Worksheet

Grade 7 - Mathematics

Chapter 12 - Constructions

A. Choose the correct option.

1) If a square is divided along a diagonal, what kind of triangles are formed?

   a) equilateral   b) scalene   c) obtuse   d) isosceles

2) If a rectangle is divided along a diagonal, what kind of triangles are formed?

   a) equilateral   b) scalene   c) obtuse   d) isosceles

3) The sum of angles of a triangle is .

   a) 100^0 b) 120^0 c) 180^0 d) 360^0

4) RHS method is used to draw which kind of triangle.

   a) obtuse   b) right-angled   c) acute   d) equilateral

5) How many arcs are made to draw a perpendicular bisector of a line segment?

   a) 1   b) 2   c) 3   d) 4

C. State whether true or false

   1) To draw the bisector of a line segment, you have to know its length.

   2) Bisector cannot be drawn for a line, as it has infinite length.

   3) In a triangle, the sum of the lengths of two sides must be greater than the third.

   4) In an obtuse triangle, all three angles are obtuse angles.

   5) In an acute triangle, all three angles are acute angles.

B. Fill in the blanks.

   1) A triangle with sides 5 cm, 7 cm, 10 cm is a/an _____ triangle.

   2) A triangle with sides 8 cm, 13 cm, 8 cm is a/an _____ triangle.

   3) A triangle with sides 12 cm, 12 cm, 12 cm is a/an _____ triangle.

   4) A triangle with angles 60^0 cm, 70^0 cm, 50^0 cm is a/an _____ triangle.

   5) A triangle with angles 60^0 cm, 90^0 cm, 30^0 cm is a/an _____ triangle.

      6)) A triangle with angles 30^0 cm, 110^0 cm, 40^0 cm is a/an _____
      triangle

C. Answer the following questions.

   1) Check whether a triangle can be drawn with the given set of angles.

      a) 30^0, 120^0, 40^0 b) 30^0, 90^0, 45^0 c) 20^0, 80^0, 80^0

   2) Check whether a triangle can be drawn with the given set of angles.
      a) 12 cm, 10 cm, 8 cm   b) 15 cm, 5 cm, 9 cm   c) 6.5 cm, 2.5 cm, 7.5 cm

C. Do the following constructions.

   1) Draw the line XY and mark a point O. Construct a perpendicular to it at O.
   2) Draw a line segment AB of any length. Construct a perpendicular bisector to it.
   3) Construct an equilateral triangle with any length of sides. Which method will you use for
       the construction (ASA, SAS, SSS, RHS)?
   4) Construct a △ABC with ∠A 50^0, ∠B 50^0 and AB = 8 cm. Verify that ∠C has the expected
       measure.
   5) Construct a △ABC with ∠B = 40^0, AB = 6.5 cm and BC = 8.5 cm.
   6) Construct a right-angled triangle with each leg measuring 7 cm. Measure its hypotenuse.
       Which method will you use for the construction (ASA, SAS, SSS, RHS)?
   7) Construct a △PQR with PQ = 4cm, PR = 7.5 cm and QR = 8.5 cm. What kind of triangle is
       it.
   8) Construct a right-angled △XYZ with ∠Y = 90^0, YZ = 3.5 cm and XY = 12.5 cm. Measure YX.
       Which side is the hypotenuse?