D CUBE AURA
CLASS VII – MATHEMATICS – CHAPTER 06
THE TRIANGLE AND ITS PROPERTIES

Name: Date:

Q01. How many altitudes can a triangle have?
a. 3   b. 2   c. 1   d. none of these

Q02. Write the side opposite to the vertex B of ΔABC.
a. AB   b. AC   c. BC   d. none of these

Q03. A triangle in which two altitudes of the triangle are two of its sides is _____.
a. acute-angled   b. obtuse-angled   c. right-angled   d. none of these

Q04. Write the angle opposite to the side LM of ΔLMN.
a. angle N   b. angle M   c. angle L   d. none of these

Q05. Write the angle opposite to the side XY of ΔXYZ.
a. $\angle X$ b. $\angle Z$ c. $\angle Y$ d. none of these

Q06. Write the vertex opposite to the side RT of ΔRST.
a. S   b. R   c. T   d. none of these

Q07. Write the vertex opposite to the side PR of ΔPQR.
a. P   b. Q   c. R   d. none of these

Q08. According to Pythagoras property, in a right-angled triangle, the square on the ____ = sum of the squares on the legs.
a. right angle   b. altitude   c. hypotenuse   d. none of these

Q09. How many medians can a triangle have?
a. 3   b. 2   c. 1   d. 0

Q10. An _____ is formed when lines or line segments meet.
a. angle   b. ray   c. line   d. line segment

Q11. Determine whether the triangle whose lengths of sides are 3 cm, 4 cm, 5 cm is a _____.
a. right-angled   b. acute-angled   c. obtuse-angled   d. none of these

Q12. If the Pythagoras property holds for some triangle, will the triangle be
a. right-angled   b. acute-angled   c. obtuse-angled   d. none of these

Q13. Answer in Yes or No.
(a). Can you have a triangle with two right angles?
(b). Can you have a triangle with two obtuse angles?
(c). Can you have a triangle with two acute angles?
(d). Can you have a triangle with all the three angles greater than 60°?
(e). Can you have a triangle with all the three angles equal to 60°?
(f). Can you have a triangle with all the three angles less than 60°?

Q01. Fill in the blanks**:**
(a)**.** A _____ is a simple closed curve made of three line segments.
(b)**.** An _____ has one end point at a vertex of the triangle and the other on the line containing the opposite side.
(c)**.** The sum of interior opposite angles is _____, when the exterior angle is right angle.
(d)**.** The sum of the lengths of any two sides of a triangle is _____ the third side.
(e)**.** A triangle has _____ vertices, three sides and three angles.

(f). Through each vertex, an _____ can be drawn.

(g). A triangle in which all the three sides are of equal lengths is called an _____.

(h). In an equilateral triangle all sides have _____ length.

(i). An _____ of a triangle is equal to the sum of its interior opposite angles.

(j). The sum of the measures of the three angles of a triangle is _____.

(k). In an equilateral triangle each angle has measure _____.

(l). A triangle in which two sides are of equal lengths is called an _____.

(m). A _____ connects a vertex of a triangle to the mid-point of the opposite side.

(n). Exterior angles can be formed for a triangle in _____ ways.

(o). In an isosceles triangle _____ sides have same length.

(p). The sum of the lengths of any two sides of a triangle is greater than the _____.

(q). A median wholly lie in the _____ of the triangle.

(r). The sum of an exterior angle of a triangle and its adjacent interior angle is _____.

(s). In an isosceles triangle base angle opposite to the equal sides are _____.

(t). The side opposite to the right angle is called the _____ of the right-angled triangle.

Q01. An exterior angle of a triangle is of measure 70° and one of its interior opposite angles is of measure 25°. Find the measure of the other interior opposite angle.

Q02. Is there a triangle whose sides have lengths 10.2 cm, 5.8 cm and 4.5 cm?

Q03. The two interior opposite angles of an exterior angle of a triangle are 60° and 80°. Find the measure of the exterior angle.

Q04. The lengths of two sides of a triangle are 6 cm and 8 cm. Between which two numbers can length of the third side fall?

Q05. Two angles of a triangle are 30° and 80°. Find the third angle.

Q06. Is it possible to have a triangle with the sides 3 cm, 6 cm and 7 cm?

Q07. One of the angles of a triangle is 80° and the other two angles are equal. Find the measure of each of the equal angles.

Q08. The lengths of two sides of a triangle are 17 cm and 26 cm. Between what two measures should the length of the third side fall?

Q09. The lengths of two sides of a triangle are 9 cm and 15 cm. Between what two measures should the length of the third side fall?

Q10. The two interior opposite angles of an exterior angle of a triangle are 37° and 54°. Find the measure of the exterior angle.

Q11. An exterior angle of a triangle is of measure 63° and one of its interior opposite angles is of measure 39°. Find the measure of the other interior opposite angle.

Q12. The three angles of a triangle are in the ratio 3:1:2. Find all the angles of the triangle.

Q13. Two trees 7 m and 4 m high stand upright on a ground. If their bases (roots) are 4 m apart, then the distance between their tops is

Q14. The three angles of a triangle are in the ratio 1:5:3. Find all the angles of the triangle.

Q15. The height of two building is 34m and 29m respectively. If the distance between the two building is 12m, find the distance between their tops.

Q16. In the right-angled ΔPQR, ∠P = 90°. If PQ = 24 cm and PR = 10 cm, find the length of seg QR.

Q17. In the right-angled ΔLMN, ∠M = 90°. If LM = 12 cm and LN = 20 cm, find the length of seg MN.

Q18. The top of a ladder of length 15 m reaches a window 9 m above the ground. What is the distance between the base of the wall and that of the ladder?

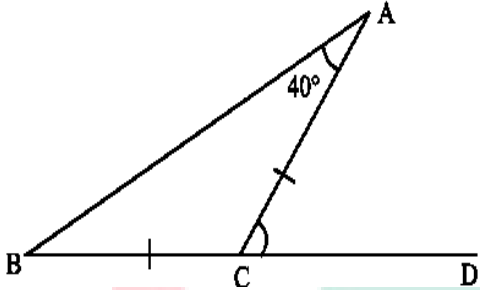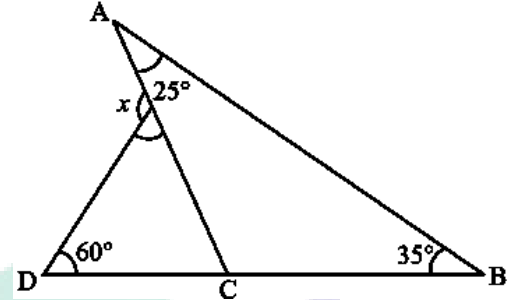**Q19.** If PB = PD then, the value of x.
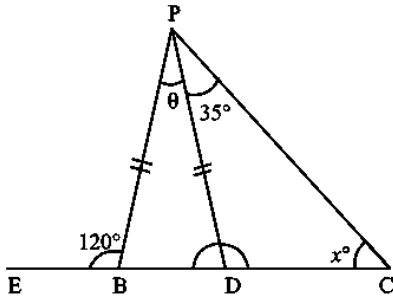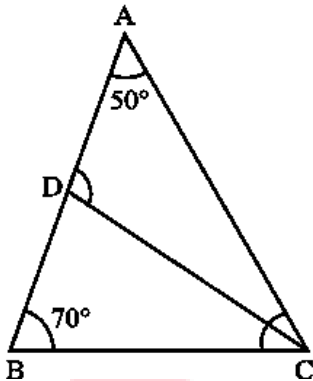

Q20. If PQ = PS then, the value of *x* is
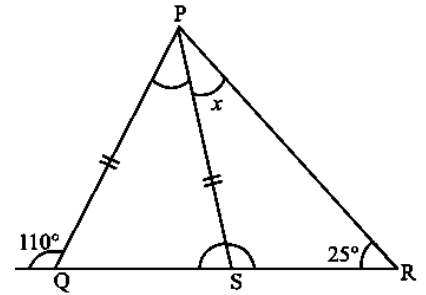
Q21. If BC = CA and ∠A = 40. Then, ∠ACD is equal to

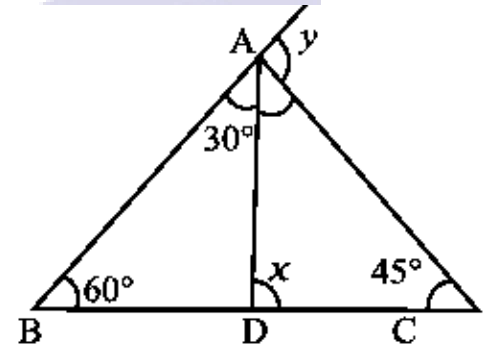**Q22.** Find the value of x?

Q23. In ΔABC, ∠A = 50°, ∠B = 70° and bisector of ∠C meets AB in D. Measure of ∠ADC is.

Q24. Find the value of x and y?

Q25. If PQ = PR, RS = RQ and ST||QR. If the exterior angle RPU is 140°, then the measure of angle TSR is