विद्या सर्वार्थि साधिका

ANANDALAYA

PERIODIC TEST – 1

Class: VI

Subject: Mathematics M.M: 40

Date : 15-07-2025 Time: 1Hr. 30 min

General Instructions:

i) All questions are compulsory.
ii) This question paper contains 20 questions.
iii) Questions 1 – 7 in Section A are questions carrying 1 mark each.
iv) Questions 8 – 15 in Section B are short-answer type questions carrying 2 marks each.
v) Questions 16 – 18 in Section C are short -answer type questions carrying 3 marks each.
vi) Question 19 and 20 in Section D are long-answer type question carrying 4 marks each.

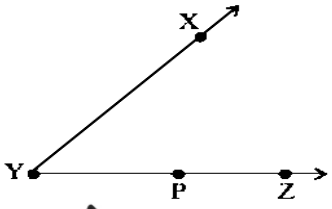
SECTION-A

1. The measure of a complete angle is _____. (1)
   (A) 360° (B) 180° (C) 120° (D) 90°

2. Find the next number in the sequence: 12 21 23 32 34 43 _____ (1)
   (A) 53 (B) 52 (C) 44 (D) 45

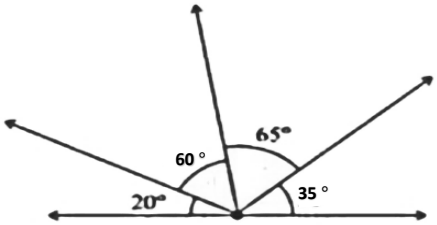
3. The sum of the next two terms of the sequence 2, 4, 8, 16,……. is _____. (1)
   (A) 96 (B) 38 (C) 32 (D) 64

4. In the adjoining figure, ∠XYZ cannot be written as: (1)



   (A) ∠Y (B) ∠ZXY
   (C) ∠ZYX (D) ∠XYP

5. The number of obtuse angles that can be formed in the adjoining figure is _____ . (1)



   (A) 2 (B) 3
   (C) 4 (D) 5

6. If the sum of two angles is equal to an obtuse angle, then which of the following is not possible? (1)
   (A) One obtuse angle and one acute angle (B) One right angle and one acute angle
   (C) Two acute angles (D) Two right angles

7. Two lines that meet at right angles are called _____. (1)
   (A) Parallel lines (B) Straight lines (C) Perpendicular lines (D) Curved lines

SECTION-B

8. Observe the sequence: 1, 2, 6, 15, 31. Write the next two numbers in the sequence. Justify your answer. (2)

9. Akshay is filling a jar with marbles. He starts with 2 marbles, and then he adds 3 marbles each time. Find the number of marbles in the jar after the 6^{th} and 8^{th} round. (2)

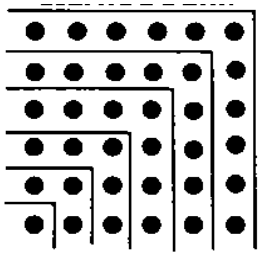
10. A gardener wants to arrange some triangular tiles in a stacked triangle pattern. If he has 49 tiles, what is the maximum number of rows he can create? Which number sequence does this give? (2)

11. If a bicycle wheel has 36 spokes, then answer the following: (2)
    i) What is the angle between its two adjacent spokes?
    ii) What is the angle between a spoke and its neighbouring 4^{th} spoke?

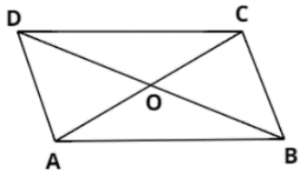
12. A ray starts at point M and passes through point N. If another point P is on the right of point N on the same line, name the ray using these points. Give your answer using a diagram. (2)

13. Write the measures of both the angles formed by an hour hand and the minute hand of a clock at 5 O'clock. Also state type of angles for the both. (2)

14. Observe the given picture carefully: (2)
    i) Which patterns does this figure represent?
    ii) What pattern would it represent if there were no lines?
    iii) Continuing this pattern, write the sum of first 50 terms.



15. From the adjoining figure: (2)
    i) Name any four angles that appear to be acute angles.
    ii) Name any two angles that appear to be obtuse angles.

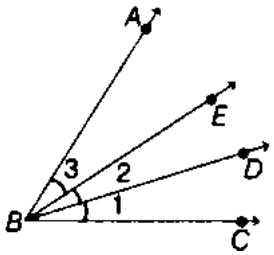


SECTION-C

16. Which number sequence is formed by counting the number of lines in each shape in the sequence of complete graphs. Explain your answer pictorially. Also formulate the rule which helps you count the number of lines in each shape. How many lines will be there in K_6? (3)

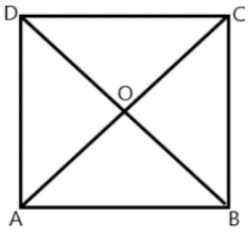
17. Answer the following questions by looking at the given figure: (3)

    i) Name a ray containing point A and a ray containing point C.
    ii) Name angle 1 and 3 in another way.
    iii) Name $\angle 1 + \angle 2$ and $\angle 2 + \angle 3$ in another way.

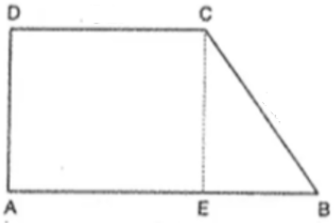


18. Using the given information, name the right angles in the following figures: (3)

    i) AC ⊥ BD

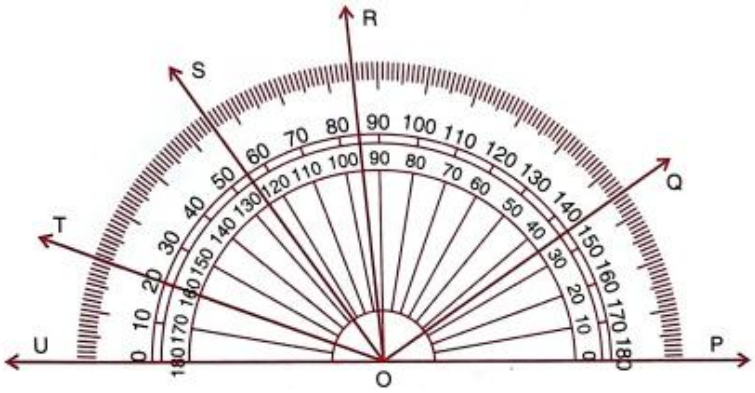


    ii) AE ⊥ CE



SECTION-D

19. A) Write the measure of angles ∠SOP, ∠ROP, ∠QOU and ∠TOU from the given figure. (4)



    B) Draw $\angle QRP = 125°$.

20. What happens when you add up pair of consecutive triangular numbers? Explain it through pictorial representation. (4)