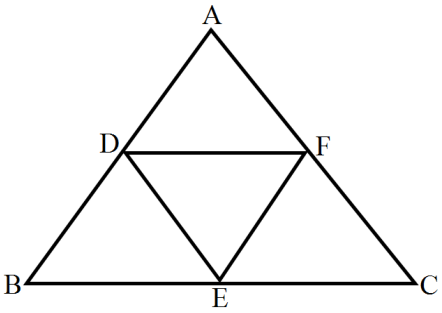
[10]

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

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

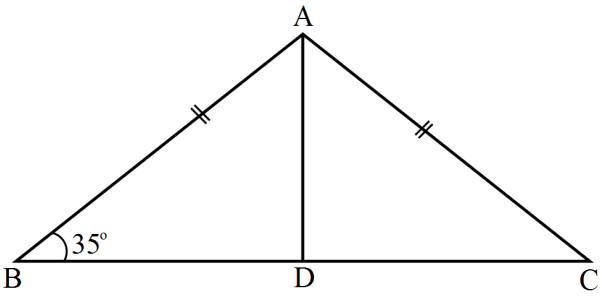
2. D, E and F are the mid points of sides AB, BC and CA of $\triangle ABC$. If perimetre of $\triangle ABC$. is 16cm, then perimetre of $\triangle DEF$.



   (A) 4cm (B) 8cm (C) None of these (D) 32cm

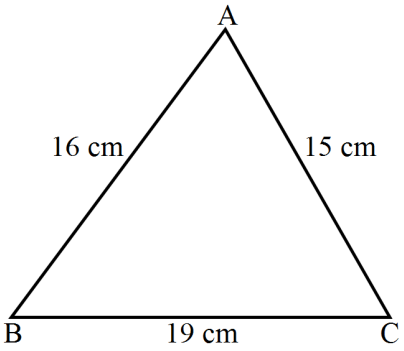
3. In $\triangle ABC$, $\angle A = 35^\circ$ and $\angle B = 65^\circ$, then the longest side of the triangle is:
   (A) AB (B) BC (C) AC (D) None of these

4. ABC is an isosceles triangle such that AB = AC and AD is the median to base BC. Then, $\angle BAD =$



   (A) 55° (B) 70° (C) 35° (D) 110°

5. In fig. which of the following statement is true?

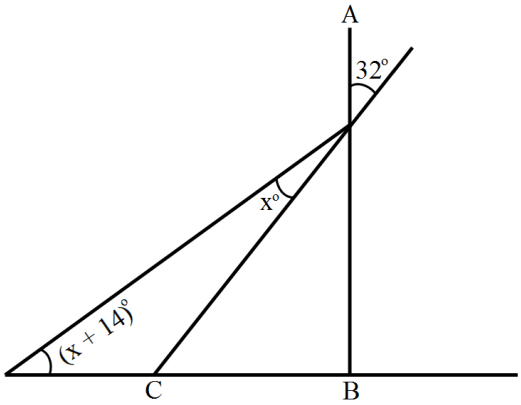


   (A) $\angle B = \angle C$ (B) $\angle B$ is the smallest angle in the triangle. (C) $\angle B$ is the greatest angle in the triangle. (D) $\angle A$ is the smallest angle in the triangle.

6. It is not possible to construct a triangle when the lengths of its sides are:
   (A) 5.3cm, 2.2cm, 3.1cm (B) 6cm, 7cm, 8cm (C) 4cm, 6cm, 6cm (D) 9.3cm, 5.2cm, 7.4cm

7. If $\triangle ABC \cong \triangle ACB$, then $\triangle ABC$ is isosceles with.
   (A) AB = AC (B) AB = BC (C) AC = BC (D) None of these

8. In Fig. if $AB \perp BC$, then x =



(A) 18° (B) 22° (C) 25° (D) 32°

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

(A) Congruent but not isosceles. (B) Isosceles and congruent. (C) Isosceles but not congruent. (D) Neither congruent nor isosceles.

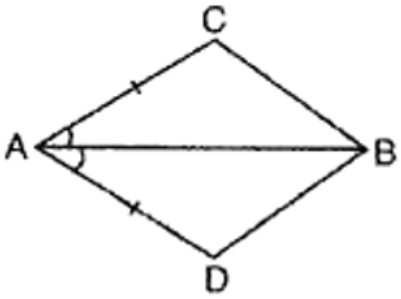
10. If a, b, c are the lengths of the sides of a triangle, then

(A) A – B > C (B) C > A + B (C) C < A + B (D) C = A + B

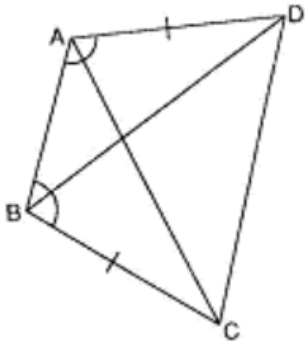
[8]

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

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

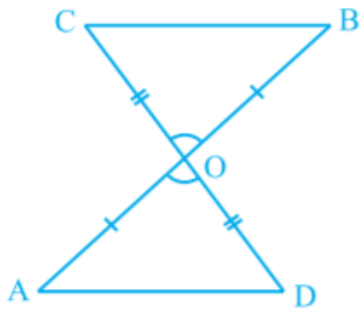


12. ABCD is a quadrilateral in which AD = BC and ∠DAB = ∠CBA : Prove that:
    i. △ ABD ≅ △ BAC
    ii. BD = AC
    iii. ∠ ABD= ∠ BAC



13. In Fig., OA = OB and OD = OC. Show that
    i. △ AOD ≅ △ BOC

ii. AD || BC



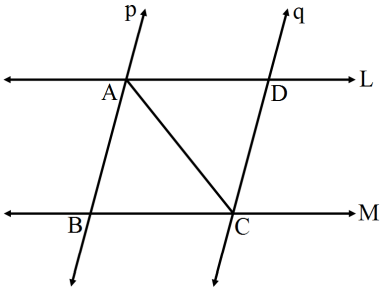
14. AB is a line segment and line l is its perpendicular bisector. If a point P lies on l, show that P is equidistant from A and B.

[12]

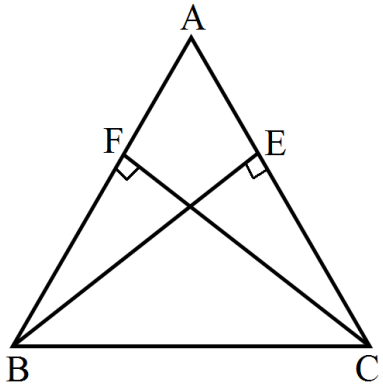
*** Answer the following questions. [3 Marks Each]**

15. The angles of a triangle are (x - 40)°, (x - 20)° and $\left(\frac{1}{2}x - 10\right)^\circ$. Find the value of x.

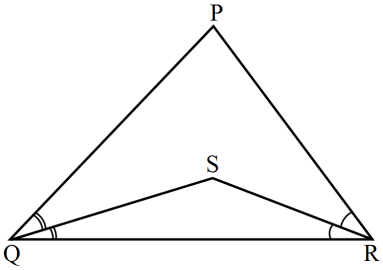
16. In the given figure, two parallel line l and m are intersected by two parallel lines p and q.
Show that $\triangle ABC \cong \triangle CDA$.



17. In the given figure, BE and CF are two equal altitudes of $\triangle ABC$.
Show that:
    i. $\triangle ABE \cong \triangle ACF$,
    ii. AB = AC.



18. In the given figure, PQ > PR and QS and RS are the bisectors of $\angle Q$ and $\angle R$ respectively. Show that SQ > SR.



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