

DELHI PUBLIC SCHOOL JAMMU
SESSION (2024-25)
FINAL EXAMINATION
Sample paper

Class: VII

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, marks each.
- 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.
- Draw neat figures wherever required.

	Section – A Multiple Choice Questions	
SN		Marks
1	The product of two rational numbers is always a ____. (a) integer (b) rational number (c) natural number (d) whole number	1
2	____ is the identity for the addition of rational numbers. (a) 0 (b) 1 (c) -1 (d) None of these	1
3	The rational number $\frac{9}{1}$ in integer is ____. (a) 0 (b) 9 (c) -9 (d) 1	1
4	$2^2 \times 2^3 \times 2^4$ is equal to: (a). 2^{24} (b). 2^{-5} (c). 2^9 (d). 2^{-9}	1
5	The value of 11^0 is ____ . (a) 3 (b) 11 (c) 1 (d) None of these	1
6	The expression $2z-5x+7y$ is a (a) binomial (b) trinomial (c) monomial (d) none of these	1
7	Coefficient of $-x^2$ in $-5x^3$ is (a) -5 (b) $5x$ (b) $-5x$ (d) $-5x^2$	1

8	$7x^2y$ is a (a) Cubic polynomial (b) quadratic polynomial (b) Linear polynomial (d) none of these	1
9	If $7x + 4 = 25$, then x is equal to (a) $29/7$ (b) $100/7$ (c) 2 (d) 3	1
10	The solution of which of the following equations is neither a fraction nor an integer? (a) $2x + 6 = 0$ (b) $3x - 5 = 0$ (c) $5x - 8 = x + 4$ (d) $4x + 7 = x + 2$	1

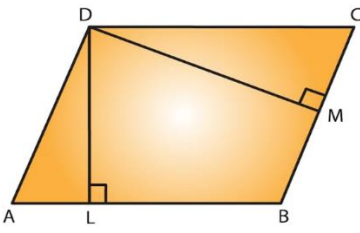
11	20% of 700 m is (a) 560 m (b) 70 m (c) 210 m (d) 140 m	1
12	The ratio of Fatima's income to her savings is 4 : 1. The percentage of money saved by her is : (a) 20% (b) 25% (c) 40% (d) 80%	1
13	12 m^2 is the area of (a) a square with side 12 m (b) 12 squares with side 1 m each (c) 3 squares with side 4 m each (d) 4 squares with side 3 m each	1
14	If the sides of a parallelogram are increased to twice their original lengths, how much will the perimeter of the new parallelogram be? (a) 1.5 times (b) 2 times (c) 3 times (d) 4 times	1
15	An isosceles triangle has (a) one line of symmetry (b) three lines of symmetry (c) two lines of symmetry (d) no line of symmetry	1
16	A rectangle has (a) one line of symmetry (b) two lines of symmetry (c) no line of symmetry (d) none of above	1
17	The base of a prism is: (a). Circle (b). Triangle (c). Square (d). Any shape	1
18	n example of a cylindrical shape is: (a). Pipes (b). Gas cylinder (c). Cold drink cans (d). All of the above	1
	(Q19-Q20) Assertion and Reason Based Questions 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 reason supports the assertion. There will be four answer choices for the possible outcomes and you have to select the correct one.	

19	<p>Assertion (A) – The area of rectangle is 96 cm^2. If length of the rectangle is 12cm and breadth is 8cm.</p> <p>Reason: area of rectangle is length X breadth.</p> <p>(a) Both A and R are true and R is the correct explanation of A</p> <p>(b) Both A and R are true but R is not the correct explanation of A</p> <p>(c) A is true but R is false</p> <p>(d) A is false but R is true</p>	1
20.	<p>Assertion (A) :The ratio of speed of cycle 12 km per hour the speed of scooter 36 km per hour is $1/3$</p> <p>Reason: Speed of cycle/Speed of scooter = $12/36 = \frac{1}{3}$</p> <p>(a) Both A and R are true and R is the correct explanation of A</p> <p>(b) Both A and R are true but R is not the correct explanation of A</p> <p>(c) A is true but R is false</p> <p>(d) A is false but R is true</p>	

	Section-B	
21	<p>Subtract:</p> <p>(i) – 4x from 3y</p> <p>(ii) – 2x from – 5y</p> <p style="text-align: center;">OR</p> <p>If $x=1$, $y=3$ and $z= -1$, find the value of $2x^2 - 7x^3y + z^2 - 6$</p>	2
22	<p>A bicycle is purchased for ₹ 1800 and is sold at a profit of 12%. Find it's selling price.</p> <p style="text-align: center;">OR</p> <p>By selling an article for Rs 1600, a shopkeeper loses 20%. For how much should he sell it to gain 20% ?</p>	2
23	What are the number of faces, edges and vertices of a triangular pyramid ?	2
24	<p>Which type of cross-section is obtained on cutting horizontally and vertically the following solids?</p> <p>(i) A die (ii) A brick (iii) A cylinder (iv) An ice cream cone</p>	2
25	Discuss the rotational symmetry of an equilateral triangle	2

	Section-C	
26	Express $(168/-294)$ as a rational number with denominator: (i) 14 (ii) -7 (iii) -49	3
27	The sum of three consecutive multiples of 2 is 18. Find the numbers. OR The numerator of a rational number is 5 less than the denominator . if the denominator is increased by 7 and numerator by 2 , we again get the same rational number . find the number	3
28	The length and breadth of a rectangular field are equal to 600 m and 400 m respectively. Find the cost of the grass to be planted in it at the rate of ₹ 2.50 per m^2 . OR The altitude and base of a triangle having area 600sq.cm are in the ratio 25:3 . Find the altitude and base.	3
29	From the sum of $2x^2 + 3xy - 5$ and $7 + 2xy - x^2$ subtract $3xy + x^2 - 2$.	3
30	Draw, whenever possible, a rough sketch of (i) a triangle with both line and rotational symmetries. (ii) a triangle with only line symmetry and no rotational symmetry. (iii) a quadrilateral with a rotational symmetry but not a line of symmetry.	3
31	Rashmi obtains 480 marks out of 600. Rajan obtains 560 marks out of 700. Whose performance is better?	3

	Section-D	
32	By selling a serving machine a trader makes a profit of 15%. Had it been sold for RS 120 more, The profit would have been 20% . Find the cost price OR Manoj bought a mixer for Rs 1600 and sold it to Rajan at a profit of 5%. Rajan sold the same to Sandeep at a profit of 10%. How much did Sandeep pay for the mixer?	5
33	Subtract the sum of $13x - 4y + 7z$ and $- 6z + 6x + 3y$ from the sum of $6x - 4y - 4z$ and $2x + 4y - 7$.	5
34	In Fig. , ABCD is a parallelogram, $DL \perp AB$ and $DM \perp BC$. If $AB = 18$ cm, $BC = 12$ cm and $DM = 9.3$ cm, find DL .	5

	 <p style="text-align: center;">Fig. 20</p> <p style="text-align: center;">OR</p> <p>A gardener wants to fence a circular garden of diameter 42m. find the length of the barbed wire he needs to purchase , if he makes 3 rounds of the fence.</p>	
35	<p>In a Mathematics quiz, 30 prizes consisting of 1st and 2nd prizes only are to be given. 1st and 2nd prizes are worth ₹ 2000 and ₹ 1000 respectively. If the total prize money is ₹ 52,000 then show that:</p> <p>(a) If 1st prizes are x in number the number of 2nd prizes are</p> <p>(b) The total value of prizes in terms of x are .</p> <p>(c) The equation formed is .</p> <p>(d) The solution of the equation is .</p> <p>(e) The number of 1st prizes are and the number of 2nd prizes are .</p>	5

	Section-E Case Study based Questions	
36	<p>In every day life, money regulates all our activities. When we need money we need to borrow it from a bank or a moneylender with a promise to return the same after a specified period. At the end of the period , we not only return that money but also pay some additional money. This additional money is called the interest and the money borrowed is called the principal or the sum. The total money returned after that specified time is known as the amount. Thus Amount = principal + interest</p> <p>Suresh lent Rs 28000 to his friend for three years. He charged 12% per annum on Rs 20000 and 15% per annum on the rest.</p> <p>(a) What is the total amount of money borrowed by suresh?</p> <p>(i) Rs 20,000 (ii) Rs 28000 (iii) Rs 8000 (iv) Rs 3600</p> <p>(b) How much interest is earned on Rs 20,000?</p> <p>(i) Rs 7200 (ii) Rs 3600 (iii) Rs 10800 (iv) 2000</p> <p>(c) How much interest in earned on Rs 8000?</p> <p>(i) Rs 3600 (ii) Rs 7200 (iii) Rs 8000 (iv) Rs 6000</p> <p>(d) what is the total interest earned by him ?</p> <p>(i) Rs 7200 (ii) Rs 3600 (iii) Rs 10800 (iv) Rs 7000</p>	4

37	<p>Kaju Katli also known as Kaju barfi , is a traditional Indian sweet characterised by its diamond shape. Ramlal , a sweet seller, prepares 1000 kaju barfi pieces to fulfil the order. He wants to decorate all the pieces with silver foil. The piece of a kaju katli is in the shape of rhombus having diagonal 4cm and 3cm respectively.</p> <p>(a) What is the total number of kaju katli pieces?</p> <p>(i) 600 (ii) 1200 (iii) 1000 (iv) 900</p> <p>(b) what is the total area that is to be decorated ? (in cm²)</p> <p>(i) 6000 (ii) 4000 (iii) 12000 (iv) 10000</p> <p>(c) The cost of 150 pieces is Rs 600 then what is the cost of one piece?</p> <p>(i) 4 (ii)5 (iii) 6 (iv) 7</p> <p>(d) In the box 50 pieces can be packed. How many boxes are required for 1000 pieces</p> <p>(i) 30 (ii) 20 (iii) 25 (iv) 50</p>	4
38	<p>The strength of Indian army is 4,207,250. There are about 1.40 lakh soldiers in the Indian air force (IAF). The Indian navy is the naval branch of the Indian armed forces, with 58,350 men and women. For our country, birth rate : 18.2 births/ 1000 population (2020 estimate), population: 1,400,000,000, (2021, estimated).</p> <p>Based upon the above information answer the following questions:</p> <p>(a) The strength of Indian air force in standard form is</p> <p>(i) 5.4×10^5 (ii) 1.9×10^5 (iii) 7.4×10^5 (iv) 1.4×10^5</p> <p>(b) The ratio of the number of persons joining the air force to the population of the country is given as :</p> <p>(i) 1:20,000 (ii) 1:10,000 (iii) 3:10,000 (iv) 1:19,000</p> <p>(c) The number of births for every one lakh Indians is</p> <p>(i) 1820 (ii) 1299 (iii) 3245 (iv) 2345</p> <p>(d) if every Indian donates Rs 100 per annum for the defence forces, the total collection will</p> <p>Be:</p> <p>(i) 1.4×10^{11} (ii) 1.4×10^{23} (iii) 7.4×10^{11} (iv) 1.9×10^{10}</p>	4

Reflection Box					
1. How confident do you feel about your understanding of the topics covered in this assessment?	A) Very Confident		B) Somewhat Confident		C) Not Confident
2. How well do you think you prepared for this assessment?	A) Very Well		B) Somewhat Well		C) Not Well
3. What do you think you could have done differently to improve your performance on this assessment?	A) Studied thoroughly		B) Practiced more		C) Asked for help from the teachers or peers.

