



ANANDALAYA
PERIODIC TEST – 2
Class: VIII

Subject: Mathematics

Date : 27-09-2024

M.M: 50

Time: 2 Hours

General Instructions:

- (1) This question paper contains 24 questions. All questions are compulsory.
- (2) This question paper is divided into 4 sections – A, B, C and D.
- (3) In Section-A, Questions 1 – 9 are multiple choice questions (MCQ's) each of 1 mark.
- (4) In Section-B, Questions 10 – 16 are very short-answer type questions carrying 2 marks each.
- (5) In Section-C, Questions 17 – 21 are short -answer type questions carrying 3 marks each.
- (6) In Section D, Question 22 – 24 are long answer type questions carrying 4 marks.
- (7) There is no overall choice. However, an internal choice has been provided in 3 questions in Section-B, 2 questions in Section-C and 1 question in Section- D.
- (8) Question 22 – 24 in Section D are long-answer type question carrying 4 marks each. However, one is a case study based question carrying 4 marks with subparts of values of 1, 1 and 2 mark each respectively.
- (9) Use of calculator is not allowed.

Section-A

1. The reciprocal of $\frac{-3}{8} \times \frac{-7}{13}$ is _____.
(A) $\frac{104}{21}$ (B) $\frac{-104}{21}$ (C) $\frac{21}{104}$ (D) $\frac{-21}{104}$ (1)
2. The multiplicative inverse of 0 is _____.
(A) 1 (B) -1 (C) 0 (D) Not defined (1)
3. Which of the following is a linear equation in one variable?
(A) $x^2 + 1 = 8$ (B) $x + y + 2$ (C) 9 (D) $1 + t = 9$ (1)
4. The value of 't' for $3(t-3) = 5(2t+1)$ is _____.
(A) 2 (B) -2 (C) 3 (D) -3
5. Which of the following properties describe a trapezium?
(A) Only one pair of opposite sides is parallel.
(B) The diagonals are equal.
(C) The diagonals are perpendicular to each other.
(D) The adjacent angles are supplementary. (1)
6. Kelin had put some buttons on the table. There were 4 blue, 7 red, 3 black and 6 white buttons in all. All of a sudden, a cat jumped on the table and knocked out one button on the floor. What is the probability that the button on the floor is blue?
(A) $\frac{7}{20}$ (B) $\frac{3}{5}$ (C) $\frac{1}{5}$ (D) $\frac{1}{4}$ (1)
7. How many natural numbers lie between 15^2 and 16^2 ?
(A) 30 (B) 14 (C) 15 (D) 60 (1)
8. Which of the following is not a perfect cube?
(A) 343 (B) 216 (C) 125 (D) 567 (1)

9. A statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices. (1)
- (A): Each parallelogram is a square
 (R): Each square is a parallelogram.
 (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. Use the suitable property of rational numbers to find the sum: $\frac{3}{4} + \left(\frac{-2}{5}\right) + \left(\frac{-4}{10}\right) + \frac{5}{8}$. (2)
11. Find the product of multiplicative inverse of $1\frac{2}{3}$ and additive inverse of $-\frac{9}{10}$. (2)
12. Divide 36 into two parts in such a way that $\frac{1}{5}$ of one part is equal to $\frac{1}{7}$ of the other. (2)

OR

Find the dimensions of a rectangle having perimeter 54 m, if its length is 3 m less than twice its width.

13. Find the square root of 7225 using prime factorization. (2)

OR

Find the number that must be subtracted to 1825 to make it a perfect square.

14. Find the smallest perfect square, divisible by each of the numbers 12, 16 and 24. (2)
15. Find the value of x , if $x^3 + 12 = 1343$ (2)
16. Find the side of a cube of volume 1728 cm^3 . (2)

OR

A metallic cuboid measuring $24 \text{ cm} \times 27 \text{ cm} \times 9 \text{ cm}$ is melted and formed into a cube. Find the side of the cube.

Section-C

17. Rohini is 6 years older than her younger sister. After 10 years, the sum of their ages will be 50 years. Find their present ages. (3)
18. In a quadrilateral, the measure of two angles is equal and the other two angles are in the ratio 3 : 4 with the sum as 140° . Find the measures of all the angles. (3)

OR

- (A) Find the measure of each exterior angle of a regular polygon of 8 sides.
 (B) Find the sum of all interior angles of a polygon with 9 sides.
 (C) Find the number of diagonals in heptagon.

19. (A) A book has 350 pages. Some printing errors were observed on various pages and they were noted down as follows: (3)

No. of errors	0	1	2	3	4	5	6
No. of pages	75	65	55	60	33	40	22

Find the probability that a page selected at random will have:

- (i) No errors, (ii) More than 3 errors (iii) less than 3 errors
 (B) When a die is thrown, list the outcomes of an event that shows:
 (i) a prime number (ii) not a prime number (iii) a number not greater than 5

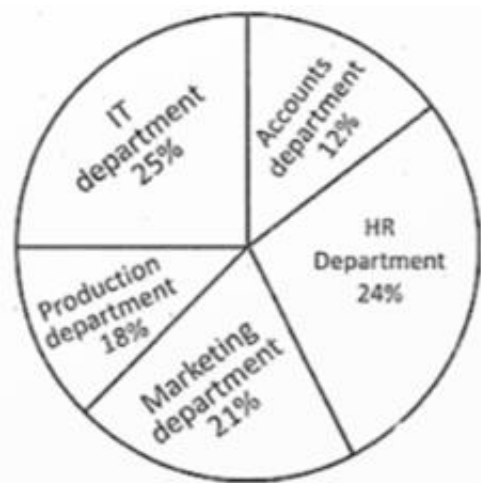
20. (A) Find the smallest whole number by which 588 should be divided so as to get a perfect square. (3)
Also, find the square root of the square number so obtained.

(B) Evaluate: $\sqrt[3]{125 \times 343}$.

21. The following Pie-chart shows the percentages in various departments of an organization having 3600 employees. Read the pie-chart carefully and answer the questions.

Find:

- (A) The number of employees in Accounts section, IT department and Marketing department.
(B) The ratio of number of employees of Production department to the number of employees of HR department.



Section-D

22. The number of students in a hostel, speaking different languages is given below. (4)

Language	Hindi	English	Marathi	Tamil	Bengali	Total
No. of students	40	12	9	7	4	72

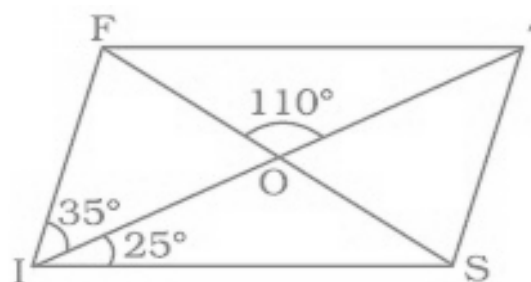
Prepare pie chart for the following data.

OR

The marks scored by two students Vallabhi and Sanskruti in a particular examination is given below. Draw a double bar graph for the data.

Subject	English	Science	Maths	Social-Studies
Vallabhi	80	75	93	77
Sanskruti	84	82	95	86

23. In parallelogram FIST, find $\angle SFT$, $\angle OST$ and $\angle STO$. (4)



24. During 'International Yoga Day', 6570 students of different schools were arranged in rows such that the number of students in each row were equal to the number of rows. In doing so, the instructor found that 9 students were left out. (4)

- (A) Find the total number of students forming the square?
(B) Write the square of 9.
(C) Find the number of children in each row of the square.