Mathematics

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(Chapter – 7) (Triangles)(Exemplar Problems)

(Class – IX)

Exercise 7.1

Write the correct answer in each of the following:

Question 10:

In triangles ABC and PQR, AB = AC, ∠C = ∠P and ∠B = ∠Q. The two triangles are

(A) isosceles but not congruent

(B) isosceles and congruent

(C) congruent but not isosceles

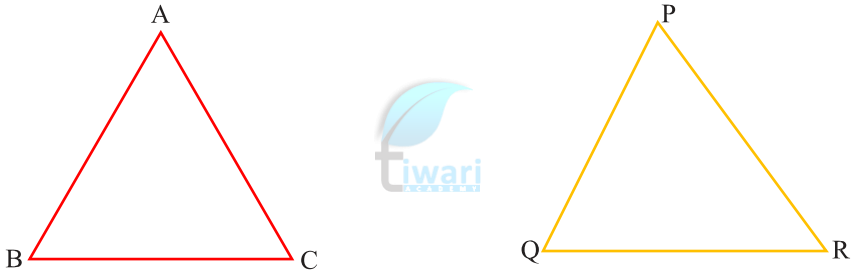
(D) neither congruent nor isosceles

Answer 10:

(A) isosceles but not congruent

Solution:

Given that: In triangles ABC and PQR, AB = AC, ∠C = ∠P and ∠B = ∠Q.



In triangles ABC and PQR, AB = AC

$\Rightarrow$ ∠C = ∠B

But given that ∠C = ∠P and ∠B = ∠Q

$\Rightarrow$ ∠P = ∠Q

$\Rightarrow$ Triangle PQR is an isosceles triangle.

Not even a single side of ABC is equal to sides of PQR, so triangles cannot be congruent.

Hence, the option (A) is correct.