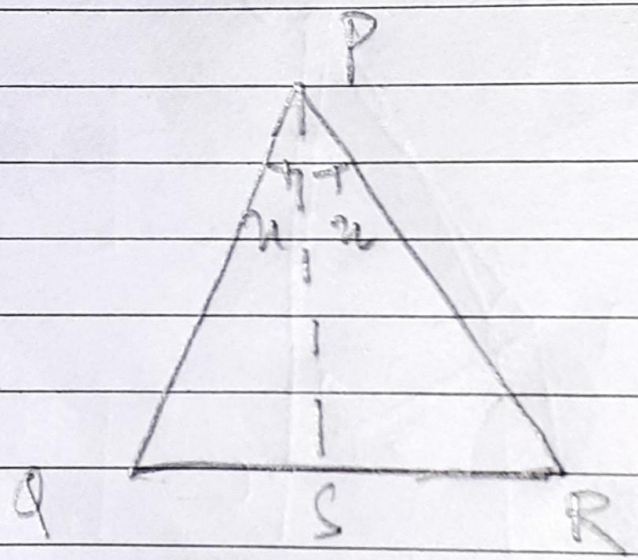
16.7.21

5.



Ans- Given :- PR > PQ
PS bisects ∠P

To prove :- ∠PSR > ∠PSQ

Proof :- PS bisects ∠P
∠QPS = ∠SPR = x (let)

In ΔPQR

$PR > PQ$

$\Rightarrow \angle Q > \angle R$ — (i.) [angles opposite to longer side is greater.]

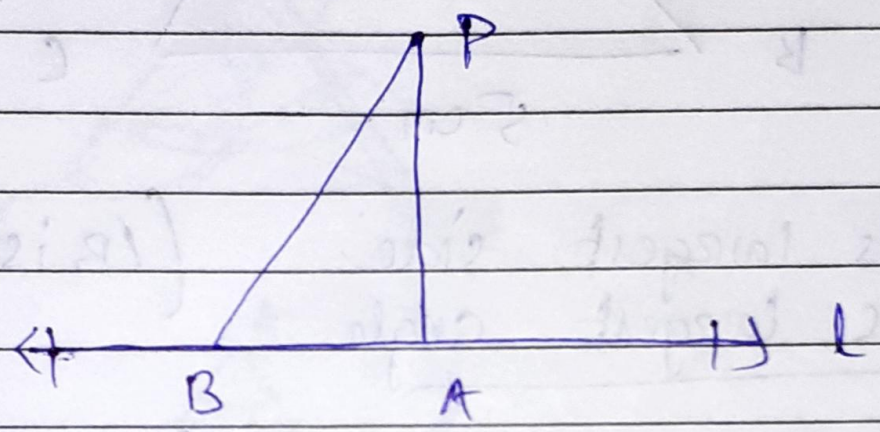
$\angle PSR = \angle Q + x$ — (ii.) (exterior angle is equal to sum of two opposite interior angle)

$\angle PSQ = \angle R + x$ — (iii.) (exterior angle is equal to sum of two opposite interior angle)

From (i.) & (ii.)

$\Rightarrow \underline{\angle PSR > \angle PSQ}$ (Proved)

Ans:-



Given :- A line l & a point P not on it.
PA & PB are two line segment. PA ⊥ l.

To prove :- AB < PB

Proof :- In ΔPAB
∠A = 90° (PA ⊥ l)
∠P & ∠B must be acute angle
∠A > ∠B
⇒ PB > PA (Side opposite to greater side is largest.)

⇒ Out of all the line segment, perpendicular is the shortest.