

Govt. Higher Primary School, _____, Tq: _____, Dist:

Subject Teacher: _____

Question Paper Design & Weightage Breakdown

Class: 7th Standard

Subject: Mathematics

Total Marks: 40

Total Questions: 24

A) Weightage to Objectives

Objectives	Questions	Marks	Percentage (%)
Knowledge	5	6	15%
Understanding	13	18	45%
Application	6	16	40%
Skill	0	0	0%
Total	24	40	100%

C) Form of Questions

Question Type	Questions	Marks	Percentage (%)
Objective (1 Mark)	12	12	30%
Very Short Answer (2 Marks)	10	20	50%
Long Answer (4 Marks)	2	8	20%
Total	24	40	100%

B) Weightage to Units (Semester 1)

Sl. No.	Unit Name	Questions	Marks	Percentage (%)
1	1. Large Numbers Around Us	3	4	10%
2	2. Arithmetic Expressions	3	5	13%
3	3. A Peek Beyond the Point	6	7	18%
4	4. Expressions Using Letters and Numbers	3	8	20%
5	5. Parallel and Intersecting Lines	3	5	13%
6	6. Number Play	2	2	5%
7	7. A Tale of Three Intersecting Lines	2	6	15%
8	8. Working with Fractions	2	3	8%
Total		24	40	100%

D) Difficulty Level

Difficulty Level	Questions	Marks	Percentage (%)
Easy	10	12	30%
Average	10	16	40%
Difficult	4	12	30%
Total	24	40	100%

Govt. Higher Primary School, _____, **Tq:** _____, **Dist:** _____
Subject Teacher: _____
BLUEPRINT - 7th Mathematics (SA-1) [8 Units]

Subject: Mathematics (English Medium)				Class: 7th Standard				Total Marks: 40				Number of Questions: 24			
Sl. No.	Unit / Chapter Name	Knowledge			Understanding			Application			Skill			Total	
		Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	LA(4)		
1	1. Large Numbers Around Us	1(1)	-	-	1(1)	1(2)	-	-	-	-	-	-	3	4	
2	2. Arithmetic Expressions	-	1(2)	-	1(1)	1(2)	-	-	-	-	-	-	3	5	
3	3. A Peek Beyond the Point	1(1)	-	-	4(4)	-	-	-	1(2)	-	-	-	6	7	
4	4. Expressions Using Letters and Numbers	-	-	-	-	1(2)	-	-	1(2)	1(4)	-	-	3	8	
5	5. Parallel and Intersecting Lines	1(1)	-	-	-	1(2)	-	-	1(2)	-	-	-	3	5	
6	6. Number Play	1(1)	-	-	1(1)	-	-	-	-	-	-	-	2	2	
7	7. A Tale of Three Intersecting Lines	-	-	-	-	1(2)	-	-	-	1(4)	-	-	2	6	
8	8. Working with Fractions	-	-	-	1(1)	-	-	-	1(2)	-	-	-	2	3	
Objective-wise Total Marks		6 (15%)			18 (45%)			16 (40%)			0 (0%)			24	40

Note: Numbers inside parentheses denote allotted marks, and numbers outside denote question count. (Obj = 1 Mark, VSA = 2 Marks, LA = 4 Marks)

Govt. Higher Primary School, _____, Tq: _____, Dist:

Subject Teacher: _____

Question-wise Analysis Sheet

Class: 7th Standard

Subject: Mathematics

Total Questions: 24

Total Marks: 40

Q. No.	Unit Name	Objective	Specification	Marks	Type of Question	Difficulty	Time (Min)
1	1. Large Numbers Around Us	Knowledge	Writes numeral	1	Objective	Easy	2
2	3. A Peek Beyond the Point	Knowledge	Converts	1	Objective	Easy	2
3	5. Parallel and Intersecting Lines	Knowledge	Recalls angle	1	Objective	Easy	2
4	6. Number Play	Knowledge	Recalls term	1	Objective	Easy	2
5	1. Large Numbers Around Us	Understanding	Identifies origin	1	Objective	Easy	2
6	2. Arithmetic Expressions	Understanding	Evaluates	1	Objective	Easy	2
7	6. Number Play	Understanding	Determines parity	1	Objective	Easy	2
8	8. Working with Fractions	Understanding	Converts	1	Objective	Average	2
9	3. A Peek Beyond the Point	Understanding	Matches	1	Objective	Easy	1
10	3. A Peek Beyond the Point	Understanding	Matches	1	Objective	Easy	1
11	3. A Peek Beyond the Point	Understanding	Matches	1	Objective	Easy	1
12	3. A Peek Beyond the Point	Understanding	Matches	1	Objective	Easy	1
13	1. Large Numbers Around Us	Understanding	Writes in words	2	Very Short Answer	Easy	5
14	2. Arithmetic Expressions	Knowledge	Defines	2	Very Short Answer	Easy	5
15	2. Arithmetic Expressions	Understanding	States properties	2	Very Short Answer	Average	5
16	4. Expressions Using Letters and Numbers	Understanding	Simplifies	2	Very Short Answer	Average	5
17	5. Parallel and Intersecting Lines	Understanding	Finds angles	2	Very Short Answer	Easy	5
18	7. A Tale of Three Intersecting Lines	Understanding	Calculates third angle	2	Very Short Answer	Easy	5
19	3. A Peek Beyond the Point	Application	Solves	2	Very Short Answer	Easy	5
20	4. Expressions Using Letters and Numbers	Application	Writes expressions	2	Very Short Answer	Easy	5
21	5. Parallel and Intersecting Lines	Application	Calculates angles	2	Very Short Answer	Average	5
22	8. Working with Fractions	Application	Divides fractions	2	Very Short Answer	Easy	5
23	4. Expressions Using Letters and Numbers	Application	Solves real-life problem	4	Long Answer	Difficult	10
24	7. A Tale of Three Intersecting Lines	Skill	Verifies and describes	4	Long Answer	Difficult	10
Total				40 Marks	24 Questions	-	90 Minutes

Summative Assessment - 1 (SA-1) 2026-27 | Subject: Mathematics (English Medium)

Class: 7th Standard

Time: 90 Minutes

Max. Marks: 40

I. Answer the following questions in one sentence each:

4 × 1 = 4

- Write 'Ten thousand' in numeral form.
- Which decimal represents five tenths (5/10)?
- What is the measure of the angle formed between two perpendicular lines?
- What is the next term of the Virahanka-Fibonacci sequence: 1, 2, 3, 5, 8, 13, 21...?

II. Choose and write the correct alternative from the given options:

4 × 1 = 4

- The root words for Lakh and Crore originate from which language?
(A) Kannada (B) Sanskrit (C) Persian (D) English
- In the expression $30 + (5 \times 4)$, what is the value of the sub-expression inside the brackets?
(A) 50 (B) 30 (C) 20 (D) 10
- The product of two odd numbers is always an:
(A) Even number (B) Odd number (C) Sometimes even sometimes odd (D) Zero
- The mixed fraction form of $\frac{8}{5}$ is:
(A) $3 \frac{1}{5}$ (B) $1 \frac{3}{5}$ (C) $5 \frac{1}{3}$ (D) $1 \frac{5}{3}$

III. Match the items in Column 'A' with the appropriate items in Column 'B':

4 × 1 = 4

Column 'A'	Column 'B'
9. 0.1	(A) One hundredth
10. 0.75	(B) One thousandth
11. 0.01	(C) One tenth
12. 0.001	(D) 75 paise

IV. Answer the following questions in 2-3 sentences / solve each:

10 × 2 = 20

- Insert commas according to the Indian system and write in words: 700596.
- What is an arithmetic expression? Give an example.
- Write the commutative property of addition for 9 and 2, and the associative property for 2, 3, and 4.
- Simplify: $5c + 3c + 10c$. Also evaluate $5m + 3$ when $m = 2$.
- Two straight lines intersect. If one angle is 60° , find its vertically opposite and linear pair angles.
- What is the sum of interior angles of a triangle? If two angles are 50° and 60° , find the third angle.
- Find the sum of 12.45 and 5.25, and the difference between 18.5 and 9.25.
- Write algebraic expressions for: (a) Arun's age is 'a'; Nidhi is 3 years older than him. (b) 5 more than a number z.
- A transversal intersects two parallel lines. If one corresponding angle is 115° , find its alternate interior angle.
- Evaluate: $4 \div (1/8)$ and $15 \div (2/5)$.

V. Answer the following questions in detail / solve each:

2 × 4 = 8

- A flour mill takes 10 seconds to start. Once running, each kg of grain takes 8 seconds to grind. a) Write an expression for the total time required to grind y kg of grain. b) Find the time taken to grind 5 kg of grain.

24. A camping tent is supported in the shape of a triangle having side lengths 6 m, 8 m, and 10 m. a) Identify the type of triangle and justify using Pythagoras theorem. b) State one structural advantage of triangular shapes in construction. c) Describe the steps to sketch it using scale 1 cm = 1 m.

Govt. Higher Primary School, _____, Tq: _____, Dist: _____

Subject Teacher: _____

Model Answers & Scoring Key (Part - 1)

Class: 7th Standard

Subject: Mathematics

Answers for Questions 1 to 12 (Objective Questions)

Q. No.	Expected Model Answers / Value Points	Marks
1	Write 'Ten thousand' in numeral form. Model Answer: 10,000[cite: 7].	1 Mark
2	Which decimal represents five tenths (5/10)? Model Answer: 0.5[cite: 7].	1 Mark
3	What is the measure of the angle formed between two perpendicular lines? Model Answer: 90 degrees (90°)[cite: 7].	1 Mark
4	What is the next term of the Virahanka-Fibonacci sequence: 1, 2, 3, 5, 8, 13, 21...? Model Answer: 34 (13 + 21 = 34)[cite: 7].	1 Mark
5	The root words for Lakh and Crore originate from which language? Model Answer: B) Sanskrit[cite: 7]	1 Mark
6	In the expression $30 + (5 \times 4)$, what is the value of the sub-expression inside the brackets? Model Answer: C) 20 ($5 \times 4 = 20$)[cite: 7]	1 Mark
7	The product of two odd numbers is always an: Model Answer: B) Odd number (e.g., $3 \times 5 = 15$)[cite: 7]	1 Mark
8	The mixed fraction form of $8/5$ is: Model Answer: B) $1 \frac{3}{5}$ ($8 \div 5 = 1$ quotient, 3 remainder)[cite: 7]	1 Mark
9	0.1 Model Answer: One tenth (c)[cite: 7]	1 Mark
10	0.75 Model Answer: 75 paise (e)[cite: 7]	1 Mark
11	0.01 Model Answer: One hundredth (a)[cite: 7]	1 Mark
12	0.001 Model Answer: One thousandth (b)[cite: 7]	1 Mark

Model Answers & Scoring Key (Part - 2)

Class: 7th Standard

Subject: Mathematics

Detailed Solutions for Questions 13 to 24

Q. No.	Expected Model Answers / Value Points	Marks
13	Insert commas according to the Indian system and write in words: 700596. Model Answer / Solution Steps: 7,00,596 = Seven Lakh Five Hundred Ninety-Six[cite: 7].	2 Marks
14	What is an arithmetic expression? Give an example. Model Answer / Solution Steps: A mathematical phrase combining numbers and operational signs (+, -, ×, ÷) without an equality sign. Examples: $15 + 7$, $30 - 6$, 13×5 [cite: 7].	2 Marks
15	Write the commutative property of addition for 9 and 2, and the associative property for 2, 3, and 4. Model Answer / Solution Steps: Commutative Property: $9 + 2 = 2 + 9$ Associative Property: $2 + (3 + 4) = (2 + 3) + 4$ [cite: 7].	2 Marks
16	Simplify: $5c + 3c + 10c$. Also evaluate $5m + 3$ when $m = 2$. Model Answer / Solution Steps: $5c + 3c + 10c = 18c$ [cite: 7]. When $m = 2$: $5(2) + 3 = 10 + 3 = 13$ [cite: 7].	2 Marks
17	Two straight lines intersect. If one angle is 60°, find its vertically opposite and linear pair angles. Model Answer / Solution Steps: Vertically opposite angle = 60° (opposite angles are equal)[cite: 7]. Linear pair angle = $180^\circ - 60^\circ = 120^\circ$ [cite: 7].	2 Marks
18	What is the sum of interior angles of a triangle? If two angles are 50° and 60°, find the third angle. Model Answer / Solution Steps: Sum of angles = 180° [cite: 7]. Third angle = $180^\circ - (50^\circ + 60^\circ) = 180^\circ - 110^\circ = 70^\circ$ [cite: 7].	2 Marks
19	Find the sum of 12.45 and 5.25, and the difference between 18.5 and 9.25. Model Answer / Solution Steps: Sum = $12.45 + 5.25 = 17.70$ Difference = $18.50 - 9.25 = 9.25$ [cite: 7].	2 Marks
20	Write algebraic expressions for: (a) Arun's age is 'a'; Nidhi is 3 years older than him. (b) 5 more than a number z. Model Answer / Solution Steps: a) Nidhi's age = $a + 3$ [cite: 7] b) $z + 5$ [cite: 7].	2 Marks
21	A transversal intersects two parallel lines. If one corresponding angle is 115°, find its alternate interior angle. Model Answer / Solution Steps: The alternate interior angle equals the corresponding angle's vertically opposite angle = 115° [cite: 7].	2 Marks
22	Evaluate: $4 \div (1/8)$ and $15 \div (2/5)$. Model Answer / Solution Steps: 1) $4 \div (1/8) = 4 \times (8/1) = 32$ [cite: 7]. 2) $15 \div (2/5) = 15 \times (5/2) = 75/2 = 37 \frac{1}{2}$ [cite: 7].	2 Marks
23	A flour mill takes 10 seconds to start. Once running, each kg of grain takes 8 seconds to grind. a) Write an expression for the total time required to grind y kg of grain. b) Find the time taken to grind 5 kg of grain. Model Answer / Solution Steps: a) Startup time = 10 s. Time for y kg = $8y$ s. Total time expression = $10 + 8y$ seconds[cite: 7]. b) When $y = 5$: Total time = $10 + 8(5) = 10 + 40 = 50$ seconds[cite: 7].	4 Marks
24	A camping tent is supported in the shape of a triangle having side lengths 6 m, 8 m, and 10 m. a) Identify the type of triangle and justify using Pythagoras theorem. b) State one structural advantage of triangular shapes in construction. c) Describe the steps to	4 Marks

Q. No.	Expected Model Answers / Value Points	Marks
	sketch it using scale 1 cm = 1 m. Model Answer / Solution Steps: a) Right-angled triangle[cite: 7]. By Pythagoras theorem: $6^2 + 8^2 = 36 + 64 = 100 = 10^2$[cite: 7]. b) Triangles are rigid structures that do not deform under load, providing unmatched structural stability[cite: 7]. c) Draw base AB = 8 cm[cite: 7]. Construct a perpendicular at A of height 6 cm up to C[cite: 7]. Join BC to measure 10 cm[cite: 7].	