THE VILLAGE INTERNATIONAL SCHOOL

QUESTION BANK – MATHEMATICS

GRADE: 9 **CHAPTER: TRIANGLES**

1. In triangle ABC, if AB=BC and ∠B = 70°, ∠A will be:

a. 70°

b. 110°

c. 55°

d. 130°

Answer: c

2. For two triangles, if two angles and the included side of one triangle are equal to two angles and the included side of another triangle. Then the congruency rule is:

a. SSS

b. ASA

c. SAS

d. None of the above

Answer: b

3. A triangle in which two sides are equal is called:

a. Scalene triangle

b. Equilateral triangle

c. Isosceles triangle

d. None of the above

Answer: c

4. The angles opposite to equal sides of a triangle are:

a. Equal

b. Unequal

c. supplementary angles

d. Complementary angles

Answer: a

5. ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB, respectively. Then:

a. BE > CF

b. BE < CF

c. BE = CF

d. None of the above

Answer: c

6. Which of the following is not a criterion for congruence of triangles?

(a) SAS

(b) ASA

(c) SSA

(d) SSS

Answer: c

7. In triangles ABC and PQR, AB = AC, $\angle C = \angle P$ and $\angle B = \angle Q$. The two triangles are

(a) Isosceles and congruent

(b) Isosceles but not congruent

(c) Congruent but not isosceles

(d) Neither congruent nor isosceles

Answer: b

8. If Δ ABC $\cong$ Δ PQR, then which of the following is not true?

(a) AC = PR

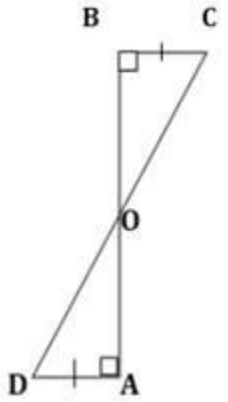
(b) BC = PQ

(c) QR = BC

(d) AB = PQ

Answer: b

9. AD and BC are equal perpendiculars to a line segment AB. Show that CD bisects AB (See figure)



Ans. In ΔBOC and ΔAOD,

$\angle$OBC = $\angle$OAD = 90° (by construction)

$\angle$BOC = $\angle$AOD (vertically opposite angles)

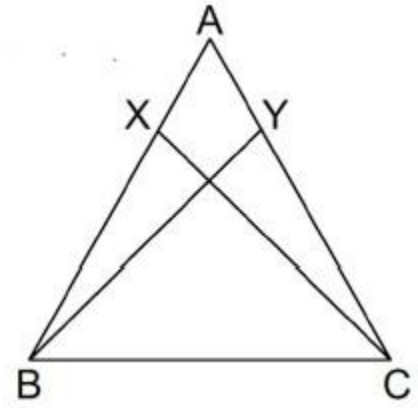
BC = AD

$\therefore$ ΔBOC $\cong$ ΔAOD (ASA congruence rule)

$\Rightarrow$ OB = OA and OC = OD (CPCT)

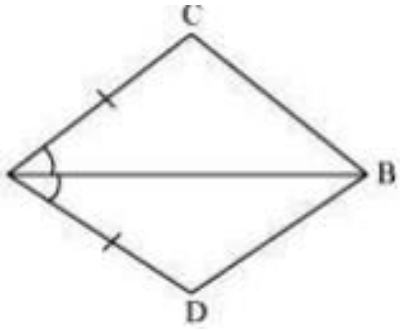
10. In the following question, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:
(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is 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.

Assertion: In the adjoining figure, X and Y are respectively two points on equal sides AB and AC of ΔABC such that AX = AY then CX = BY.
Reason: If two sides and the included angle of one triangle are equal to two sides and the included angle of the other triangle, then the two triangles are congruent.



Ans: (a)

11. In quadrilateral ACBD, AC = AD and AB bisects ∠A (See the given figure). Show that ΔABC ≅ ΔABD. What can you say about BC and BD?



ANSWER:

In ΔABC and ΔABD, AC = AD (Given) ∠CAB = ∠DAB (AB bisects ∠A) AB = AB (Common) ∴ ΔABC ≅ ΔABD (By SAS congruence rule) ∴ BC = BD (By CPCT) Therefore, BC and BD are of equal lengths.