विद्या सर्वार्थि साधिका

ANANDALAYA

PERIODIC TEST – 2

Class: VIII

Subject: Mathematics M.M: 50

Date : 22-09-2025 Time: 3 Hours

General Instructions:

1. This Question Paper has 4 Sections A, B, C, and D.
2. Section A has 9 MCQs carrying 1 mark each
3. Section B has 7 questions carrying 02 marks each.
4. Section C has 5 questions carrying 03 marks each.
5. Section D has 3 questions carrying 04 Marks each in which 1 case study-based question with sub-parts of values of 1,1 and 2 marks respectively.
6. All Questions are compulsory. However, an internal choice in 3 questions of 2 marks and 2 questions of 3 Marks has been provided. An internal choice has been provided in 1 question of 4 marks and 2 marks question of Case-Study question of section D.
7. Draw neat figures wherever required.

SECTION- A

1. What will be the number of zeros in square of 9827? (1)
   (A) 0 (B) 3 (C) 2 (D) 1

2. The property represented by $a \times (b + c) = (a \times b) + (a \times c)$ is _____. (1)
   (A) closure property (B) distributive property
   (C) associative property (D) commutative property

3. Sum of the ages of three persons is 100 years. What will be the sum of their ages after 5 years? (1)
   (A) 100 years (B) 115 years (C) 300 years (D) 305 years

4. Which of the following is the probability of a sure event? (1)
   (A) 0 (B) 1 (C) 2 (D) None of these

5. The sides of a pentagon are produced in order. Which of the following is the sum of its exterior angles? (1)
   (A) 540° (B) 180° (C) 720° (D) 360°

6. Which of the following is a Pythagorean triplet? (1)
   (A) n, $(n^2 - 1)$ and $(n^2 + 1)$ (B) $(n - 1)$, $(n^2 - 1)$ and $(n^2 + 1)$
   (C) $(n + 1)$, $(n^2 - 1)$ and $(n^2 + 1)$ (D) 2n, $(n^2 - 1)$ and $(n^2 + 1)$

7. The diagonals of a kite_____. (1)
   (A) bisect each other (B) are perpendicular to each other
   (C) does not bisect each other (D) none of the above

8. Which of the following is a linear equation in one variable? (1)
   (A) $4x + 7y = 5x - 8y + 5$
   (B) $3m - 4 = 6n - 3m$
   (C) $m + 5n = 9x + (5n + m) - 2$
   (D) $2(y - 4) + 6x = 5x + 3(y - 4)$

9. **Assertion (A):** The ones digit of the cube of the number 347 is 7. (1)
Reasons (R): A cube number is a number multiplied by itself 3 times.
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true but R is not the correct explanation of A.
(C) A is true but R is false.
(D) A is false but R is true.

SECTION- B

10. Sundaram makes a cuboid of plasticine of sides 5 cm, 2 cm, 5 cm. How many such cuboids will he need to form a cube? (2)

11. A ladder is kept at a distance of 15 m from the wall such that the top of the ladder is at the height of 8 m from bottom of the wall. Find the length of the ladder. (2)

12. A glass jar contains 6 red, 5 green, 4 blue and 5 yellow marbles of the same size. Ram takes out a marble from the jar at random. (2)
What is the probability that the chosen marble is of: (i) red colour (ii) green colour?

13. (a) The sum of two rational numbers is -7. If one of the numbers is $-\frac{15}{19}$, find the other number. (2)

OR

(b) Simplify $\left[\frac{6}{7}+\frac{3}{8}-\frac{1}{2}\right]\ \frac{4}{3}$ and find its reciprocal.

14. (a) The difference between two natural numbers is 196 and the ratio of the two numbers is 9:5. Find the two natural numbers. (2)

OR.

(b) The age of Sonu and John are in the ratio 5: 7. Four years from now the ratio of their ages will be 3: 4. Find their present ages.

15. How many sides does a regular polygon have if the measure of each interior angle is 165°? (2)

16. (a) Write down the following as sum of two consecutive numbers. (i) 7^2 (ii) 9^2 (2)

OR

(b) Find the square root of 100 by the method of repeated subtraction.

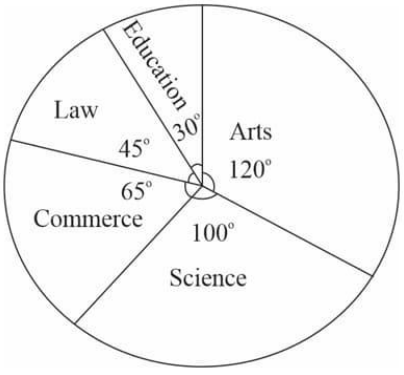
SECTION- C

17. (a) Draw a Pie diagram by using the following data of the investment pattern in a five year plan: (3)

Items	Agriculture	Industry	Transport	Administration	Banking
Percent (%)	40	21	19	13	07

OR

(b) The following pie chart shows the number of students admitted in different faculties of a college. If 1000 students are admitted in science, answer the following questions:
(i) Find the total number of students.
(ii) What is the ratio of students studying science to arts?



18. Aditya who is working in a multinational company earns ₹150000 per month. Out of his earnings he spends $\frac{1}{10}th$ on food items, $\frac{1}{4}th$ on shopping with family, $\frac{1}{5}th$ of remaining on education of his two kids and rest of his money he puts in his savings. (3)

On basis of this information answer the following questions:

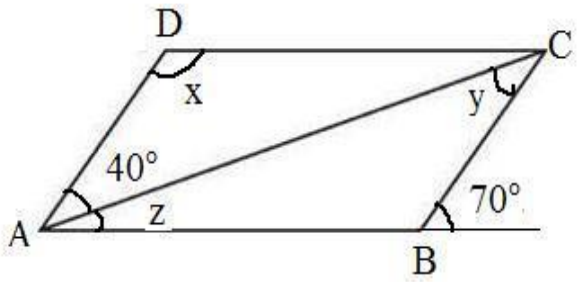
(i) How much money does he spend on food items?

(ii) How much money does he spend on shopping?

(iii) Calculate the amount spent by Aditya on education of children.

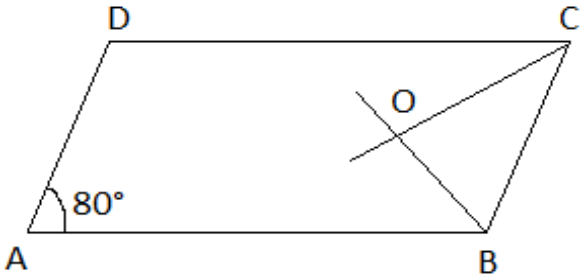
19. Solve for x: $\frac{7x+14}{3} - \frac{17-3x}{5} = 6x - \frac{4x+2}{3} - 5.$ (3)

20. (a) In the figure ABCD is a parallelogram. Find the values of x, y and z. (3)



OR

(b) ABCD is a parallelogram with ∠A = 80°. The internal bisectors of ∠B and ∠C meet each other at O. Find the measure of the three angles of ΔBCO.



21. Is 137592 a perfect cube? If yes, find the cube root. If not, find the smallest natural number 137592 must be divided to get a perfect cube. Also, find the cube root of the number so obtained. (3)

SECTION- D

22. Read the following text carefully. (4)

Mrs. Sapna asked the students of her class to throw two dice simultaneously. She asked then to note down the possible outcomes. The students have written the possible outcomes as follows:

{(1,1), (1,2), (1,3), (1,4), (1,5), (1,6),
(2,1), (2,2), (2,3), (2,4), (2,5), (2,6),
(3,1), (3,2), (3,3), (3,4), (3,5), (3,6),
(4,1), (4,2), (4,3), (4,4), (4,5), (4,6),
(5,1), (5,2), (5,3), (5,4), (5,5), (5,6),
(6,1), (6,2), (6,3), (6,4), (6,5), (6,6)}

On basis of above information given in passage answer the following questions.

(i) Find the probability of getting a doublet of prime numbers.

(ii) Find the probability of getting 11 as sum of the numbers on the faces.

(iii) List all possible outcomes of getting an even number on first die and a multiple of 3 on the other die. Also, find its probability.

OR

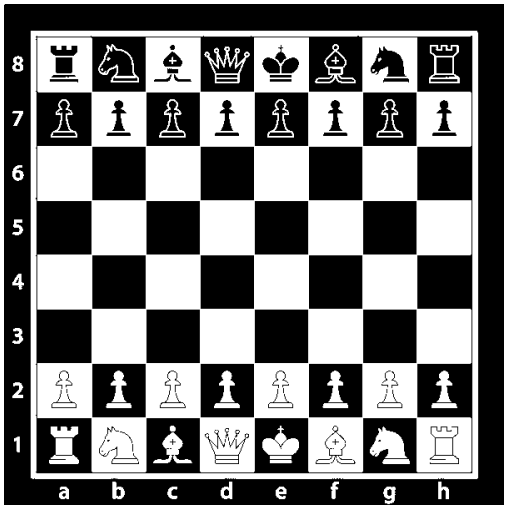
(iii) List all possible outcomes of getting a number other than 5 on any dice and find its probability.

23. Answer the following questions: (4)

(i) Three numbers are in the ratio 1 : 2 : 3 and the sum of their cubes is 4500. Find the numbers.

(ii) Find the length of each side of a cube if its volume is 512 cm^3.

24. (a) Priya, a passionate student, is making the best out of the discarded wood. She is designing a square chess board for her school annual sport day. The area of the chess board is 2916 m². She is planning to decorate it with colourful ribbon along its boundary. (4)



Based on the above information, answer the following questions:

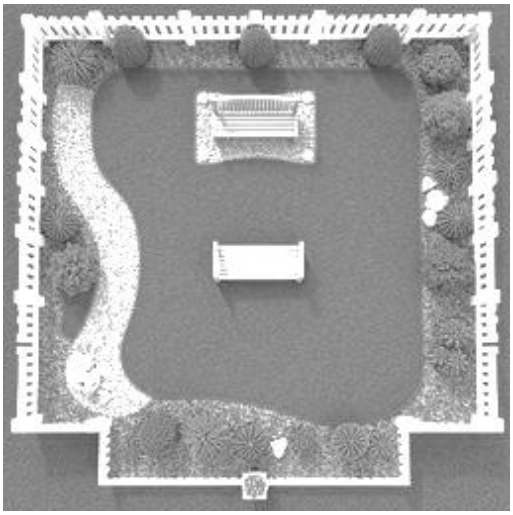
(i) What will be the side of the square chess board?

(ii) If the cost of the ribbon used is ₹ 5 per meter, find the total amount spent by Priya.

(iii) **What are the values displayed by Priya?**

OR

(b) Monika, a dedicated urban gardener, has a grand vision to create a beautiful community garden to help local residents grow their own organic vegetables. She has a square plot of land with an area of 17.64 square meter.



After a year, Monika plans to plant an array of vibrant flowers in the entire garden. She has exactly 2352 seedlings. She wants to arrange these flowers in a neat, perfectly square grid to make the garden look professional and organized. However, she quickly realizes that 2352 is not a perfect square, so she cannot arrange the seedlings in a perfect square without having some left over.

Based on this scenario, answer the following questions:

(i) Find the length of the plot that she wants to fence.

(ii) Find the smallest natural number 2352 must be multiplied to get a perfect square. Also, find the square root of the number so obtained.

(iii) **What are the values displayed by Monika?**