O. P. JINDAL SCHOOL, SAVITRI NAGAR

Half Yearly Examination – (2025-2026)

Class: VIII **M.M:80**

Subject: Mathematics **Time: 3 Hrs**

Name:_____ Roll No.:___

(Fifteen Minutes Extra will be given for reading the Question Paper.)

General Instructions:

i. *This question paper contains 38 questions. All questions are compulsory.*
ii. *This question paper is divided into 5sections – Sections A,B,C,D and E.*
iii. ***Section A** comprises 16 questions (Q. no.1to 16) of 1 mark each.*
iv. ***Sections B** comprises 8 questions (Q. no.17to 24) of 2 marks each.*
v. ***Section C** comprises 8 questions (Q. no.25 to 32) of 3 marks each.*
vi. ***Section D** comprises 4 questions (Q. no.33 to 36) of 4 marks each.*
vii. ***Section E** comprises 2 case based question(Q. no.37 to 38)of 4 marks each.*
viii. *There is no overall choice. However an internal choice has been provided. You have to attempt only one of the alternatives in all such questions.*

(Use of calculator is not allowed.)

SECTION A

Q1. How many rational numbers are between two rational numbers?

a) 1 b) 2 c) infinite numbers d) none of these

Q2. Name the property used in: $\frac{-4}{5} \times 1 = 1 \times \frac{-4}{5} = -\frac{4}{5}$

a) Associative property
b) Multiplicative identity
c) Additive identity
d) None of these

Q3. The value of: $(64)^{1/3}$

a) 8 b) 16 c) 12 d) 4

Q4. The product of one negative rational number by a positive rational number is always:

a) negative rational number
b) positive rational number
c) cannot say
d) none of these

Q5. Which one is not a perfect cube?

a) 216 b) 128 c) 1000 d) 343

Q6. Find the solution of the equation: $2x + 12 = 20$

a) 12 b) 4 c) - 4 d) 8

Q7. Which one is not the property of rhombus?

a) Opposite angles are not equal
b) All sides are equal
c) Diagonals are perpendicular to each other
d) Diagonals bisect one another

Q8. In parallelogram PQRS, $\angle P + \angle R = 130°$ then find $\angle R$.

a) 130°
b) 50°
c) 100°
d) 65°

Q9. Which of the following cannot be the unit digit of a perfect square number?

a) 6
b) 1
c) 9
d) 8

Q10. Which of the following is the square of an odd number?

a) 2116
b) 3844
c) 1369
d) 2500

Q11. The two diagonals are not equal in a

a) Rectangle
b) square
c) rhombus
d) none of these

Q12. Equation for the statement: Three- fifth of a number is greater than twice of the number by 4.

a) $3x - 2x = \frac{4}{5}$
b) $\frac{3}{5}x - 2x = 4$
c) $\frac{3}{5}x + 2x = 4$
d) $\frac{3}{5}x - 2x + 4 = 0$

Q13. In a pie chart, the central angle of the sector representing students reading Mathematics is 162°. What is the percentage of students interested in reading Mathematics?

a) 45%
b) 30%
c) 70%
d) 25%

Q14. From a well- shuffled deck of cards, one card is drawn at random. What is the probability that the drawn card is queen?

a) 1/4
b) 1/52
c) 1/13
d) 1/26

Directions: In the question numbers 15 and 16, a statement of assertion (A) is followed by a statement of reason (R). Choose the correct option.

Q15. **Assertion A:** A kite has two pairs of equal adjacent sides but unequal opposite sides.
Reason R: Every kite is a parallelogram.
a) Both assertion (A) and reason (R) are true and reason (R) is correct explanation of assertion (A).
b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).
c) Assertion (A) is true but reason (R) is false.
d) Assertion (A) is false but reason (R) is true.

Q16. **Assertion A:** The probability of an event cannot be negative.
Reason R: The probability of an impossible event is 0.
a) Both assertion (A) and reason (R) are true and reason (R) is correct explanation of assertion (A).
b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).
c) Assertion (A) is true but reason (R) is false.
d) Assertion (A) is false but reason (R) is true.

Section B

Answer the following questions:

Q17. Find the value of x: $2x - 1 = 14 - x$

Q18. Find the product: $\frac{16}{-21} \times \frac{14}{5} \times \frac{-15}{8}$

Q19. Two adjacent angles of a parallelogram have equal measure. Find the measure of each of the angles of the parallelogram.

Q20. Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of,

(i) Getting a 1-digit number (ii) Getting an even number

OR

When a die is thrown, find the probability of:

(i) Getting not a prime number (ii) Getting a number greater than 5

Q21. Find the square root of 144 by the method of repeated subtraction.

OR

Find the square of 22 by using identity.

Q22. Write a Pythagorean triplet whose one member is 14.

Q23. Find the smallest number by which135 must be divided to obtain a perfect cube.

Q24. Find the cube root of 1728 by prime factorization method.

Section C

Q25. Find the value of: $\frac{3}{7} + \left(\frac{-6}{11}\right) + \left(\frac{-8}{21}\right) + \left(\frac{5}{22}\right)$

Q26. Find by using property. Also write name of the property.

$$\left\{\frac{9}{16} \times \frac{4}{12}\right\} + \left\{\frac{9}{16} \times \frac{-3}{9}\right\}$$

Q27. 2025 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.

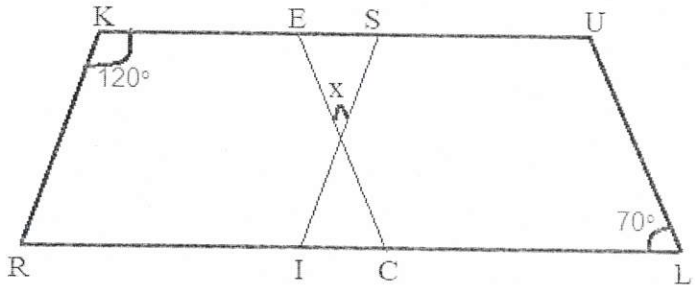
Q28. Simplify and solve the linear equation: $15(y - 4) - 2(y - 9) + 5(y + 6) = 0$

OR

Solve and check the result: $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$

Q29. Is 53240 a perfect cube? If not then by which smallest natural number should 53240 be divided so that quotient is a perfect cube?

Q30. In the given figure both RISK and CLUE are parallelograms. Find the value of x.

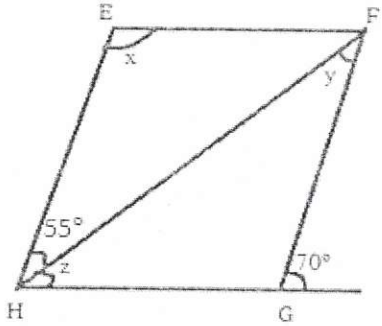


OR

Find the number of diagonals in the following:
(i) pentagon (ii) polygon of 10 sides (iii) quadrilateral

Q31. A bag contains 5 white, 6 red and 4 green balls. One ball is drawn at random. What is the probability that the ball drawn is: (i) green (ii) white (iii) non-red

Q32. The given figure EFGH is a parallelogram. Find the angle measures of x, y and z.



Section D

Q33. One day a rickshaw puller earned ₹160. Out of his earnings he spent ₹$26\frac{3}{5}$ on tea and snacks. ₹$50\frac{1}{2}$ on food and ₹$16\frac{2}{5}$ on repairs of the rickshaw. How much did he save on that day?

OR

From a rope 11 m long, two pieces of lengths $2\frac{3}{5}$ m and $3\frac{3}{5}$ m are cut off. What is the length of remaining rope.

Q34. The number of students in a hostel, speaking different languages is given below. Display the data in a pie chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
Number of students	40	12	9	7	4	72

Q35. Three numbers are in the ratio of 4 : 5 : 6. If the sum of the largest and the smallest equals the sum of the third and 55, find the numbers.

Q36. Find the least number which must be subtracted from 7581 to obtain a perfect square. Find this perfect square and its square root.

OR

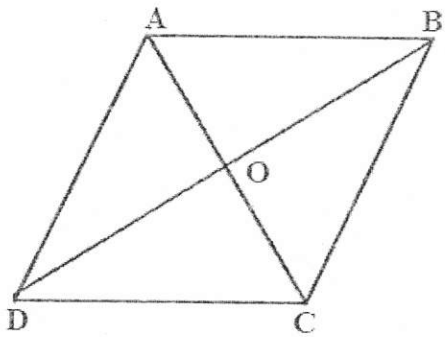
Evaluate the value of $\sqrt{156.25}$.

Section E
Case based question

Q37. Reena and Rahima was playing cards. Reena shuffled the deck of playing cards of 52 cards. Rahima draws one card.

(i) What is the probability that she will get a black card?
(ii) What is the chance to get a face card?
(iii) What is the chance to get a red numbered card?
(iv) What is the probability of getting a club card?

Q38. ABCD is a parallelogram, AC & BD are diagonals. Answer the following questions based on this figure.



(i) Write all pairs of opposite angles.
(ii) If AD = 2x-1, and BC = 9 cm, then find the value of x.
(iii) If $\angle B = 90°$, then find $\angle A$ and $\angle C$.
(iv) If AO = 5 cm and CO = (y + 1) cm, then find y.

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