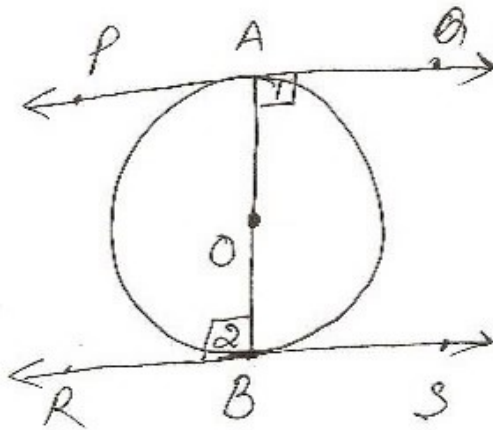


④



To Prove $PQ \parallel RS$

Proof

$\angle 1 = \angle 2 = 90^\circ$ [angle between radius and tangent at point of contact]

But these are alternate interior angles

$\therefore PQ \parallel RS$

⑤

join point of contact A to centre of circle O
 $\angle 2 = 90^\circ$ [angle between radius and tangent at point of contact]

$\angle 1 = 90^\circ$ (∵ $AB \perp PQ$)

From ① and ②

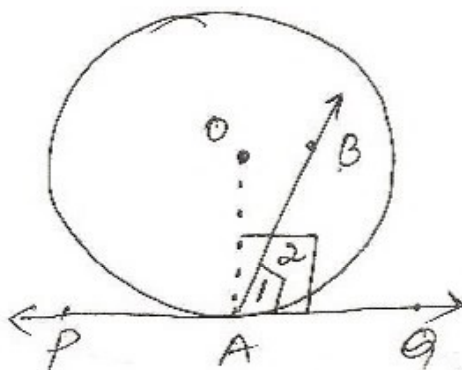
$\angle 1 = \angle 2$

But this is not possible

\therefore our supposition wrong

AB passes through centre of circle

⑤



Proof

Suppose perpendicular AB to PQ does not pass through centre