



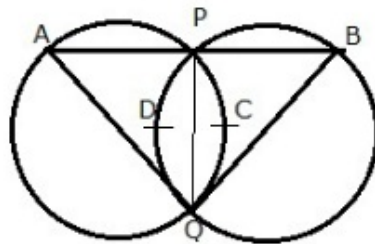
Exercise 11A

Question 13:

Given: Two equal circles intersect at points P and Q. A straight line through P meets the circles in A and B.

To Prove: $QA = QB$

Construction: Join PQ



Proof: Two circles will be congruent if and only if they have equal radii.

If two chords of a circle are equal then their corresponding arcs are congruent.

Here PQ is the common chord to both the circles.

Thus, their corresponding arcs are equal.

So, $\text{arc PCQ} = \text{arc PDQ}$

$\therefore \angle QAP = \angle QBP$ [congruent arcs have the same degree measure]

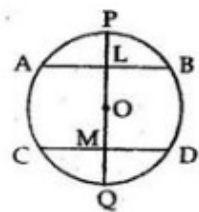
$\therefore QA = QB$ [isosceles triangle, base angles are equal]

Question 14:

Given: AB and CD are the two chords of a circle with centre O.

Diameter POQ bisects them at L and M

To Prove: $AB \parallel CD$.



Proof: AB and CD are two chords of a circle with centre O.

Diameter POQ bisects them at L and M.

Then, $OL \perp AB$

and, $OM \perp CD$

$\therefore \angle ALM = \angle LMD$

$\therefore AB \parallel CD$ [alternate angles are equal]

***** END *****

