BUDHA DAL PUBLIC SCHOOL PATIALA FINAL EXAMINATION (19 March 2025) MATHEMATICS Class - VIII

(Set – A)

Maximum Marks: 80

A-1

1. All questions are compulsory.

Time Allowed: 3 hours

Instructions:

2. Section - A: Q.No. 1 to 10 carry 1 mark each

3. Section - B: Q.No. 11 to 20 carry 2 marks each

- 4. Section C: Q.No. 21 to 30 carry 3 marks each
- 5. Section D: Q.No. 31 to 35 carry 4 marks each

SECTION-A

Q1.	Tick the correct option for each of the following:	
1.	Rational numbers are not closed under	(1)
	a) Addition b) Division c) Multiplication d) Subtraction	
2.	The probability of an event cannot be greater than	(1)
	a) Zero b) One c) $\frac{1}{2}$ d) two	
3.	If a number ends in 1 then its cube ends in	(1)
	a) 1 b) 9 c) 3 d) 1 or 9	
4.	The value of $(1^{-2} + 2^{-2} + 3^{-2})^0$ is	(1)
	a) $\frac{1}{12}$ b) $\frac{1}{36}$ c) 36 d) 1	
5.	The coordinates of origin are	(1)
	a) (1, 1) b) (0, 1) c) (1, 0) d) (0, 0)	
6.	Formula used to find the area of a rhombus whose diagonals are $d_1 \ and \ d_2$ is	(1)
	a) $\frac{d_1}{d_2}$ (b) $d_1 \times d_2$ c) $\frac{1}{2} \times d_1 \times d_2$ d) $\frac{1}{2} d_1 + d_2$	
7.	$l^2 - m^2$ is equal to	(1)
	a) $(l+m)(l \times m)$ b) $(l+m)(l-m)$ c) $(l-m)(l-m)$ d) $(l+m)^2$	
8.	Total surface area of a cube with edge 10 cm is	(1)
	a) $(6 \times 10 \times 10) \text{ cm}^2$ b) $(4 \times 10 \times 10) \text{ cm}^2$ c) 1000 cm^2 d) 100 cm^2	
9.	Is weight of rice and its cost a direct proportion?	(1)
	a) Yes b) No	
10.	Which of the following is not a perfect cube?	(1
	a) 13310 b) 8000 c) 125 d) 343	

SECTION-B

(2)

(2)

(2)

Name the property used in the following: 11.

13.

14.

5 7

a)
$$\frac{-23}{17} \times \frac{-3}{7} = \frac{-3}{7} \times \frac{-23}{17}$$

b) $\frac{1}{3} \times (7 \times \frac{8}{9}) = (\frac{1}{3} \times 7) \times \frac{8}{9}$
12. A bag has 4 red balls and 2 yellow balls. A ball is drawn from the bag without looking into the (2) bag. What is the probability of getting a red ball?
13. Is 216 a perfect cube? Justify the answer.
14. Simplify and express the result in power notation with positive exponents.
(3¹⁰ ÷ 3⁷).× 3⁻⁵
15. Find the side of a suba where tatal surface area is 150 cm². Find its volume also.

(2) Find the side of a cube whose total surface area is 150 cm². Find its volume also. 15. (2)16. Find the value of *m* for which $5^m \div 5^{-3} = 5^5$

17.	Write the type of variation for the following:	(2)
	a) The number of workers on a job and the time to complete the job.	
	b) Number of guests in a party and quantity of food to be prepared.	
18.	18. Divide : 96 abc $(3a - 12)(5b - 30)$ by 144 $(a - 4)(b - 6)$	
19.	Simplify by using appropriate property $\frac{3}{2} \times \frac{-8}{-8} - \frac{1}{-1} + \frac{8}{-8} \times \frac{2}{-8}$	(2)

Moksh makes a cuboid of plasticine of sides 5cm, 2cm and 5cm. How many such cuboids will (2) 20. he need to form a cube?

SECTION-C

- A closed cylindrical tank of radius 7m and height 3m is made from a sheet of metal. How (3) 21. much sheet of metal is required?
- Mohan wants to buy a trapezium shaped field. Its side along the river is parallel to the twice (3) the side along the road. If the area of this field is 90900 m^2 and the perpendicular distance 22. between the two parallel sides is 100m, find the length of the side along the river.

23. Simplify
$$\frac{5^{-5} \times 7^{-5} \times 125 \times t^{-4}}{5^{-7} \times 7^{-2} \times t^{-8}} \qquad (t \neq 0) \text{ (use Law's of Exponents)} \qquad (3)$$

24.	a) Express 210 co.							
	b) Express 3 186000(000 in sta	ndard form	n				
	$\frac{1}{2} = \frac{1}{2} = \frac{1}{2}$	^s in usual	form	ас С				(3
5	The present 7 on the	ie numbe	er line.					
J.	There are 720 book	s in a libr						
	Subjects	Hind	i Englis	list given be	low:			(3
	Number of books	120		n Maths	Science	SST		1-
	Represent the above	data by	240	180	100	80		
		and by	u rie chart					
5.	Find the smallest nur	nber hv	which 220	201	lana an a' bhanan Anns			
	the cube root of the	umber a	o obtaina	28 be divide	ed to make it	a perfect cube.	Also find out	(3
		Sumber 3	obraine	d <i>.</i>				
7.	Factorise the followin	p :						
	a) $p^4 - q^4$	b) 121h	2 - 90h	1 1 6 2				(3
	• •	~, 1210	- 00 <i>DC</i>	+ 1662				·
8.	If 'x' varies directly as	s 'v' then	find the w	alua C	5 # K - c			
	x 3.9			alue of x_1, x_2	$\frac{1}{2}$ and y_1 in t	he table given b	elow:	(3
	v' 3	7	<i>k</i> ₁	x ₂ 22	.1			
			1	<u>.3 y</u>	1			
1999 - 1999 -	Draw a graph for the							
	Side of square	iven data	a. Is the gr	aph linear?		7		(3
	Area of square	<u>2</u>	4	6 8	3 10			
	Alea of square	4	16	36 6	4 100			
	A car takes 2 hours to	reach a	destinatio	on by trave	ling at the s	peed of 60km /h	r How Is	
					0		II. HOW long	(3

SECTION-D

31. Numbers 1 to 20 are written on 20 separate slips (one number on one slip) kept in a box and (4) mixed well. One slip is chosen from the box without looking into it. What is the probability of

a) getting a -1 digit number?

b) getting a number 12?

c) getting a number less than 6.

d) getting prime numbers.

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A-3

- a) Find the common factors of 14pq, $28p^2q^2$
- b) Write the multiplicative inverse of $\frac{7}{6}$
- c) Divide $12 a^8 b^8$ by $-6 a^6 b^4$
- d) Write the additive identity of rational numbers,
- 33. a) Factorise :

 $25a^2 - 4b^2 + 28bc - 49c^2$

b) Factorise the expression and divide it

 $4yz(z^2+6z-16) \div 2y(z+8)$

CASE STUDY

32.

34. Anup after retirement thought to stay in village's house. After going there he found there was shortage of water in village, so he thought of constructing a well. He hired some labourers and guided them that well should be 7m in diameter and 20m deep



Based on the above information answer the following questions

- (i) What is the shape of the well?
 - (ii) What will be the radius of the well?
 - (iii) What will be the volume of the earth dug out?

OR

What will be the surface area of the well?

1

1

1

A.

(4)

ase Study

There are many benefits to travelling, both physically and mentally. One of the most significant benefits of travelling by car is flexibility. Most people like to move at their own speed and reach their destination on time, without any haste. Harish and his family went on a road trip by car. They visited four towns A, B, C and D. The following graph describes the movement of the car from a town A to town D.

Study the graph and answer the following questions.

- (a) When did the car start from town A?
- (b) Where did the car stop and for what duration?
- What is the distance between town A and town D?

(C) How long did it take to go from town C to town D?



BUDHA DAL PUBLIC SCHOOL PATIALA FINAL EXAMINATION (19 March 2025) MATHEMATICS Class – VIII

4

(Set - B)

	(Set – B)	
	Time Allowed: 3 hours Maximum Marks: 80	
	1. All questions are compulsory	
	2. Section – A : Q.No. 1 to 10 carry 1 mark each	
	3. Section - B: Q.No. 11 to 20 carry 2 marks each	
	4. Section – C: Q.No. 21 to 30 carry 3 marks each	
	5. Section - D: Q.No. 31 to 35 carry 4 marks each	
a na Anon	SECTION-A	
Q1.	Tick the correct option for each of the following:	
1.	Which of the following is a perfect cube?	(1)
	a) 13310 b) 10640 c) 729000 d) 640000	
2.	Is the quantity of fuel consumed by a vehicle and the distance travelled by it in inverse proportion?	(1)
ti se secono	a) Yes b) No	
3.	Curved surface area of a cube with edge a cm is	(1)
	a) $6 \times a \times a \text{ cm}^2$ b) $2a \times a \text{ cm}^2$ c) $a \times a \times a \text{ cm}^2$ d) $4 \times a \times a \text{ cm}^2$	
4.	$(x+a)^2$ is equal to	(1)
	a) $x^2 + (a + b) + ab$ b) $x^2 + (a + b)x + a$	
	c) $x^2 + 2(a)x + a^2$ d) $x^2 + (a+b)x + ab$	
5	Formula used to find area of a rhombus whose diagonals are d_1 and d_2 is	(1)
5.	1 (1 (1 (1 (1 (1 (1 (1	(-)
	a) $\frac{1}{2}(d_1 + d_2)$ b) $d_1 \times d_2$ c) $\frac{1}{2} \times d_1 \times d_2$ d) $\frac{1}{d_2}$	
6.	The $x - axis$ and $y - axis$ meet at	(1)
	a) $(1,0)$ b) $(0,1)$ c) $(0,0)$ d) $(-1,-1)$	
7.	The value of $(2^{-1} \times 3^{-1})^2$ is equal to	(1)
	a) 36 b) 6^{-2} c) 6^{-1} d) 5^{-2}	
8.	If a number ends in 4 then its cube ends in	(1)
	a) 6 b) 4 c) 4 or 6 d) 2	
9.	Probability of an impossible event is	(1)
5.	(1) (1)	
	a) 1 b) $\frac{1}{2}$ c) 0 d) not possible	
10.	There are number of rational numbers between two rational numbers.	(1)
	a) limited b) unlimited c) 10 d) 100	
	13	

SECTION-B

s will he (2)
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netal. How (3)

Page 2 of 5

B-2

24.

Find parallel sides of a trapezium whose area is 1500 m², one of the parallel side is twice of the (3) other parallel side and height is 40 m.

(3)

(3)

(3)

(3)

(4)

R - 3

25.

26.

Construct a pie chart for the given data:

Frequence	Walk	Bike	Car	Bus
requency	9	3	6	12

A journey takes 3 hours at an average speed of 45 km/hr. How long will the same journey take at an average speed of 90km/hr. (3)

27. Draw a graph for the given data:

Side of square (cm)	2	3	5	7
Area (sq.cm)	4	9	25	49

Is the graph linear?

28.

If 'x' varies directly as 'y' then find the value of x_1, x_2 and y_1 in the table given below:

x	2.5	<i>x</i> ₁	<i>x</i> ₂	15
y	5	8	12	Y 1

Factorise the following : 29.

a) $36x^2 + 60xy + 25y^2$ b) $a^4 - b^4$

What is the smallest number by which 106480 must be divided so that the quotient is a 30. (3)perfect cube? Also find out the cube root of the number so obtained.

SECTION-D

- 31. a) Factorise : (4) $x^2 + 4y^2 - 4xy - 9z^2$ b) Factorise the expression and divide it $9n(m^2 - 14m - 32) \div 3n(m + 2)$
- a) Find the common factors of 24xy, $48xy^2z$ 32.
 - b) Write the multiplicative inverse of $\frac{11}{2}$
 - c)' Write the multiplicative identity of rational numbers.
 - d) Represent $\frac{2}{7}$ on number line.

- **33.** Numbers 1 to 20 are written on 20 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
 - a) getting a number more than 17.
 - b) getting an even number.
 - c) getting a 1-digit number ?
 - d) getting a number multiple of 3.

CASE STUDY

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(i)What is the shape of the well?1(ii)What will be the radius of the well?1(iii)What will be the volume of the earth dug out?2

OR

Curved What will be the surface area of the well? (4)

B-H

2

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