परमाणु ऊर्जा शिक्षण संस्था
Atomic Energy Education Society
कार्यपत्रक / Worksheet (2025-26)

कक्षा/Class: VII   विषय/Subject: Mathematics   माह/Month: September   अंक/Marks: 40

दिया गया पाठ्यक्रम/Portion covered: Chapter 07 (A Tale of Intersecting Lines)

विद्यार्थी का नाम/Name of the student:

_____

अनुक्रमांक/Roll No.: _____   अनुभाग/Section: _____   दिनांक/Date:

_____

SECTION A (10 × 1 M = 10 M)

(I) MULTIPLE CHOICE QUESTIONS:

1. An _____ triangle have three equal sides and three equal angles:
   (a) Isosceles   (b) Equilateral   (c) Scalene   (d) All of these

2. A triangle with one angle equal to 90° is _____ - angled triangle:
   (a) Acute   (b) Obtuse   (c) Right   (d) None of these

3. A triangle with a pair of equal angles is _____ triangle:
   (a) Isosceles   (b) Scalene   (c) Equilateral   (d) All of these

4. A triangle having an angle 90° and a pair of equal sides will have other two angles equal to:
   (a) 30°   (b) 60°   (c) 45°   (d) 180°

5. Which of the following lengths cannot form a right – angled triangle:
   (a) 5 units, 12 units, 13 units   (c) 8 units, 6 units, 10 units
   (b) 24units, 10 units, 26 units   (d) 17 units, 5 units, 22 units

6. ΔABC is right –angled at C. If AC = 5 cm and BC = 12 cm, then the length of AB is:
   (a) 7 cm   (b) 13 cm   (c) 17 cm   (d) 10 cm

7. The longest side in ΔPQR, right – angled at P, is:
   (a) QR   (b) PQ   (c) PR   (d) None of these

8. In a ΔABC, right – angled at B, which of the following inequalities does not represent triangular inequality:
   (a) AB + CA > BC   (c) BC + CA > AB
   (b) AB + BC > CA   (d) AB + BC = CA

9. Which of the following lengths can be the sides of a triangle:
   (a) 2, 2, 5   (b) 3, 4, 6   (c) 2, 4, 6   (d) 10, 20, 35

10. We can construct a triangle using:
    (a) Ruler   (b) Compass   (c) Protractor   (d) All of these

SECTION B (04 × 2 M = 08 M)

1. Construct an **equilateral** triangle of length 3 cm. Also, write the steps of construction.

2. Construct an **isosceles** triangle with base angle 75° and base length 4 cm. Write the steps of construction.

3. Check whether you can construct a triangle with sides:
   (a) 10 cm, 10 cm, 25 cm   (b) 5 cm, 5 cm, 8 cm

4. Construct a **scalene** triangle of lengths 6 cm and 5 cm, and the including angle 45°. Also, write the steps of construction.

SECTION C (03 × 3 M = 09 M)

1. Given 2 angles 60° and 30°, and a side between them measuring 10 cm, construct the triangle. Also, check if the triangle is acute – angled, obtuse – angled or right – angled. Write the steps of construction.
2. Construct an isosceles ΔPQR, where PQ = QR = 7 cm and <Q = 120°. Write the steps of construction.
3. Use **2** methods to construct an equilateral triangle of side 6 cm each. Write the steps of construction.

SECTION D (01 × 5 M = 05 M)

1. Check whether these following triangles are possible or not:
   (a) A scalene ΔXYZ with <Z = 90°, <X = 45° and YZ = 5 cm.
   (b) A right – angled triangle with base length 6 cm and hypotenuse 10 cm.
   (c) An isosceles right – angled ΔABC with AB = BC = 5 cm and hypotenuse CA = 7 cm.
   (d) A triangle with sides 4 cm, 3 cm and 6 cm.
   (e) An equilateral triangle of side 2 cm each.

SECTION E (02 × 4 M = 08 M)

1. There is a triangular field in which 2 sides are known, 13 m and 7 m. Its farmer wants to fence the field, but the length of the third side is unknown.
   (a) What should be the minimum length of the fence?
   (b) What should be the maximum length of the fence?
   (c) Is it possible that the length of the third side is 5 m?
   (d) Is this triangular field right – angled?

   7 m

   13 m
2. If a room is to be constructed on a triangular plot of dimensions 24 m, 26 m and 10m.
   (a) Is this plot right – angled?
   (b) What is the area of this plot?
   (c) What is the perimeter of the plot?
   (d) Does this triangle fulfill triangular inequality property?