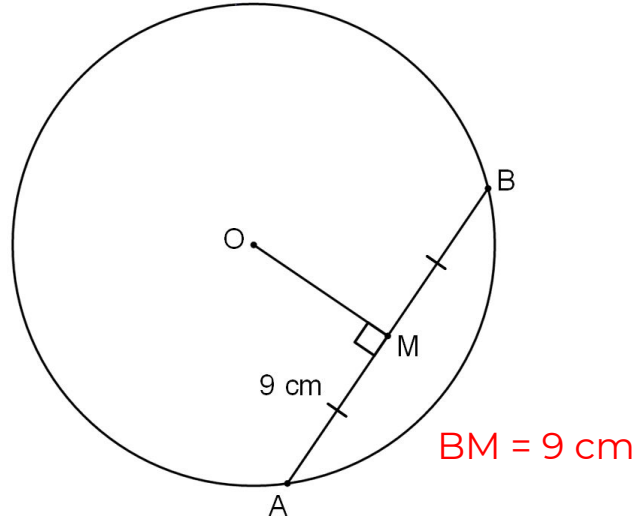Work out side length AC. Give your answer to 1 decimal place.

Answers

The perpendicular from the centre to a chord bisects the chord

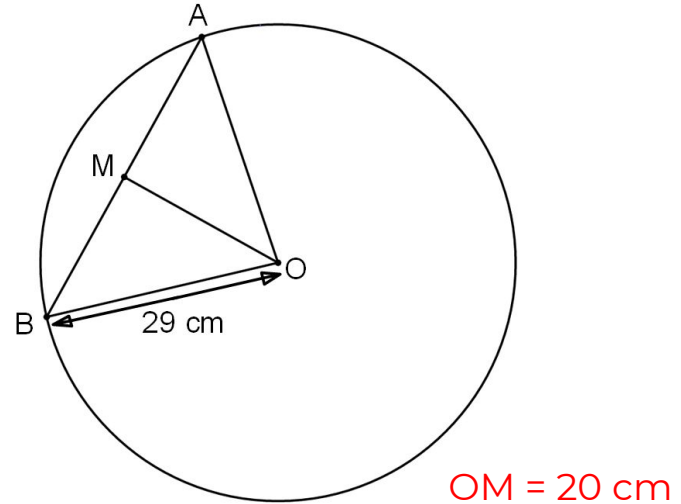1. OM is perpendicular to the chord AB.

BM = 9 cm

Work out the length of BM.
Give a reason for your answer.
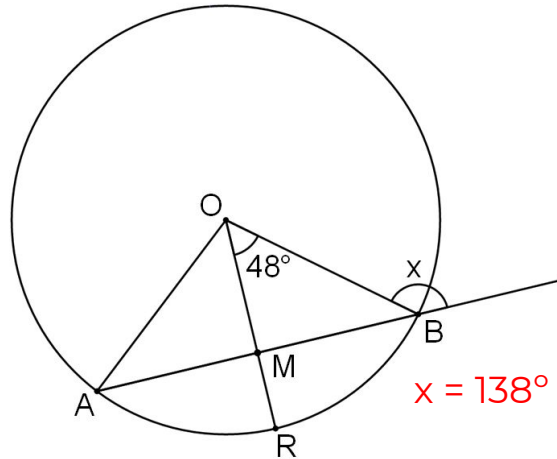
The perpendicular from the centre bisects the chord

2. OM is perpendicular to the chord AB. AB = 42 cm.

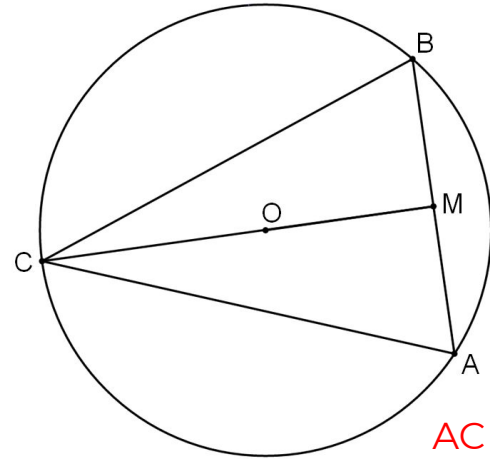Work out the side length OM.

OM = 20 cm

The perpendicular from the centre to a chord bisects the chord

3. The circle has centre O and OR is a radius to the circle. AB is a chord in the circle where AM=MB.

48°

x

x = 138°

Work out the value of angle x.

4. OM is perpendicular to the chord AB. The circle has a radius of 9 cm. CO:OM=3:2. Chord AB = 9 cm.

AC = 15.7 cm

Work out side length AC. Give your answer to 1 decimal place.