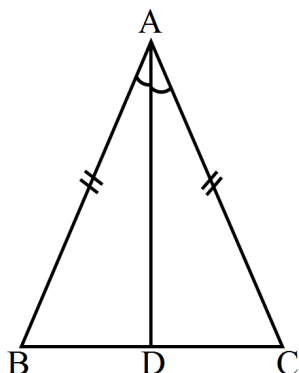* Choose the right answer from the given options. [1 Marks Each]
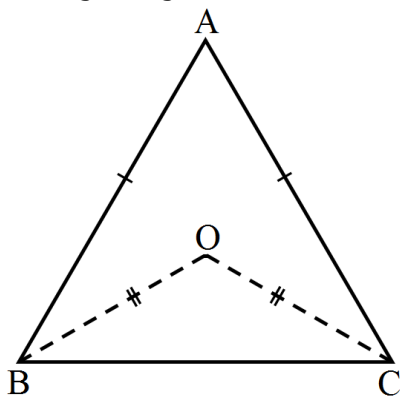
[10]

1. In the adjoining figure, AB = AC and AD is bisector of $\angle A$. The rule by which $\triangle ABD \cong \triangle ACD$.

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

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

3. In the given figure, AB = AC and OB = OC. Then, $\angle ABO : \angle ACO =$?

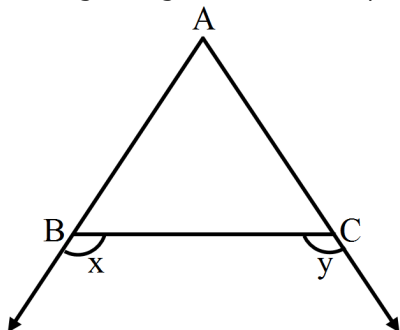   (A) 1 : 1   (B) 2 : 1   (C) 1 : 2   (D) None of these

4. In $\triangle PQR$, $\angle P = 60°$, $\angle Q = 50°$. Which side of the triangle is the longest?
      (A) PQ   (B) QR   (C) None   (D) PR

5. Side BC of a triangle ABC has been produced to a point D such that $\angle ACD = 120°$. If $\angle B = \frac{1}{2}\angle A$, then $\angle A$ is equal to :
      (A) 80°   (B) 75°   (C) 60°   (D) 90°

6. In the given figure, ABC is an equilateral triangle. The value of x + y is:
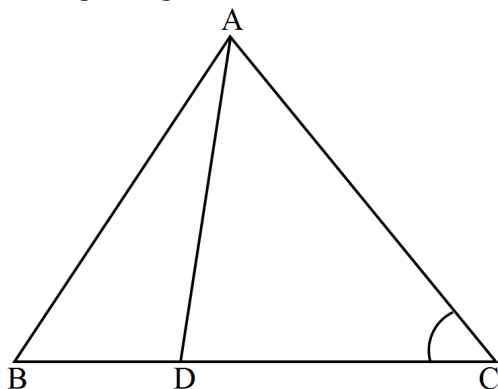

   (A) $120^°$ (B) $180^°$ (C) $240^°$ (D) $200^°$

7. The perimeter of a triangle is 36cm and its sides are in the ratio a : b : c = 3 : 4 : 5 then a, b, c are respectively:
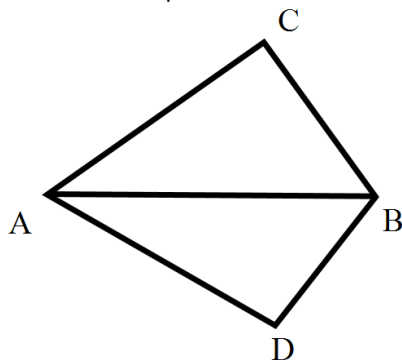   (A) 9cm, 15cm, 12cm   (B) 9cm, 12cm, 15cm   (C) 12cm, 9cm, 15cm   (D) 15cm, 12cm, 9cm

8. In the given figure, AB > AC. Then, which of the following is true?

(A) AB < AD   (B) Cannot be determined   (C) AB > AD   (D) AB = AD

9. In the above quadrilateral ACBD, we have AC= AD and AB bisect the LA .Which of the following is true?

(A) $\triangle ABC \cong \triangle ABD$ (B) $\angle C = \angle D$ (C) All are true   (D) $BC = BD$
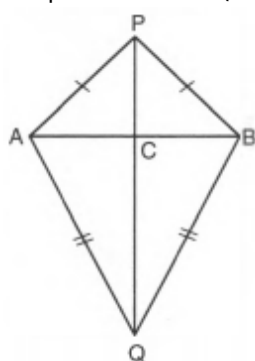
10. In the following, write the correct answer.
In $\triangle ABC$ if AB = AC and $\angle B = 50°$ then is equal to:
(A) 40°   (B) 50°   (C) 80°   (D) 130°

[8]
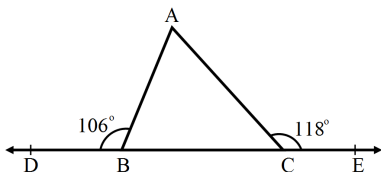
* **Answer the following short questions. [2 Marks Each]**

11. AB is a line segment. P and Q are points on opposite sides of AB such that each of them is equidistant from the points A and B (See Figure). Show that the line PQ is the perpendicular bisector of AB.
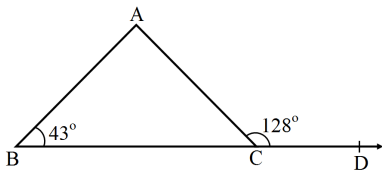

12. In $\triangle PQR, \angle P = 70°$ and $\angle R = 30°$. Which side of this triangle is the longest? Give reason for your answer.

13. In the given figure, the side BC of $\triangle ABC$ has been produced on both sides-on the left to D and on the right to E. If $\angle ABD = 106°$ and $\angle ACE = 118°$, find the measure of each angle of the triangle.

14. In the given figure, side BC of $\triangle ABC$ is produced to D. If $\angle ACD = 128°$ and $\angle ABC = 43°$, find $\angle BAC$ and $\angle ACB$.
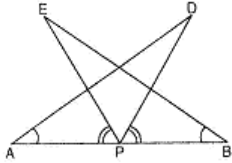
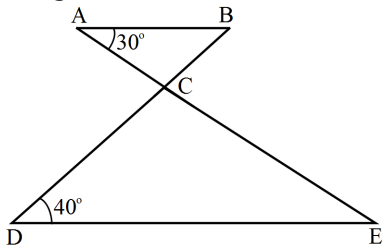*** Answer the following questions. [3 Marks Each]**

15. AB is a line segment and P is its mid-point. D and E are points on the same side of AB such that $\angle BAD = \angle ABE$ and $\angle EPA = \angle DPB$.
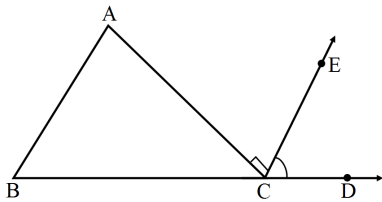Show that:
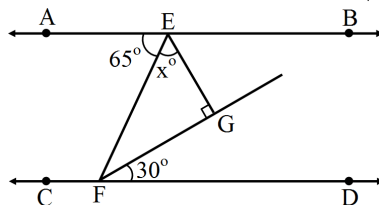   i. $\triangle DAP \cong \triangle EBP$
    ii. $AD = BE$

16. In Fig. AB || DE Find $\angle ACD$.

17. In Fig. $AC \perp CE$ and $\angle A : \angle B : \angle C = 3 : 2 : 1,$ find the value of $\angle ECD$.

18. In the given figure, AB || CD and EF is a transversal. If $\angle AEF = 65°, \angle DFG = 30°, \angle EFG = 90°$

and $\angle GEF = x°$, find the value of x.

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