Chapter - 6

Triangles

(Assertion and Reasoning Questions)

In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

Q.1. Assertion (A) : If two sides of a right angle are 7 cm and 8 cm, then its third side will be 9 cm.

Reason (R) : In a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.

Q.2. Assertion (A) : If ΔABC and ΔPQR are congruent triangles, then they are also similar triangles.

Reason (R) : All congruent triangles are similar but the similar triangles need not be congruent.

Q.3. Assertion (A) : In the given figures, $\Delta ABC \sim \Delta GHI$.

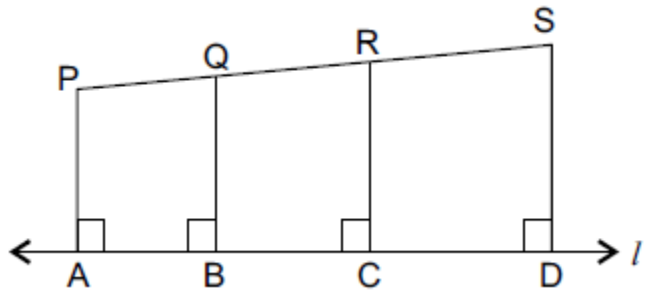
Reason (R) : If the corresponding sides of two triangles are proportional, then they are similar.

Q.4. Assertion (A) : The sides of two similar triangles are in the ratio 2 : 5, then the areas of these triangles are in the ratio 4 : 25.

Reason (R) : The ratio of the areas of two similar triangles is equal to the square of the ratio of their sides.

Q.5. Assertion (A) : In the given figure, PA || QB || RC || SD.

Reason (R) : If three or more line segments are perpendiculars to one line, then they are parallel to each other.



Q.6. Assertion (A) : In the ΔABC, AB = 24 cm, BC = 10 cm and AC = 26 cm, then ΔABC is a right angle triangle.

Reason (R) : If in two triangles, their corresponding angles are equal, then the triangles are similar.

-x-x-x-

ANSWER KEY

Q.1 : (d) **Q.2** : (a) **Q.3** : (a) **Q.4** : (a)

Q.5 : (a) **Q.6** : (b)