INDIAN SCHOOL NIZWA- WORKSHEET

MATHEMATICS

CH 6 The triangle and its properties

Name:_____ Date:_____ Class: VII Sec:

I. **Fill up the blanks**

1. Every triangle has at least ..... acute angles.
2. The longest side of a right- angled triangle is called its .....
3. The line segment joining a vertex of a triangle to the mid-point of its opposite side is called its.....
4. The complete name of the angle opposite to the side RP in ΔPQR is ……
5. The sum of any two sides of a triangle is…… than the third side.
6. In a triangle if two angles are 30^0 and 60^0 then, the third angle is …….
7. In triangle ABC, AD is median to the side BC, if BD = 4cm, the value of 3BC – BD is ……

II. **State whether the given statements are True or False**

8. Sum of two sides of a triangle is greater than the third side.
9. The difference between the lengths of any two sides of a triangle is smaller than the length of third side.
10. Sum of any two angles of a triangle is always greater than the third angle.
11. It is possible to have a right angled equilateral triangle.
12. An equilateral triangle has three equal angles, each measuring 60^0.

.

III. **Solve**

13. Can 12cm,15cm and 19cm be the sides of a triangle or not? (Show the working)

14. One of the interior opposite angles of a triangle is 40^0.If the measure of the exterior angle is 120^0, find the measure of the other two angles of the triangle.

15. A rectangular picture frame is 40 cm by 30 cm.Find its diagonal.

16. A ladder of 5m is placed against a wall 4m long.Find the distance of foot of the ladder from the foot of the wall.

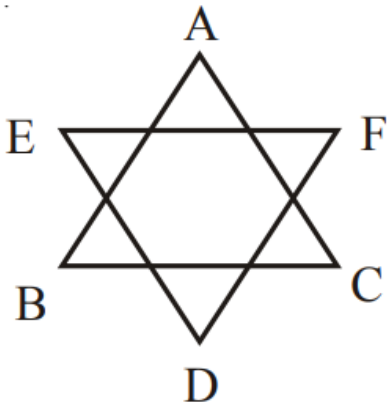
17. Find the perimeter of rectangle whose diagonal is 34cm and breadth is 16cm.

18. Can 9cm, 40cm and 41cm be sides of right triangle? verify.

19. **Match the following:**

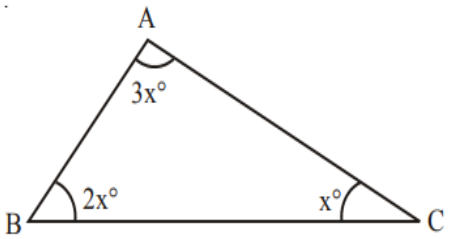
(i)	A triangle with no two sides of equal length.	(a)	Right angled triangle
(ii)	A triangle with two sides of equal length.	(b)	Acute angled triangle
(iii)	A triangle with all sides of equal length.	(c)	Scalene triangle
(iv)	A triangle in which all of its angles are acute.	(d)	Obtuse angled triangle
(v)	A triangle in which one of its angles is a right angle.	(e)	Equilateral triangle
(vi)	. A triangle in which one of its angles is obtuse	(f)	Isosceles triangle

20. In figure find the vlue of $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$



21. Find the value of x.

(i)



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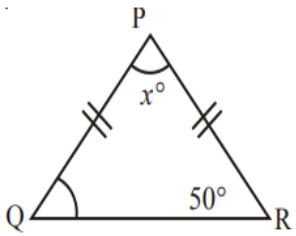

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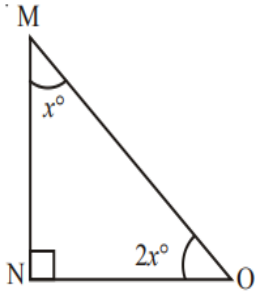

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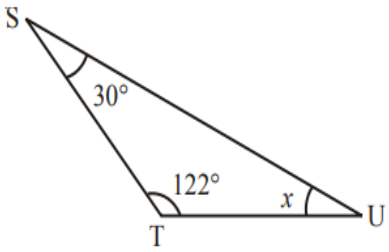

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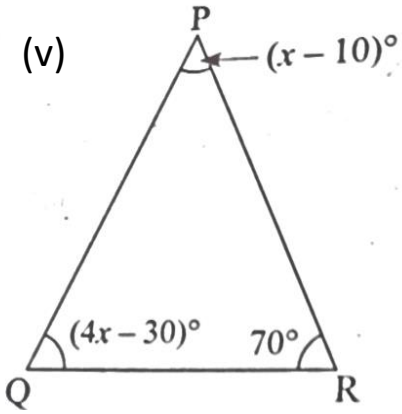
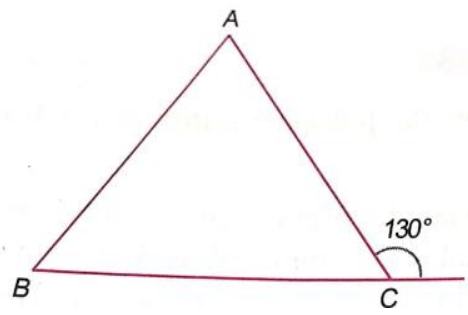
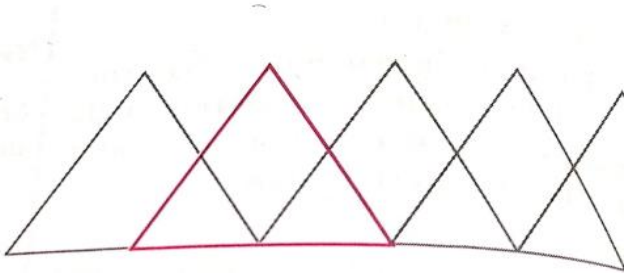


IV. Case Study Based Questions

Triangles are fundamental to architecture, providing strength and stability to buildings and structures.





Based on the given information answer the following questions.

(i) An exterior angle formed by extending one of the sides of the triangle is $130^{0.}$ What is the measure of its adjacent interior angle?

(ii) Δ ABC is an isosceles triangle with AB = AC.What is the measure of $\angle$B?

(iii) Can a triangle have all the three angles less than 60^0?