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

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

दिया गया पाठ्यक्रम /Portion covered: Chapter 05 (Parallel and Intersecting Lines)

विद्यार्थी का नाम/Name of the student: _____

अनु क्रमांक / Roll No._____ कक्षा /अनुभाग Class /Sec.:_____ दिनांक /Date: _____

Section A (1 ×10 = 10 marks)

1 When a transversal crosses two parallel lines, alternate interior angles are: **[1]**

a) Equal

b) Complementary

c) Unequal

d) Supplementary

2 Alternate interior angles lie: **[1]**

a) On opposite sides of the transversal and inside the two lines

b) On the same side of the transversal and inside the two lines

c) On the same side of the transversal and outside the two lines

d) On opposite sides of the transversal and outside the two lines

3 When two lines intersect, they form: **[1]**

a) Parallel lines.

b) Only right angles.

c) At least two pairs of vertically opposite angles.

d) No angles.

4 Two lines are perpendicular if they meet to form an angle of: **[1]**

a) 60°

b) 120°

c) 45°

d) 90°

5 Which of the following is NOT true for intersecting lines? **[1]**

a) They never meet

b) They meet at a point

c) They can be perpendicular

d) They form angles at the intersection

6 What is the name of the line which cuts two or more lines in a plane? **[1]**

a) Parallel line

b) Intersecting line

c) Perpendicular line

d) Transversal

7 If a line is perpendicular to one of two parallel lines, then it is also: **[1]**

a) Perpendicular to the other line

b) Parallel to the other line

c) Skew to the other line

d) Intersecting the other line

8 Which instrument is primarily used for drawing parallel lines? **[1]**

a) Compass

b) Ruler and set square

c) Protractor

d) Divider

9 If a line intersects another line at exactly one point, then the lines are called: **[1]**

a) Parallel

b) Perpendicular

c) Transversal

d) Intersecting

10 The distance between two parallel lines is measured along: **[1]**

a) The perpendicular drawn from one line to the other

b) The transversal

c) Any random line

d) The angle bisector

Section B (2× 4 = 8 Marks)

11 State whether the given statement is True or False: **[1]**

Vertically opposite angles are always equal.

12 State whether the given statement is True or False: **[1]**

Alternate interior angles are always supplementary.

13 Fill in the blanks: **[1]**

Lines that intersect each other at right angles are called _____ lines.

14 Fill in the blanks: **[1]**

A pair of adjacent angles that form a straight line is called a _____ pair.

15 Explain how paper folding helps us understand the concept of parallel and perpendicular lines. **[2]**

16 Define intersecting lines. Provide a real - life example and illustrate with a diagram. **[2]**

Section C (3× 3 = 9 Marks)

17 Prove that alternate interior angles are equal when a transversal intersects two parallel lines. **[3]**

18 Prove that if two lines are perpendicular to the same line, they are parallel to each other. **[3]**

19 If two lines are cut by a transversal and corresponding angles are equal, prove that the lines are parallel. **[3]**

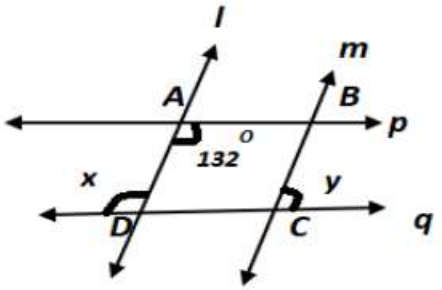
Section D (1 × 5 = 5 Marks)

20 What are alternate angles? How are they related to corresponding and vertically opposite angles? **[5]**

Section E (4× 2 = 8 Marks)

21 **Read the following text carefully and answer the questions that follow:** **[4]**

A farmer has field ABCD formed by the parallel roads as shown in figure in which lines m ‖ n *and* $p \parallel q$. He planted peepal trees at the corners of ABCD.



Observe the figure and answer the following questions

1. If $\angle BAD = 132°$, find $\angle ABC$.

2. Find the values of x and y.

3. What are the measures of supplementary and complementary angle of 32° .

4. Two angles which form a linear pair are in the ratio 5:4, find the angles.

22 **Read the following text carefully and answer the questions that follow:** **[4]**

During a geometry class, students were asked to fold a square sheet of paper in half and then again in half the other way. The creases formed by the folds made two lines, which intersected each other. The teacher explained that these lines intersected at 90°, and thus were perpendicular lines. One student suggested using a protractor to measure the angle and confirmed it was 90°. Another student folded the sheet along the diagonal and found that the new fold also intersected the earlier folds. The class discussed how folding could create parallel and perpendicular lines. The teacher then asked students to create lines parallel to a crease using the concept of double perpendicular folding.

1. What is the angle formed when two lines are perpendicular? **(1)**
2. What is the method to form a line parallel to a crease in paper folding? **(1)**
3. How can a student prove two lines on the paper are perpendicular without using a protractor? **(2)**

OR

A student folds a paper and finds the angle formed is slightly less than 90°. Should the lines be considered perpendicular? Explain. **(2)**