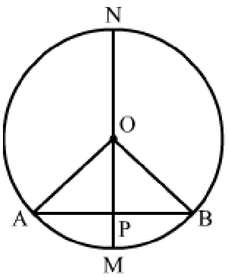
Circles Ex 16.2 Q7

Answer :

Let *MN* is the diameter and chord *AB* of circle *C*(*O*, *r*) then according to the question *AP* = *BP*.

Then we have to prove that $\angle AOM = \angle BOM$.

Join *OA* and *OB*.



In ΔAOP and ΔBOP

$OA = OB$ (Radii of the same circle)

AP = *BP* (P is the mid point of chord *AB*)

OP = *OP* (Common)

Therefore, $\Delta AOP \cong \Delta BOP$

$\Rightarrow \angle AOP = \angle BOP$ (by cpct)

$\Rightarrow \angle AOM = \angle BOM$

Hence, proved.

Circles Ex 16.2 Q8

Answer :

We have to prove that two different circles cannot intersect each other at more than two points.

Let the two circles intersect in three points *A*, *B* and *C*.

Then as we know that these three points *A*, *B* and *C* are non-collinear. So, a unique circle passes through these three points.

This is a contradiction to the fact that two given circles are passing through *A*, *B*, *C*.

Hence, two circles cannot intersect each other at more than two points.

Hence, proved.

Circles Ex 16.2 Q9

Answer :

Given that a line *AB* = 5 cm, one circle having radius of $r_1 = 4$ cm which is passing through point *A* and *B* and other circle of radius $r_2 = 2$ cm.

As we know that the largest chord of any circle is equal to the diameter of that circle.

So, $2 \times r_2 < AB$

There is no possibility to draw a circle whose diameter is smaller than the length of the chord.

*********** END **********