



APEEJAY SCHOOL PANCHSHEEL PARK

MID TERM EXAMINATION (2024-25)

MATHEMATICS - Class VIII

Name of the student:
Time Allowed: 2 ½ hrs

Date:
M.M. 60

General Instructions:

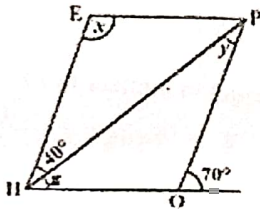
- This question paper consists of 27 questions in 5 sections.
- Section A: Question No. 1 to 12 are multiple choice questions of 1 mark each.
- Section B: Question No. 13 to 16 are short answer type I questions of 2 marks each.
- Section C: Question No. 17 to 22 are short answer type II questions of 3 marks each.
- Section D: Question No. 23 to 24 are long answer type questions of 5 marks each.
- Section E: Question No. 25 to 27 are case study-based questions of 4 marks each.
- All questions are compulsory.

SECTION A

(1 X 12=12)

- If a and b are positive integers, then the solution of the equation $ax = b$ will be always:
a) positive ~~b) negative~~ c) one d) zero
- Which of the following cannot be a perfect square?
a) 841 b) 529 ~~c) 198~~ d) 144
- The one's digit in the square of 23 is
a) 6 b) 7 c) 3 ~~d) 9~~
- If x be any integer different from zero and m be any positive integer, then x^{-m} is equal to
a) x^m b) $-x^m$ ~~c) $\frac{1}{x^m}$~~ d) $\frac{-1}{x^m}$
- ABCD is a quadrilateral in which $AB = 5$ cm, $CD = 8$ cm and the sum of angle A and angle D is 180° . What is the name of this quadrilateral?
a) Parallelogram ~~b) Trapezium~~ c) Rhombus d) Square
- Which of the following is the reciprocal of the reciprocal of a rational number?
a) -1 b) 1 c) 0 ~~d) The number itself~~
- The next two numbers in the number pattern 1, 4, 9, 16, 25 ... are
a) 35, 48 ~~b) 36, 49~~ c) 36, 48 d) 35, 49

18. The adjacent figure HOPE is a parallelogram. Find the angle measures x, y and z. State the properties used to find them.



19. A diagonal and a side of a rhombus are equal in length. Find the measure of angles of the rhombus.
20. Find the smallest perfect square divisible by 3, 4, 5 and 6
21. What is the least number that should be subtracted from 1385 to get a perfect square? Also find the square root of the perfect square.
22. If $\frac{5^m \times 5^3 \times 5^{-2}}{5^{-5}} = 5^{12}$, find m.

SECTION D

(5 X 2=10)

23. a) Using appropriate properties, find:

$$\frac{2}{5} \times \frac{-3}{7} - \frac{1}{14} - \frac{3}{7} \times \frac{3}{5} \quad (3)$$

b) Let a, b, c be the three rational numbers where $a = \frac{2}{3}$, $b = \frac{3}{4}$, and $c = \frac{-5}{6}$,

Verify: $a \times (b \times c) = (a \times b) \times c$ (2)

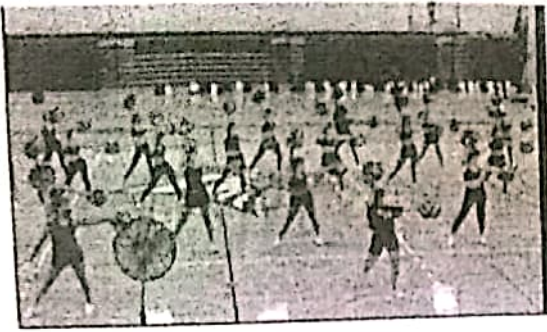
24. a) Find the smallest number by which 704 must be divided to obtain a perfect cube (3)

b) The volume of a cube is 512 cubic meters. Find the length of the side of the cube. (2)

SECTION E

(4 X 3=12)

25. During dance practice in a school 6570 students of different schools are arranged in rows such that the number of students in each row is equal to the number of rows. In doing so, the instructor finds out that 9 children are left out.



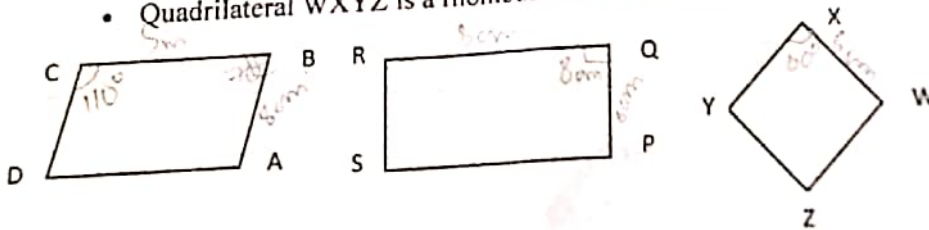
- a) When arranged for a dance, number of students in each row are equal to number of rows. (2)
 Find the number of children in each row of the square. (1)
- b) How many students were left out in the arrangement? (1)
- c) What is the number of students forming the square? (1)

26. Anita is working on a problem $\left(\frac{2^4 \times 5^3}{10^6}\right) \times 10^{-6}$ that involves exponents, powers, and expressing large numbers in the standard form.

- a) Simplify the expression: $\left(\frac{2^4 \times 5^3}{10^6}\right) \times 10^{-6}$ (2)
- b) What is the value of $\left(\frac{2^4 \times 5^3}{10^3}\right)$? (1)
- c) If $a \times 10^n$ is the standard form of the final result of part a), what is the value of n (1)

27 A landscape architect is designing a small garden. The garden is divided into different sections, each shaped like a quadrilateral. The diagram below shows the top view of the garden, with quadrilateral sections labelled as ABCD, PQRS and WXYZ. The measurements of the angles and sides are given.

- Quadrilateral ABCD is a parallelogram with $AB=8\text{m}$, $BC=5\text{m}$, and $\angle ABC=70^\circ$.
- Quadrilateral PQRS is a rectangle with $PQ=6\text{m}$, $QR=8\text{m}$.
- Quadrilateral WXYZ is a rhombus with $WX=6\text{m}$, and $\angle WXY=60^\circ$.



- a) In quadrilateral ABCD, since it is a parallelogram, calculate the measure of $\angle BCD$ and $\angle DAB$. write the properties of parallelograms that you used to find these angles. (2)
- b) In quadrilateral PQRS, find the length of PR. (1)
- c) In quadrilateral WXYZ, find the length of XY. (1)