

SECOND TERM EVALUATION 2024-25

MATHS MODEL QUESTION PAPER 1

Standard: VII

- Read the questions carefully.
- Attempt any six activities.
- All activities carry equal weightage.

Activity 1: Ratio and Proportion

(a) Complete the table by calculating the missing values.

Height (cm)	Width (cm)	Ratio
5	10	
6		3:2
	12	1:3

(b) The ratio of girls to boys in a school is 3:2. If there are 120 girls, how many boys are there? What is the total number of students?

Activity 2: Algebra

(a) Write the following statements in algebraic form:

- A number multiplied by 5 and then added to 10.
- Twice a number reduced by 4.

(b) Simplify the following:

- $(12+8)-5$
- $(20-6.5)+3.5$

Activity 3: Geometry

(a) Calculate the area of the triangles given below:

- Base = 6 cm, Height = 4 cm.
- Base = 8 cm, Height = 5 cm.

(b) Draw a rectangle with a perimeter of 20 cm, keeping the length and breadth in the ratio 3:2. Calculate its area.

Activity 4: Powers and Exponents

(a) Write the following as powers of numbers:

- $8 \times 8 \times 8$
- $2 \times 2 \times 2 \times 2$

(b) Simplify the following using powers:

(i) $512 \div 64$

(ii) $3^2 \times 3^3$

Activity 5: Factors

(a) Write the prime factorization of the following numbers:

(i) 56

(ii) 72

(b) Find the Highest Common Factor (HCF) of:

(i) 24 and 36

(ii) 48 and 60

Activity 6: Practical Applications of Ratio

(a) To make dosa batter, the ratio of rice to black gram is 4:1. If you have 16 cups of rice, how many cups of black gram are needed?

(b) In a factory, the ratio of workers to machines is 5:3. If there are 15 workers, how many machines are there?

Activity 7: Problem Solving

(a) The perimeter of a rectangle is 36 cm. The length and breadth are in the ratio 5:4. Find the dimensions and calculate the area.

(b) A rope is cut into two parts in the ratio 2:3. If the total length of the rope is 25 m, find the lengths of each part.