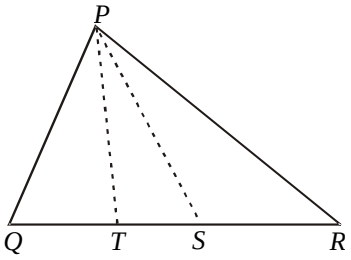
TRIANGLES

SOME PROPERTIES OF TRIANGLE

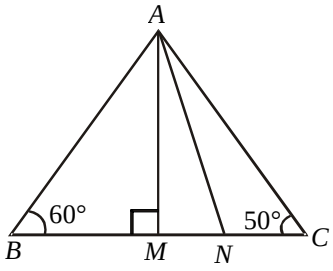
EXERCISE

Q.1 In the Fig. PS is the bisector of the $\angle P$ and $PT \perp QR$, then show that

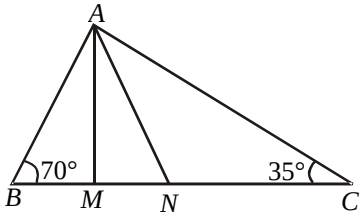
$\angle TPS = \frac{1}{2}(\angle Q - \angle R)$



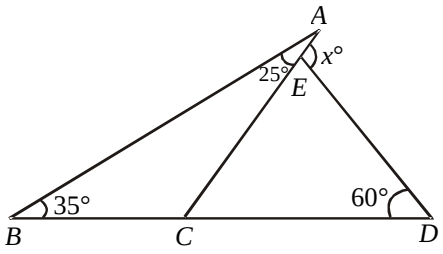
Q.2 In the Fig. $AM \perp BC$ and AN is th angle bisector of $\angle A$ if $\angle B = 60º$ and $\angle C = 50º$, find $\angle MAN$.



Q.3 In the given figure, $AM \perp BC$ and AN is the bisector of $\angle BAC$. If $\angle B = 70º$ and $\angle C = 35º$, find $\angle MAN$.



Q.4 In the figure find the value of xº.

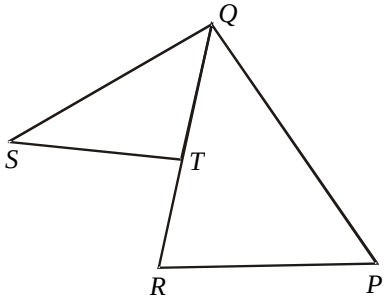


Q.5 Prove that the sum of the three altitudes of a triangle is less than the sum of the three sides of the triangle.

Q.6 Prove that the medians of an equilateral triangle are equal.

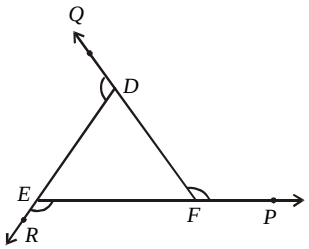
Q.7 ABCD is a square, X and Y are points on sides AD and BC respectively such that AY = BX. Prove that BY = AX and ∠BAY = ∠ABX.

Q.8 In the given Fig. T is a point on side QR of ΔPQR and S is a point such that TR = TS. Prove that PQ + PR > QS.

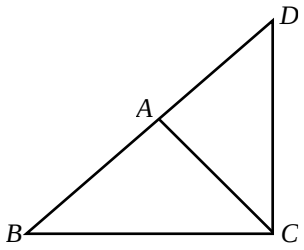


Q.9 In Fig. ∠DFP, ∠EDQ and ∠FER are exterior angles of Δ DEF. Prove that

∠ DFP + ∠ EDQ + ∠ FER = 360º



Q.10 In figure, AB = AC = AD. Prove that ∠BCD = 90º.



ANSWER KEY

2. 5º

3. 17.5º

4. 120º