SAMAGRA PLUS

SECOND TERM SAMPLE PRACTICE PAPER

MATHEMATICS

Time : 2 Hours **Score : 30**

- **15 minutes is given as cool-off time**
- **Read the questions carefully during this time**
- **Attempt any six activities from the activities given**

Activity 1

(a)In the table below, the height, width and their ratio of some rectangles are given, but only two of each. Complete the table by calculating the third

Height(cm)	Width(cm)	Ratio
5	10	
6		3:2
	4	1:2

(b) In a ward of a panchayat, the women and men are in the ratio 11 : 10. There are 1793 women in the ward. How many men are there in the ward ? What nis the total number of women and men ?.

Activity 2

(a) Write the following in the language of algebra

(i) Zero added to any number gives the same number.

(ii)Twice a number subtracted from thrice the number gives the number.

(iii) A number added to a number, and then the added number subtracted gives the original number.

(b) Calculate he following using simplest method

(i) $(3\frac{1}{2} + 5\frac{3}{4}) - 2\frac{1}{4}$

(ii) (19-6.5)+2.5

Activity 3

(a)Consider the product of the numbers from 1 to 25

(i)What is the highest power of 5 which divides this product without remainder?

(ii) And the highest power of 10 dividing this product without remainder?

(iii) How many zeros does this product end with?

(b) Using 15 3 = 3375 calculate the powers below

(i) $(1.5)^{3}$ (ii) $(0.015)^{3}$

Activity 4

(a)Find the number of factors of each number below

(i) 40 (ii) 54

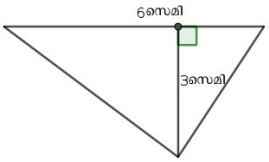
(b) Find the largest common factor and all the other common factors

(i) 225, 275

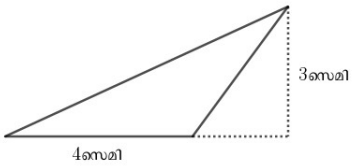
Activity 5

(a) Find the area of the following triangles

(i)



(ii)



(b) How many different triangles can be drawn with two sides 8 centimetres, 6 centimetres and area 12 square centimetres?

Activity 6

(a)Draw a rectangle of perimeter 30 centimetres and sides of length in the ratio 1 : 2.
(b)With the same perimeter draw another rectangle with sides in the ratio 2 : 3
(c)Calculate the areas of the two rectangles. Which rectangle has the greatest area?

Activity 7

(a) Calculate 512 ÷ 64 as the powers of 2?

(b) Write half of 2^{10} as a power of 2?

(c) Calculate $\frac{27}{243}$ as powers

പ്രവർത്തനം 8

(a)(i) What is the largest common factor of two different prime numbers?

(ii) Can the largest common factor of two composite numbers be 1?

(iii) If two numbers are divided by their largest common factor, what would be the largest common factor of the quotients?

(b) (i) If P is a prime number, how many factors does P^x have?

(ii) How many factors does 35 have?

No	Key Points	Score	Total
1	(a) 1 : 2 4 2	1 1 1	5
	(b) Number of men= 1630 Total = 3423	1 1	
2	(a) $x + 0 = 0$ $3x - 2x = x$ $(x + y) - y = x$	1 1 1	5
	(b) $3\frac{1}{2} + 3\frac{1}{2} = 7$ 19-4=15	1 1	
3	(a) 5^6 6 6	1 1 1	5
	(b) 3.375 0.000003375	1 1	
4	(a) $40=2^3$ X 5 4 X 2= 8 factors $54= 3^3$ X 2 4 X 2 = 8 factors	1 $\frac{1}{2}$ 1 $\frac{1}{2}$	5
	(b)$225=5^2$ X 3^2 $275 = 5^2$ X 11 Largest factor = 25 Other factors 1,5	1 $\frac{1}{2}$ $\frac{1}{2}$	
5	(a) $\frac{4X6}{2} = 12$ $\frac{4X3}{2} = 6$	2 2	5
	(b) 4	1	
6	Construction Construction	$1\frac{1}{2}$ $1\frac{1}{2}$	5
	Areas 50 , 54 Second rectangle	2	
7	$\frac{2^9}{2^6} = 2^{9-6} = 2^3$	2	5
	2^9	1	

	$\frac{3^3}{3^5} = \frac{1}{3^{5-3}} = \frac{1}{3^2}$	2	
8	(a)1 No 1	1 1 1	5
	x+1	1	
	4	1	