

7.4, 5

Given, $PA > PB$ is ps bisect $\angle APR$

To prove - $\angle PSR > \angle PSQ$

Proof -

In $\triangle PQR$

As $PR > PQ$

$\therefore \angle PQS > \angle PRS$ - (1) (Angles opp to greater side is greater)

AD, ps bisect $\angle P$ hence

$$\angle QPS = \angle RPS$$
 - (2)

In $\triangle PQS$

$\angle PSR$ is exterior angle

$$\angle QPS + \angle PQS = \angle PSR$$
 - (3)

In $\triangle PRS$

$\angle PSQ$ is exterior angle

$$\angle PRS + \angle RPS = \angle PSQ$$
 - (4)

Adding equation (1) & (2)

$$\angle PQS + \angle QPS > \angle PRS + \angle RPS$$
 - (5)

Put value of equation (3) & (4) in (5)

$$\angle PSR > \angle PSQ$$