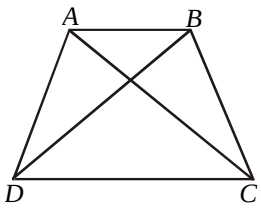
# TRIANGLES

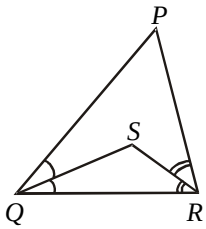
## INEQUALITIES IN TRIANGLE

## EXERCISE

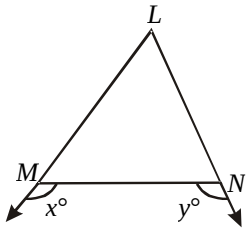
**Q.1** In Fig. AD = BC and BD = CA. Prove that ∠ADB = ∠BCA and ∠DAB = ∠CBA.



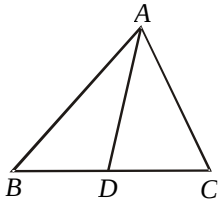

**Q.2** In Fig. PQ > PR. QS and RS are the bisectors of ∠Q and ∠R respectively. Prove that SQ > SR.




**Q.3** In Fig. if x > y, show that ∠M > ∠N.

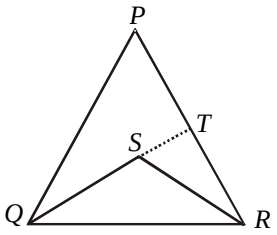



**Q.4** In Fig. AB > AC. Show that AB > AD.



**Q.5** Prove that any two sides of a triangle are together greater than twice the median drawn to the third side.

**Q.6** In Fig. PQR is a triangle and S is any point in its interior, show that SQ + SR $<$ PQ + PR.




**Q.7** In $\Delta$PQR S is any point on the side QR. Show that PQ + QR + RP $>$ 2 PS.