

DELHI PUBLIC SCHOOL JAMMU
SESSION (2024-25)
SAMPLE PAPER

Class: VIII
Subject: MATHS

Time: 3 hours
Max. Marks: 80

General Instructions:

- All the questions are compulsory.
- The question paper has 5 sections A, B, C, D and E.
- Section A has 20 Multiple Choice Questions (MCQs) carrying 1 mark each.
- Section B has 5 Short Answer-I (SA-I) type questions carrying 2 marks each.
- Section C has 6 Short Answer-II (SA-II) type questions carrying 3 marks each.
- Section D has 4 Long Answer (LA) type questions carrying 5 marks each.
- Section E has 3 Case-Study based questions (4 marks each) with subparts of the values 1, 1 and 2 marks each respectively.
- All questions are compulsory. However, an internal choice in 2Qs of 2 marks, 2Qs of 3 marks and 2Qs of 5 marks has been provided. An internal choice has been provided in the 2 marks questions of section E
- Draw neat figures wherever required.

Section – A Multiple Choice Questions		
SN		Marks
1	A polynomial contains _____ number of terms: A. One B. Two C. Three D. Any	1
2	The volume of a cuboid with length, breadth and height as $5x$, $3x^2$ and $7x^4$ respectively is: A. $105x^7$ B. $105x^2$ C. $105x^4$ D. $105x$	1
3	The side of a cube is $2a$. Find the volume of the cube. A. $4a^2$ B. $2a$. C. $8a^3$ D. 8	1
4	The factorization of $12a^2b+15ab^2$ gives: A. $3ab(4ab+5)$ B. $3ab(4a+5b)$ C. $3a(4a+5b)$ D. $3b(4a + 5b)$	1
5	The factors of $4y^2 - 12y + 9$ is: A. $(2y+3)^2$ B. $(2y-3)^2$ C. $(2y-3)(2y+3)$ D. None of the above	1
6	The ratio of 10m to 10 km is: A. 1/10. B. 1/100. C. 1/1000. D. 1000	1
7	An item marked at Rs. 840 is sold for Rs. 714. The discount % is: A. 10% B. 15% C. 20% D. 25%	1

8	<p>A person got a 10% increase in his salary. If his salary was Rs. 50000, then the new salary is:</p> <p>A. Rs. 55000. B. Rs. 60000. C. Rs. 45000. D. Rs. 65000</p>	1
9	<p>Out of 40 students, 25% passed in a class. How many students did actually pass?</p> <p>A. 10. B. 20. C. 30. D. 40</p>	1
10	<p>If x and y are inversely proportional, then:</p> <p>A. $x+y=\text{constant}$ B. $x-y=\text{constant}$ C. $xy=\text{constant}$ D. $x/y=\text{constant}$</p>	1
11	<p>If the weight of 12 sheets of thick paper is 40 grams, how many sheets of the same paper would weigh 2500 grams?</p> <p>A. 750. B. 800. C. 850. D. 950</p>	1
12	<p>The area of a rhombus whose diagonals are of lengths 10 cm and 8.2 cm is:</p> <p>A. 41 cm^2 B. 82 cm^2 C. 410 cm^2 D. 820 cm^2</p>	1
13	<p>The area of a trapezium is 480 cm^2, the distance between two parallel sides is 15 cm and one of the parallel side is 20 cm. The other parallel side is:</p> <p>A. 20 cm. B. 34 cm. C. 44 cm. D. 50 cm</p>	1
14	<p>A cuboid has _____ pairs of identical faces.</p> <p>A. 2. B. 3. C. 4. D. 6</p>	1
15	<p>Volume of a cylinder with base radius = r and height = h, is:</p> <p>A. $2\pi rh$. B. $\pi r^2 h$. C. $2\pi r (r + h)$ D. $\frac{1}{3} \pi r^2 h$</p>	1
16	<p>Surface area of cube of edge 'a' is:</p> <p>A. $4a^2$ B. $6a^2$ C. $3a^2$ D. a^2</p>	1
17	<p>In the grouped data, each of the group is called:</p> <p>A. Class interval B. Collection of data. C. Frequency. D. Grouped frequency distribution</p>	1
18	<p>A line graph which is a whole unbroken line is called a:</p> <p>A. Linear graph. B. Pie-chart. C. Histogram. D. Bar-graph</p>	1
	<p>(Q19-Q20) <u>Assertion and Reason Based Questions</u></p> <p>This type of reasoning questions consists of two statements; an assertion (statement of fact) and a reason (explanation for the assertion). You have to determine whether each statement is correct. If both the statements are correct, you have to determine whether the</p>	

	reason supports the assertion. There will be four answer choices for the possible outcomes and you have to select the correct one.	
19	Assertion (A): The probability of an event that cannot happen or which is impossible, is equal to zero. Reason(R): The probability lies between 0 and 1. Hence, it cannot be negative (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	1
20	Assertion (A) –The coordinates of the origin are(0, 0) Reason(R) – X-axis and Y-axis intersect each other at 60 degrees. (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	1
	Section-B	
21	In a certain school, there are 456 girls. Calculate the total number of students if 24% of the total students are boys.	2
22	A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours? OR Rajni takes 125 minutes in walking a distance of 100 metre. What distance would she cover in 315 minutes?	2
23	Find the curved surface area and total surface area of a cylinder, the diameter of whose base is 7 cm and height is 60 cm	2
24	When a die is thrown, list the outcomes of an event of getting: (a) a prime number (b) not a prime number	2
25	Plot the following points on a graph sheet. Verify if they lie on a line A(4,0), B(4, 2),C(4,6), D(4, 2.5) Or Plot the point (4, 3) on a graph sheet. Is it the same as the point (3, 4)?	2
	Section-C	
26	Subtract $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$ from $18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q$ Or Add: $p(p - q)$, $q(q - r)$ and $r(r - p)$	3
27	Factorise $(m^2 - 14m - 32) \div (m + 2)$ Or Factorise $(1 + m)^2 - 4lm$	3

28	The cost of an article was ₹ 15,500. ₹ 450 was spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.	3
29	A 5 m 60 cm high vertical pole casts a shadow 3 m 20 cm long. Find at the same time (i) the length of the shadow cast by another pole 10 m 50 cm high (ii) the height of a pole which casts a shadow 5 m long.	3
30	A rectangular piece is 20 m long and 15 m wide. From its four corners, quadrants of radii 3.5 m have been cut. Find the area of the remaining part.	3
31	The area of a trapezium is 34 cm^2 and the length of one of the parallel sides is 10 cm and its height is 4 cm Find the length of the other parallel side.	3
	Section-D	
32	During a sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at ₹ 1450 and two shirts marked at ₹ 850 each?	5
33	The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is Rs. 4. OR A square and a rectangle have the same perimeter. Calculate the area of the rectangle if the side of the square is 60 cm and the length of the rectangle is 80 cm.	5
34	What will happen to the volume of a cuboid if its: (i) Length is doubled, height is same and breadth is halved? (ii) Length is doubled, height is doubled and breadth is same? Or Find the weight of solid rectangular iron piece of size $50 \text{ cm} \times 40 \text{ cm} \times 10 \text{ cm}$, if 1 cm^3 of iron weights 8 gm.	5
35	When a die is thrown, list out the outcomes of an event that shows a) a prime number b) a composite number c) a number greater than 5 d) a factor of 6 e) a multiple of 3	5
	Section-E Case Study based Questions	
36	There is a group of students going for on excursion. Out of which 60% of them are girls. Number of boys in the group is 120. All the students are going on 6 buses and all the seats of the busses are full. From the above information answer the following questions. (1) What is the total number of students in the group? a) 500 b) 400 c) 300 d) 200 (2) How many girls are there in the group? a) 120 b) 180 c) 200 d) none of these. (3) How many seats are there in each bus excluding the driver's seat if all the buses have equal no. of Seats? a) 50 b) 60 c) 40 d) none of these (4) Find the total money collected if cost per student for excursion is Rs 1500 a) 4,50,000 b) 5,00,000 c) 6,00,000 d) 5,50,000	4

37	<p>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 .</p> <p>(i) getting a number 6? a) $\frac{1}{10}$ b) $\frac{2}{10}$. c) $\frac{3}{10}$ d) $\frac{4}{10}$</p> <p>(ii) getting a number less than 6? a) $\frac{4}{6}$ b) $\frac{3}{6}$. c) $\frac{2}{6}$ d) $\frac{1}{2}$</p> <p>(iii) getting a number greater than 6? a) $\frac{3}{4}$ b) $\frac{4}{10}$ c) $\frac{5}{4}$ d) $\frac{6}{4}$</p> <p>(iv) getting a 1-digit number? a) $\frac{1}{10}$ b) $\frac{2}{10}$ c) $\frac{3}{10}$ d) $\frac{9}{10}$</p>	4														
38	<p>The given line graph shows the annual sales of car for past six years. on basis of given information in graph answer the following questions:</p> <div><p style="text-align: center;">Annual Sales Trend</p><table><tr><th>Year</th><th>Sales (USD)</th></tr><tr><td>2012</td><td>15000</td></tr><tr><td>2013</td><td>18000</td></tr><tr><td>2014</td><td>16000</td></tr><tr><td>2015</td><td>19000</td></tr><tr><td>2016</td><td>22000</td></tr><tr><td>2017</td><td>24000</td></tr></table></div> <p>On the basis of above information answer the following questions:</p> <p>Q. 1. What was the sale of car in year 2015? (a) 15000. (b) 16000 (c) 18000 (d) 19000</p> <p>Q. 2. How many cars are sold between 2013 and 2012? (a) 3000 (b) 5000 (c) 6000 (d) 8000</p> <p>Q. 3. In which year sale is maximum? (a) 2014 . (b) 2017 (c) 2015 (d) 2016</p> <p>Q. 4. In which year the sales of car depreciated ? a) 2011. b) 2012. c) 2013 d) 2012</p>	Year	Sales (USD)	2012	15000	2013	18000	2014	16000	2015	19000	2016	22000	2017	24000	4
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