

KENDRIYA VIDYALAYA SANGATHAN LUCKNOW REGION

SESSION ENDING EXAMINATION 2023-2024

CLASS-VIII

SUBJECT-MATHEMATICS

Maximum Marks: 60

Time: 2 Hrs. 30 min

GENERAL INSTRUCTIONS:

1. This question paper has four sections A, B, C, and D.
2. Section A has 15 Multiple Choice Questions carrying 1 mark each.
3. Section B has 5 questions carrying 2 mark each.
4. Section C has 5 questions carrying 3 marks each.
5. Section D has 5 questions carrying 4 marks each.
6. Internal choices are provided in 2 questions of Section B, 2 questions of Section C and 1 question of Section D.
7. All questions are compulsory.

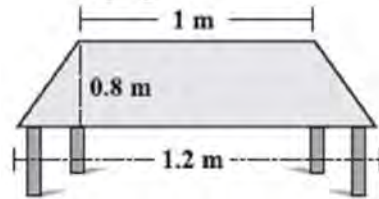
SECTION – A (1 × 15 = 15)

- Q.1 What is the highest power of variable in a linear equation? 1
a) 0 b) 1 c) 2 d) 3
- Q.2 Which of the following triplets are pythagorean? 1
a) 3, 4, 5 b) 6, 8, 12 c) 1, 4, 6 d) 7, 8, 9
- Q.3 The value of $\sqrt{5 + \sqrt{11 + \sqrt{18 + \sqrt{49}}}}$ is 1
a) 3 b) 4 c) 5 d) 6
- Q.4 The smallest number by which 9408 must be divided so that it becomes a perfect square is 1
a) 2 b) 3 c) 4 d) 5
- Q.5 Add $ab - bc, bc - ca, ca - ab$. 1
a) abc b) $a + b + c$ c) 0 d) $ab + bc + ca$
- Q.6 Area of a rectangle with length $4ab$ and breadth $6b^2$ is 1
a) $24a^2b^2$ b) $24ab^3$ c) $24ab^2$ d) $24ab$
- Q.7 The side of a cube whose surface area is 600 cm^2 is 1
a) 100 b) 10 c) 20 d) 60
- Q.8 The diagonals of rhombus are 24 cm and 10 cm respectively. The perimeter of the rhombus is 1
a) 68 cm b) 60 cm c) 52 cm d) 50 cm
- Q.9 Find the value of $(3^{-1} + 4^{-1} + 5^{-1})^0$ 1
a) 0 b) 1 c) 12 d) 2
- Q.10 The value of $(\frac{125}{27})^{-\frac{1}{3}}$ is 1
a) $\frac{1}{3}$ b) $\frac{5}{3}$ c) $\frac{3}{5}$ d) $\frac{2}{3}$
- Q.11 Which of the following are in inverse proportion? 1
a) Speed and distance covered b) Speed and time taken
c) Distance covered and time taken d) None of these
- Q.12 Find the value of $66pq^2r^3 \div 11qr^2$. 1

- a) $6pqr$ b) $6p^2qr^2$ c) $6pq^2r$ d) $6pq^2r^2$
- Q.13 Find the common factor of $14pq$, $28p^2q^2$. 1
- a) $28pq$ b) $28p^2q^2$ c) $14pq$ d) $14p^2q^2$
- Q.14 A point which lies on both the axis is 1
- a) (0,0) b) (0, 1) c) (1, 0) d) (1, 1)
- Q.15 The coordinates of point at a distance of 3 units from the x-axis and 6 units from the y-axis is 1
- a) (0, 3) b) (6, 0) c) (3, 6) d) (6, 3)

SECTION – B (2 × 5 = 10)

- Q.16 Solve $5x + 9 = 5 + 3x$ 2
- Q.17 Find the square root of the decimal number 51.84 by division method. 2
- OR**
- Find the square root of 4624 by prime factorisation method.
- Q.18 The shape of the top surface of a table is a trapezium. Find its area if its parallel sides are 1 m and 1.2 m and perpendicular distance between them is 0.8 m. 2






OR

The diagonals of a rhombus are 7.5 cm and 12 cm. Find its area.

- Q.19 Express 1425.36 in expanded form. 2
- Q.20 Find the value of m for which $5^m \div 5^{-3} = 5^5$ 2

SECTION – C (3 × 5 = 15)

- Q.21 Solve the given linear equation and check your result: 3
- $8x + 4 = 3(x - 1) + 7$
- Q.22 A group of 360 people were asked to vote for their favourite season from the three seasons rainy, winter and summer 3
- (i) Which season got the most votes?
- (ii) Find the central angle of each sector.
- (iii) Draw a pie chart to show this information.

Season	No. of votes
Summer 	90
Rainy 	120
Winter 	150

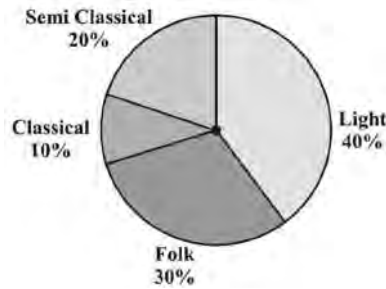
- Q.23 Subtract: $3l(l - 4m + 5n)$ from $4l(10n - 3m + 2l)$ 3
- OR**
- Simplify $3x(4x - 5) + 3$ and find its values for $x = 3$

Q.24 The internal measures of a cuboidal room are $12\text{ m} \times 8\text{ m} \times 4\text{ m}$. Find the total cost of whitewashing all four walls of a room, if the cost of white washing is Rs 5 per m^2 . What will be the cost of white washing if the ceiling of the room is also whitewashed. 3

Q.25 A train is moving at a uniform speed of 75 km/hour. 3
 (i) How far will it travel in 20 minutes?
 (ii) Find the time required to cover a distance of 250 km.

SECTION – D ($4 \times 5 = 20$)

Q.26 A survey was made to find the type of music that a certain group of young people liked in a city. Adjoining pie chart shows the findings of this survey. From this pie chart answer the following: 4



- (i) Which type of music is liked by the maximum number of people?
- (ii) Which type of music is liked by least number of people?
- (iii) If 20 people liked classical music, how many young people were surveyed?
- (iv) If a cassette company were to make 1000 Music CD's, how many of folk type would they make?

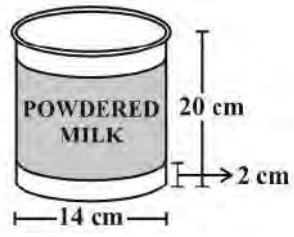
Q.27 Factorize: 4
 (i) $p^4 - 81$
 (ii) $p^2 + 6p + 8$

Q.28 Rehman is making a wheel using spokes. He wants to fix equal spokes in such a way that the angles between any pair of consecutive spokes are equal. Help him by completing the following table. 4



Number of spokes	4	6	8		12	
Angle between a pair of consecutive spokes	90°	60°		36°		24°

Q.29 A company packages its milk powder in cylindrical container whose base has a diameter of 14 cm and height 20 cm. Company places a label around the surface of the container. If the label is placed 2 cm from top and bottom, what is the area of the label. 4



Q.30 Draw a graph for the following:

4

Side of square (cm)	2	3	4	5	6
Area (sq cm)	4	9	16	25	36