

MATHEMATICS

SELF ASSESSMENT – II

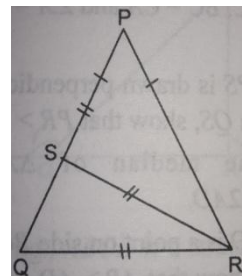
TIME : 45 minutes

F. M. – 20

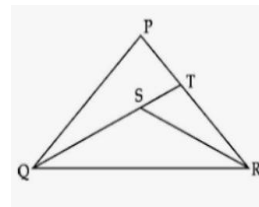
Attempt all questions

1. *ABCD is a rectangle. X and Y are points on sides AD and BC respectively such that $AY = BX$. Prove that $BY = AX$ and $\angle BAY = \angle ABX$. [4]*

2. *In $\triangle PQR$, $PQ = PR$ and S is a point on PQ such that $PS = SR = QR$. Find the value of $\angle QPR$. [4]*



3. *S is any point in the interior of $\triangle PQR$. Show that $SQ + SR < PQ + PR$. [4]*



4. *A tree, 15 feet tall stands in front of 35 feet – high building. If the tree is 15 feet away from the building, find the distance between their tops. [4]*

5. *In $\triangle ABC$, $\angle B = 90^\circ$ and D is the mid – point of BC. Prove that $AC^2 = AD^2 + 3CD^2$ [4]*