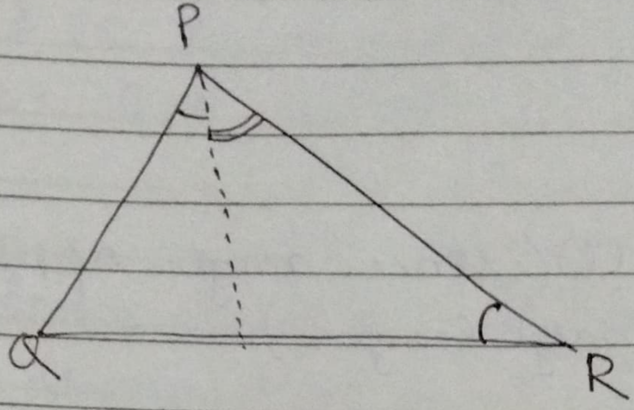
∴ A > C.

Q5>



Soln: PR > PQ and PS bisects QPR.

Now we will have to prove that angle PSR is smaller that PSQ i.e. PSR > PSQ.

Proof:

QPS = RPS (i) (As PS bisects ∠QPR)

PQR > PRQ - (ii) (Since PR > PQ as angle opposite to the larger side is always larger)

PSR = PQR + QPS - (iii) (Since the exterior angle of a triangle equals to the sum of opposite interior an

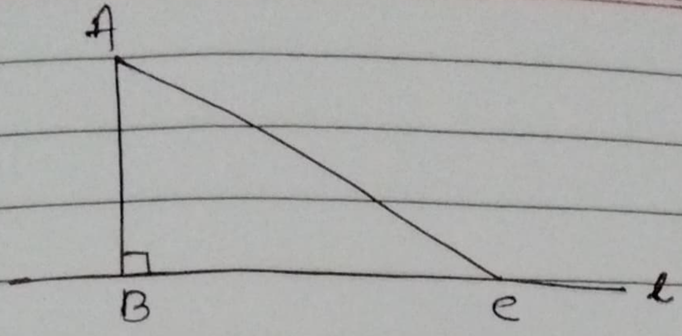
PSQ = PRQ + RPS - (iv) (As the exterior angle of a triangle equals to the sum of opposite interior angle

By adding (i) & (ii)

PQR + QPS > PRQ + RPS.

Thus from (i), (ii), (iii) & (iv) we get PSR > PSQ

Q6.)



To prove :- $AB < AC$

Proof :-

In ΔABC, $B = 90^\circ$

Now, we know that

$A + B + C = 180^\circ$

$\therefore A + C = 90^\circ$

Hence, C must be an acute angle which implies

$C < B$

So, $AB < AC$ (As the side opposite to the larger angle is always larger).