Theorem ① The chords of a circle which are equidistant from the centre are equal.

Given :- $OM = ON$

To Prove that :- chord PQ = chord RS

Construction :→ Join OP and OR

Proof :→ in $\triangle PMO$ and $\triangle RNO$

$$OM = ON \quad \text{Given}$$
$$OP = OR \quad \text{radii of a circle}$$
$$\angle PMO = \angle RNO = 90° \ (\text{each})$$

Then $\triangle PMO \cong \triangle RNO$ by RHS congruency rule.

Now $PM = RN$ by CPCT —①

We know that $PM = \frac{1}{2} PQ$ and $RN = \frac{1}{2} RS$ —①

Then from eqn (i) & (ii). $\frac{1}{2} PQ = \frac{1}{2} RS$ ⇒ $\boxed{PQ = RS}$

SUSHEEL SIR MATHS