Vikas Bharati Public School
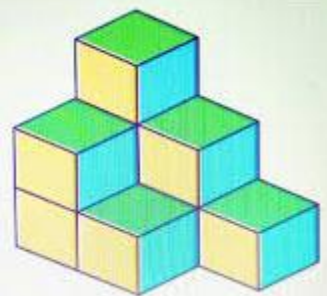## Sample Paper (Session 2025-26)
Class: VII
Subject: Mathematics
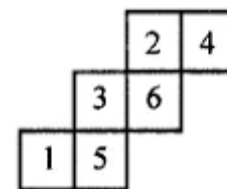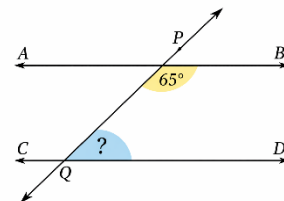
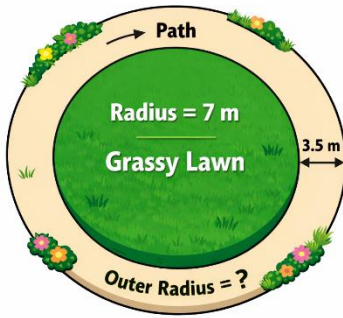**Time: 2 hours 30 minutes**   **M.M: 60**

Note: *1. This question paper contains 5 printed pages and 30 questions.*
       2. Read all the questions carefully.

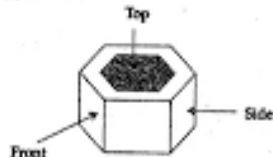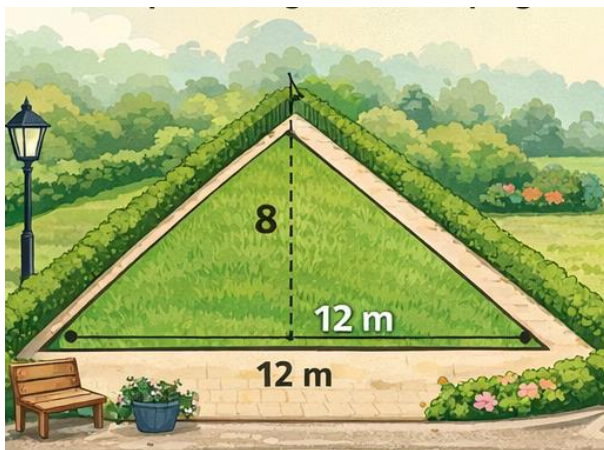|		**SECTION – A** **All questions are compulsory.In MCQs, write the correct option with the complete answer.**				
Q1.		The area of a parallelogram is 24.75 cm² and the length of its base is 6.60 cm. Find the height of the parallelogram.				1
		(A) 3.25 cm	(B) 3.50 cm	(C) 3.75 cm	(D) 4.25 cm	
Q2.		Which of the following capital letters of the English alphabet has *both* a vertical line of symmetry and a horizontal line of symmetry?				1
		(A) **H**	(B) **A**	(C) **N**	(D) **M**	
Q3.		Which of the following **rational numbers** lies **between 2 and 3**?				1
		(A) $\frac{7}{5}$	(B) $\frac{4}{5}$	(C) $\frac{9}{4}$	(D) $\frac{18}{6}$	
Q4.		How many cubes are there in the given stack?				1
		(A) 8	(B) 9	(C) 10	(D) 11	
Q5.		The correct exponential form of $2 \times 10 \times 10 \times 10 \times 10 \times 10$ is _____.				1
		(A) 5^5	(B) $2^5 \times 5$	(C) $2^6 \times 5^5$	(D) 2×5^4	
Q6.		Which of the following equations does not have $x = -3$ as its solution?				1
		(A) $x + 3 = 0$	(B) $2x + 6 = 12$	(C) $3x = -9$	(D) $3x + 9 = 0$	
Q7.		What is the numerical coefficient of x in the given expression: $2x^2 - 3x + 5$				1
		(A) 2	(B) 3	(C) -3	(D) 5	
Q8.		Which solid shape has 4 vertices, 4 triangular faces, and 6 edges?				1
		(A) Cube	(B) Cuboid	(C) Tetrahedron	(D) Square pyramid	

Q9.		The school library donated 120 books, which is 30% of the total number of books in the library. What is the total number of books in the library?				1
		(A) 300	(B) 360	(C) 400	(D) 450	
Q10.		Which method of solving a linear equation involves trying different values of the variable until the equation is satisfied?				1
		(A)Transposing method	(B) Balancing method	(C) Trial and error method	(D) Elimination method	
Q11.		**Fill in the blanks.**				5
	(i)	If every value in a data set occurs **exactly once**, then the _____ of the data **does not exist**.				
	(ii)	During a tree plantation drive, $\frac{3}{5}$ of the students in a school participated. This means that _____ **%** of the students took part in the drive.				
	(iii)	The line of symmetry of a circle is known as its _____.				
	(iv)	If one of the vertically opposite angles is 72°, then the measure of the angle vertically opposite to it is _____°.				
	(v)	The polynomial $3x^3 - 2x^2 + 5x - 7$ has four terms, so it is called a _____.				
Q12.		**State True or False. In false, rewrite the correct statement.**				3
	(i)	A cube can cast a shadow in the shape of a hexagon.				
	(ii)	A parallelogram is a quadrilateral with no line of symmetry but with rotational symmetry of order 2.				
	(iii)	If two lines are cut by a transversal and one pair of corresponding angles is equal, then the two lines are parallel.				
Q13.		During an online learning survey, 37.5% of the students preferred recorded lectures over live classes. Based on this information, express:				2
	(i)	37.5% as a decimal.				
	(ii)	37.5% as a fraction in its lowest form.				
		SECTION – B **Do any 6 questions from Q14 to Q20. Over attempt will not be evaluated.**				
Q14.		The following data shows the number of books read by a student in a month: 7, 3, 10, 5, 8, 6 A student arranged the data as: 3, 5, 6, 7, 8, 10 and stated that the median is 6. a) Identify the mistake made by the student, if any. b) Find the correct median of the data.				2
Q15.		A school plans to put a decorative ribbon around the boundary of a circular notice board. The length of ribbon used is 88 cm. a) Which mathematical relationship will help you find the radius of the notice board from the given information?				2

		b) Using the appropriate relationship, find the radius of the notice board. $(Take\ \pi = \frac{22}{7})$	
Q16.		The price of a school bag was ₹800 last year. This year, the price was reduced to ₹680. a) Identify the quantity taken as the base for calculating the percentage change and justify your choice. b) Calculate the percentage decrease in the price of the school bag.	**2**
Q17.		Can a figure have rotational symmetry of order more than 1 if its angle of rotation is 25°? Justify your answer.	**2**
Q18.		In the figure, two parallel lines are cut by a transversal. If the interior angle on one side of the transversal is 65°, find the interior angle on the same side of the transversal on the other parallel line. Also mention the name of this pair of angles.	**2**
Q19.		Can this be a net for a die? Explain your answer.	**2**
Q20.		Three students took part in a mathematics quiz. The fraction of the total questions answered correctly by them were $\frac{3}{4}, \frac{5}{6}\ and\ \frac{7}{12}$. Find the mean fraction of questions answered correctly by the three students.	**2**
		SECTION – C **Do any 4 questions from Q21 to Q25. Over attempt will not be evaluated.**	
Q21.		The sum of the present ages of a father and his son is 56 years. Also, the father's age is four years more than three times the age of his son. a) Let the present age of the son be x years. Write an equation to represent the given situation. b) Solve the equation to find the present age of the son. c) Find the present age of the father.	**3**
Q22.		Add the expression $(3p - 2q + r)$ to the difference of $(5p + q - 3r)$ and $(2p - 4q + r)$.	**3**
Q23.		Express the product of the following numbers as the product of power of their prime factors: 960×1350	**3**

Q24.		A circular garden has a grassy inner region of radius 7 m. A uniform path of width 3.5 m is constructed all around it. Based on the above situation, answer the following questions: $(Take\ \pi = \frac{22}{7})$ a) Find the radius of the outer circle of the garden. b) Calculate the area of the outer circle. c) Find the area of the circular path.	3
Q25.		A book fair was organised in a school. A bookseller bought a set of story books for ₹640. By the end of the fair, he had to sell the set for ₹560 to clear the stock. Based on the above situation: a) Find the loss incurred by the bookseller. b) Calculate the loss percentage.	3

<div align="center">

SECTION – D

Do any 3 questions from Q26 to Q29. Over attempt will not be evaluated.

</div>

Q26.		The following table shows the number of boys and girls enrolled in government schools in five villages of a district, related to Sustainable Development Goal 4 – Quality Education. | Village	Boys	Girls
A	120	110
B	100	95
C	140	130
D	90	85	 Draw a double bar graph to represent the above data. Use an appropriate scale and label the axes clearly.	4
---	---	---	---

Q27.	a.	In a school cleanliness drive, the ratio of students who participated to students who did not participate was 7 : 3. Find the percentage of students
		    (i) who participated in the drive.
		    (ii) who did not participate in the drive.
			2

	b.	A student deposited ₹4,000 in a savings scheme for purchasing a bicycle. At the end of the period, the student earned a simple interest of ₹960 at a rate of 8% per annum. Find the time (in years) for which the money was deposited.	2
Q28.	a.	A trekker was standing on a hill $2\frac{3}{4}$m above sea level. He climbed $\frac{11}{8}$m downwards along the slope. Find the trekker's new position with respect to sea level.	2
	b.	Find the value of : (i) 2.387×10^0 (ii) $(-13)^2 + (-1)^8$	2

Q29.	a.	What cross-section do you get when a vertical cut and a horizontal cut are made on a circular pipe?	2
	b.	Draw the front view and top view of the given solid.	2

SECTION – E

In MCQs, write the correct option with the complete answer.

Q30.		A triangular park in a residential area has a base of 12 m and a corresponding height of 8 m. The local authority wants to modify the park design while keeping its area unchanged.	

Based on the above situation, answer the following questions:

	a)	Which formula should be used to find the area of the triangular park?	1
		(A) Base × Height (B) $\frac{1}{2}$×Base×Height (C) 2×(Base+Height) (D) Base + Height	
	b)	What is the area of the triangular park?	1
		(A) 48 m^2 (B) 96 m^2 (C) 24 m^2 (D) 60 m^2	
	c)	To keep the area unchanged, which of the following changes is correct?	1
		(A) Base doubled and height unchanged (B) Height halved and base unchanged (C) Base increased to 16 m and height reduced to 6 m (D) Base increased to 24 m and height unchanged	
	d)	If another triangular park has the same area but a base of 24 m, what will be its height?	1
		(A) 4 m (B) 6 m (C) 8 m (D) 12 m	