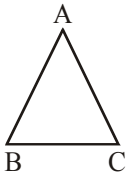
RACE # 02 MATHEMATICS

TIME : 30 Min. M.M. : 20

READ THE FOLLOWING THEOREMS :

TRIANGLE (Angle and Side Relations)

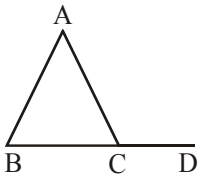
Theorem 1 :



The three angles of a triangle are together equal to two right angles.

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

Theorem 2 :

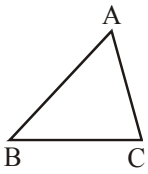


If one side of a triangle is produced, then the exterior angle is greater than either of the interior opposite angles.

$\angle ACD > \angle ABC$

$\angle ACD > \angle BAC$

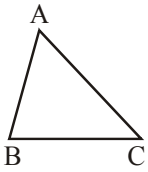
Theorem 3 :



If one side of a triangle is greater than another, then the angle opposite to the greater side is greater than the angle opposite to the less.

If $AB > AC \Rightarrow \angle ACB > \angle ABC$

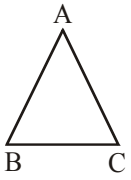
Theorem 4 :



If one angle of a triangle is greater than another, then the side opposite ot the greater angle is greater than the side opposite to the less.

If $\angle B > \angle C \Rightarrow AC > AB$

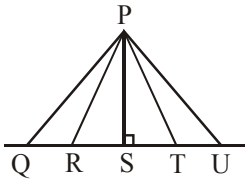
Theorem 5 :



Any two sides of a triangle are together greater than the third side.

$AB + BC > AC$, $BC + CA > AB$ and $AC + AB > BC$

Theorem 6 :



Of all straight lines drawn from a given point to a given straight line the perpendicular is the least.

PQ > PR > PS and PU > PT > PS

PS is least

ANSWER THE FOLLOWING QUESTIONS :

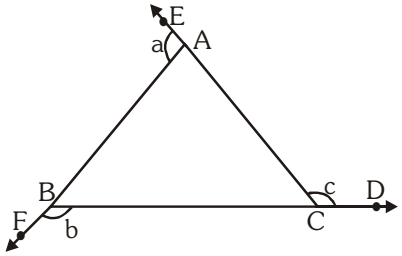
1. If the sides of a triangle are produced, then the sum of the exterior angles i.e. $\angle a + \angle b + \angle c$ is equal to

(A) 180°

(B) 360°

(C) 90°

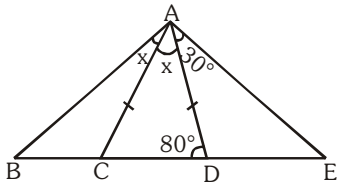
(D) 270°



2. In ΔPQR, if $\angle R > \angle Q$, then

(A) QR > PR (B) PQ > PR (C) PQ < PR (D) QR < PR

3.



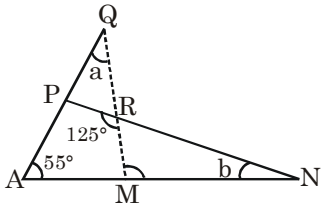
In the figure above, ABE is a triangle and AC = AD. What is the measure of $\angle CBA$?

(A) 30° (B) 40° (C) 60° (D) 80°

4. In a ΔABC, AB = AC and AD $\perp$ BC, then

(A) AB < AD (B) AB > AD (C) AB = AD (4) AB $\leq$ AD

5. According to the diagram, the value of (a + b) in degrees is



Q.	1	2	3	4	5	
A.	B	C	A	B	93	