

Triangles

Triangle Inequalities
(Excluded from CBSE 2020 Syllabus)

Test Announcement

Triangles Chapter Test : 9 August 2020

Test will not include Triangle Inequalities

Theorem 7.6 : *If two sides of a triangle are unequal, the angle opposite to the longer side is larger (or greater).*

ConcepTest

Consider the triangle shown here. The smallest angle in this triangle is

(A) Angle A

(B) Angle B

(C) Angle C

Theorem 7.7 : *In any triangle, the side opposite to the larger (greater) angle is longer.*

Concept Test

The longest side in this triangle is

(A) AB

(B) AC

(C) BC

Activity – Crossing a park

Theorem 7.8 : *The sum of any two sides of a triangle is greater than the third side.*

ConcepTest

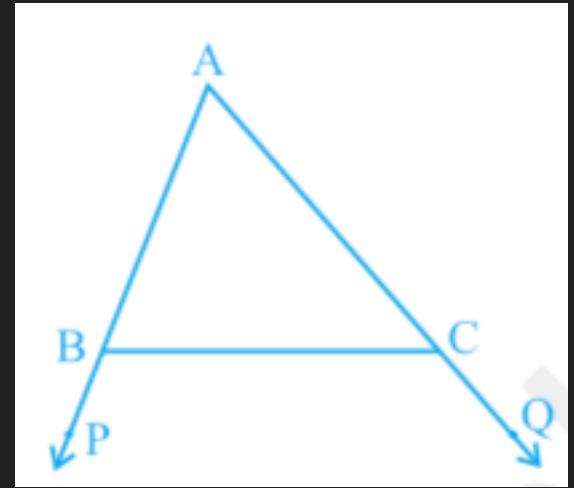
Statement 1: Triangle ABC can have $AB = 2$, $BC = 3$, $CA = 5$

Statement 2: Triangle PQR can have $PQ = 3$, $QR = 3$, $PR = 5$

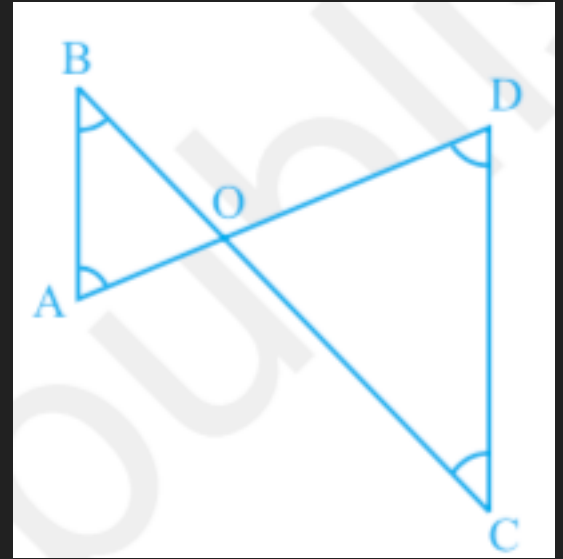
- (A) True, True
- (B) True, False
- (C) False, True
- (D) False, False

1. Show that in a right angled triangle, the hypotenuse is the longest side.

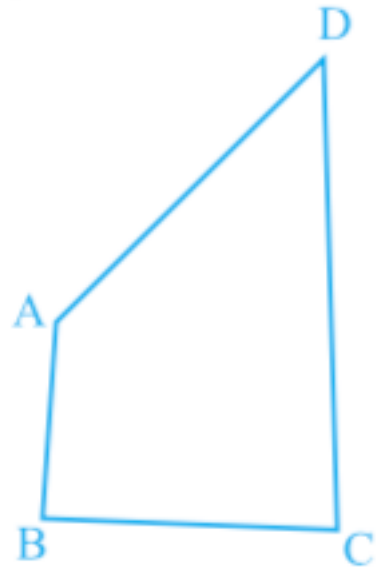
2. In Fig. 7.48, sides AB and AC of $\triangle ABC$ are extended to points P and Q respectively. Also, $\angle PBC < \angle QCB$. Show that $AC > AB$.



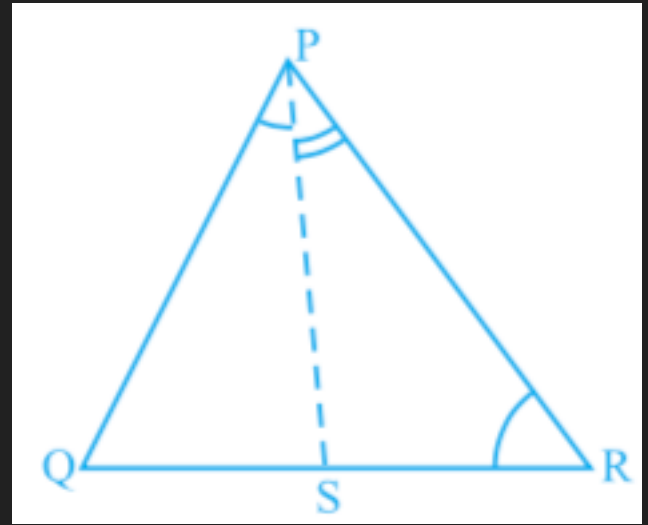
3. In Fig. 7.49, $\angle B < \angle A$ and $\angle C < \angle D$. Show that $AD < BC$.



AB and CD are respectively the smallest and longest sides of a quadrilateral ABCD (see Fig. 7.50). Show that $\angle A > \angle C$ and $\angle B > \angle D$.



In Fig 7.51, $PR > PQ$ and PS bisects $\angle QPR$. Prove that $\angle PSR > \angle PSQ$.



6. Show that of all line segments drawn from a given point not on it, the perpendicular line segment is the shortest.

Summary

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