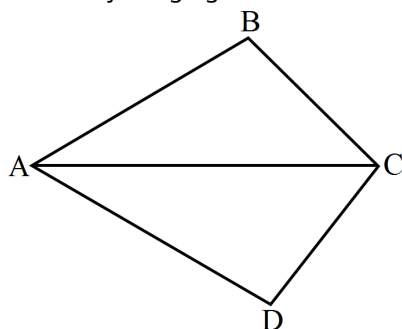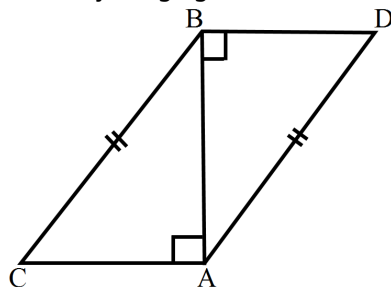*** Choose the right answer from the given options. [1 Marks Each]**

[10]

1. In the adjoining figure, $\triangle ABC \cong \triangle ADC$. If $\angle BAC = 30°$ and $\angle ABC = 100°$ then $\angle ACD$ is equal to:

    (A) 80°   (B) 60°   (C) 30°   (D) 50°

2. If $\angle OCA = 80°$, $\angle COA = 40°$, and $\angle BDO = 70°$ then x° + y° = ?
    (A) 270°   (B) 210°   (C) 230°   (D) 190°

3. In the adjoining figure, BC = AD, $CA \perp AB$ and $BD \perp AB$. The rule by which $\triangle ABC \cong \triangle BAD$ is:


    (A) ASA   (B) RHS   (C) SSS   (D) SAS

4. If $\triangle ABC \cong \triangle PQR$ then which of the following is not true?
    (A) BC = PQ   (B) AC = PR   (C) BC = QR   (D) AB = PQ

5. If two acute angles of a right triangle are equal, then each acute is equal to:
    (A) 30°   (B) 45°   (C) 60°   (D) 90°

6. In $\triangle ABC$, if $\angle B = 30°$ and $\angle C = 70°$, then which of the following is the longest side?
    (A) AB or AC   (B) BC   (C) AB   (D) AC

7. In fig, in $\triangle ABC$, AB = AC, then the value of x is:
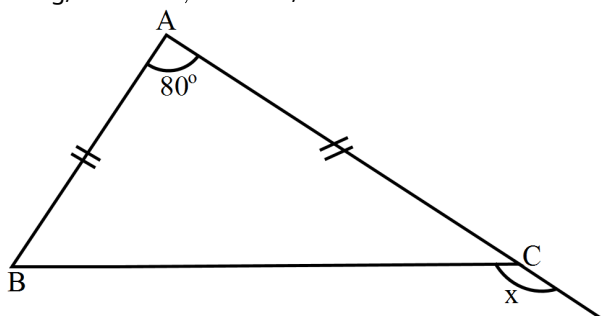
    (A) 100°   (B) 80°   (C) 120°   (D) 130°

8. Line sgements AB and CD intersect at O such that AC∥DB. If $\angle CAB = 45°$ and $\angle CDB = 55°$, then $\angle BOD =$
    (A) 80°   (B) 90°   (C) 100°   (D) 135°

9. Two sides of a triangle are oflengths 5cm and 1.5cm. The length of the third side of the triangle cannot be:
    (A) 3.6cm   (B) 3.8cm   (C) 4cm   (D) 3.4cm

10. In the adjoining figure, AB = AC and AD is bisector of ∠A. The rule by which △ABD ≅ △ACD is:
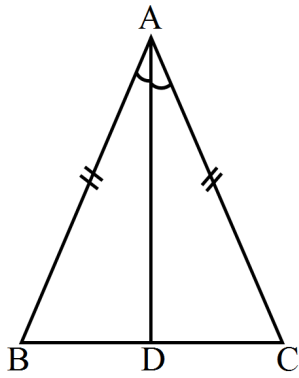
(A) SSS   (B) SAS   (C) AAS   (D) ASA
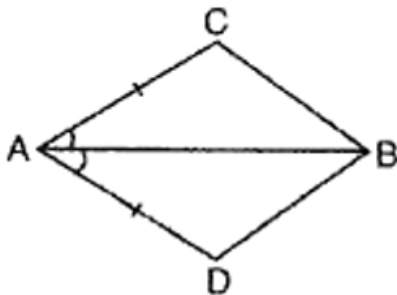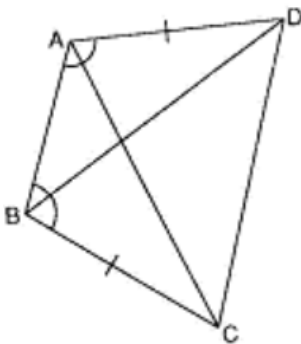
* Answer the following short questions. [2 Marks Each]   [10]

11. In quadrilateral ABCD (See figure). AC = AD and AB bisects ∠A. Show that △ABC ≅ △ABD. What can you say about BC and BD?

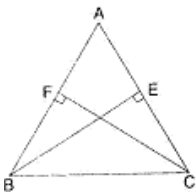12. ABCD is a quadrilateral in which AD = BC and ∠DAB = ∠CBA : Prove that:
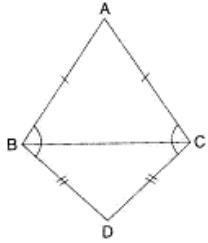   i. △ ABD ≅ △ BAC
   ii. BD = AC
   iii. ∠ ABD= ∠ BAC

13. In figure, AC = AE, AB = AD and ∠BAD = ∠EAC. Show that BC = DE.
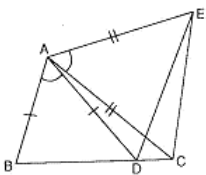
14. ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal. Show that △ABE ≅ △ACF, AB = AC i.e. △ABC is an isosceles triangle.

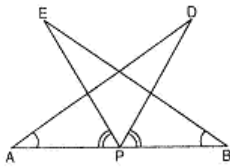15. ABC and DBC are two isosceles triangles on the same base BC. Show that ∠ABD = ∠ACD.
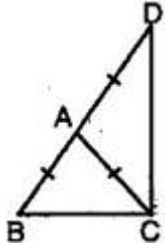
 * Answer the following questions. [3 Marks Each]

16. AB is a line segment and P is its mid-point. D and E are points on the same side of AB such that ∠BAD = ∠ABE and ∠EPA = ∠DPB.
   Show that:
      i.   △DAP ≅ △EBP
      ii. AD = BE
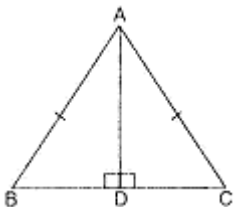

17. △ ABC is an isosceles triangle in which AB = AC. Side BA is produced to D such that AD = AB(See figure). Show that ∠ BCD is a right angle.

18. Show that the angles of an equilateral triangle are 60° each.

19. AD is an altitude of an isosceles triangle ABC in which AB = AC. Show that
      i.   AD bisects BC
      ii. AD bisects ∠A.

20. Two sides AB and BC and median AM of the triangle ABC are respectively equal to side PQ and QR and median PN of PQR (See figure). Show that:
      i. $\triangle ABM \cong \triangle PQN$
      ii. $\triangle ABC \cong \triangle PQR$

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