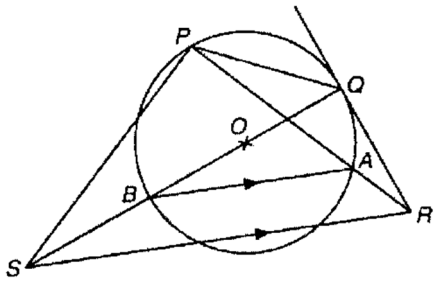
Concyclic exercise

Created by Mr. Francis Hung on 20210904 Last updated: 2021-09-22

In the figure, RQ is the tangent to the circle at Q and O is the centre of the circle. $SBOQ$ is a straight line and BA // SR.

(a) Prove that $PQRS$ is a cyclic quadrilateral.

(b) Hence, find $\angle SPR$.



(a) $\angle PQB = \angle PAB$ ($\angle$s in the same segment)

$= \angle PRS$ (corr. $\angle$s BA // SR)

$\therefore$ $PQRS$ is a cyclic quadrilateral. (converse, $\angle$ in the same segment)

(b) $\angle SPR = \angle SQR$ ($\angle$ in the same segment)

$= 90°$ (tangent $\perp$ radius)