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Mathematics - I, II

Duration :- 1 hour 30 minutes

Name :- ..... Index No :-

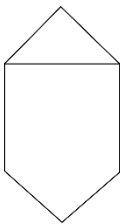
Grade 7

### Part I

• Answer all the questions.

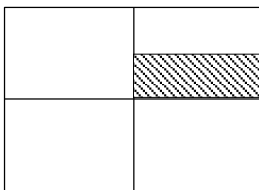
(01) There were 175 eggs in a box 9 of them had been broken. Find the number of remaining eggs.

(02) Write the number of axes of symmetry in the following figure.



(03) Find the digital root of the number 2576.

(04) Express the coloured portion as a fraction of whole figure.



(05)  $M = \{\text{Letters of the word 'MAHARAGAMA'}\}$

Write the elements of the set M within curly brackets.

(06) Select and write down the Pair which is not a prime number

(i) (7,2)    (ii) (5,3)    (iii) (1,3)    (iv) (2,11)

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(07) Write the base and the index of  $2^3$

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(08) Write down the century which year AD 1815 belongs.

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(09) Without dividing select the numbers which are divisible by both 6 and 9

2400, 3222, 4152, 1245

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(10) Express the following expression as a product of powers.

$a \times a \times a \times b \times b$

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(11) Write two mathematical instruments which can be used to draw parallel lines.

(12) Fill in the blanks

$$\begin{aligned} 12 &= 1 \times 12 \\ &= \dots\dots\dots \times \dots\dots\dots \\ &= \dots\dots\dots \times \dots\dots\dots \end{aligned}$$

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(13) Place a (✓) next to correct expression and place a ( x ) next to when it false.

- (a) There are equal number of axes of symmetry in both circular lamina and square (       )
- (b) In a bilaterally symmetric figure, the two parts either side of an axis of symmetry are equal in area (       )

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(14) Simplify

$$32 \div 8 \times 2$$

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(15) Evaluate

$$3258 + 17 + 38$$

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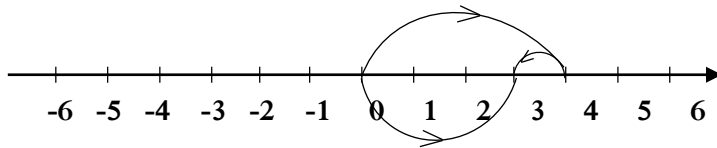
(16) Simplify (Express the answer in simplest form)

$$\frac{3}{8} + \frac{1}{8}$$

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(17) Write the largest number that can be written using the digits 7,8,6 and 3 which is divisible by 6

(18) Fill in the blanks.



$$(+4) + \dots = \dots$$

(19) Write the name of the direction to form an obtuse angle which starting from the north clockwise.

(20) Find the smallest number remains 1 when it is divided by 2, 3 and 4.

( 2 x 20 = 40 )

## Part II

**Answer only five question**

(01)

(i) Separate the following numbers in to two groups and name them.

2, 0.5, 1.5, 4, 3, 2.75

(02 Marks)

(ii) Select and write down the set from the followings

(a) Quadrupeds

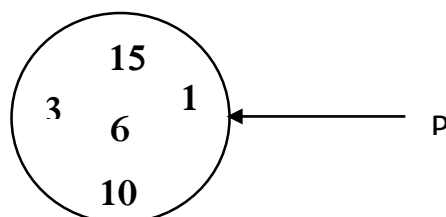
(b) Tall Students

(c) Compound Numbers

(d) Clever Students.

(02 Marks)

(iii)

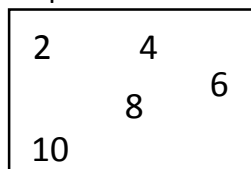


Write the elements of the set P within curly brackets.

(02 Marks)

(iv)  $D = \{\text{Even number between 1 and 10}\}$

The above set has been represented on the venn Diagram as follows.



Write down two errors have been done in the above diagram.

(02 Marks)

(v) Represent the above set D by a venn diagram correctly

(02 Marks)

(02)

(a)

I. Complete the table given below

Number	All the factors
36	
24	

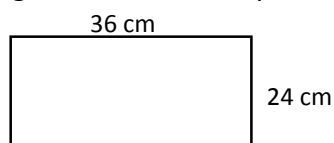
(02 Marks)

II. Write down common factors of 36 and 24

(02 Marks)

III. Length and the breadth of the rectangular paper are 36 cm and 24 cm respectively. Find the largest length of a side of a square which could cut out the paper without any waste.

(02 Marks)



(b) A farmer has given  $\frac{1}{3}$  and  $\frac{1}{4}$  of his land to two children.

I. What is the larger fraction

(02 Marks)

II. What is the amount of both lands as a fraction of whole land.

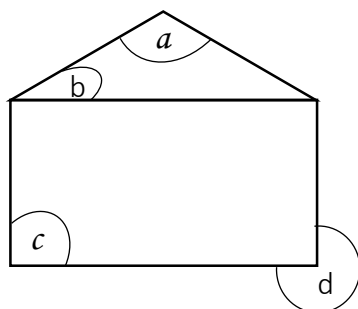
(02 Marks)

III. What is the fraction of remaining land

(02 Marks)

(03)

(i) Complete the following table according to the given figure.



Angle	Type of angle
a	
b	
c	
d	

(04 Marks)

(ii) Give an example for the following angles.

(a) The angle which has Static nature.

(02 Marks)

(b) The angle which has dynamic nature.

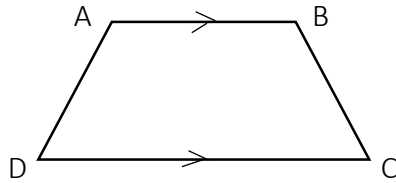
(iii) Draw a straight line segment and name it PQ

(02 Marks)

(iv) Draw a Straight line segment RS Parallel to PQ

(02 Marks)

(v)



In the given figure,

- I. Name pair of parallel lines (02 Marks)
- II. Name pair of straight lines which do not parallel to each other (02 Marks)

(04)

- I. To which decade does AD 2019 belong ? (02 Marks)
- II. Write the first and last years of the 19<sup>th</sup> century. (02 Marks)
- III. Manka Said that ' AD 1800 was a leap year' state whether the answer is correct or Wrong. Give reasons for your answer. (02 Marks)
- IV. Simplify

a)	hours	minutes	seconds
	2	15	32
+	1	46	35
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b)	years	months	days
	2020	02	01
-	2015	01	21
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(06 Marks)

(05)

- I. Express 81 as a power with base 3. (02 Marks)
- II. Write the power, where index is 5 and base is 2 (02 Marks)
- III. Expand and find the value of the above power. (02 Marks)
- IV. When  $P = 2$  and  $q = 3$ , Find the values of the following expressions. (04 Marks)
  - (a)  $2P^3q^2$
  - (b)  $P^2q$

(06) (i) Simplify

$$24 \div 2 (7 - 3) \quad (03 \text{ Marks})$$

- (i) At the computation of the electricity bill Rs. 5.00 each charge for first 100 units and Rs. 8.00 each for the excess. If a certain house used 112 units, compute the monthly electricity bill,
  - a) Express as a numerical expression. (02 Marks)
  - b) Simplify the expression. (02 Marks)
- (ii) Evaluate  $(-2) + (-5)$  (02 Marks)
- (iii) One day temperature was  $-4.0^\circ\text{C}$  at 5.00 a.m and it has increased by  $13^\circ\text{C}$  by 2.00 p.m in a certain city in England. Find out the latest temperature in the city. (03 Marks)