

# LORVEN PUBLIC SCHOOL

(Affiliated to CISCE, New Delhi)  
Anekal Road, Chandapura, Bangalore - 99

Annual Exam – 2020

Class: VIII

## MATHEMATICS

Time: 1 hr 30 minutes

Total Marks: 40

### I. Choose the correct answer

4 x 1 = 4M

- General form of 32 is  
a)  $3 \times 10 + 2$       b)  $3 \times 1 + 2 \times 10$       c)  $3 \times 10 + 2 \times 1$
- Decimal form of  $5 \times 10 + 9 \times 1$  is  
a) 509.00      b) 59.00      c) 590.00
- Find the integer m in  $m + 25 = 15$   
a)  $m = -10$       b)  $m = 10$       c)  $m = 9$
- Square of 16 is  
a) 257      b) 256      c) 258

### II. Answer the following

4 x 1 = 4M

- What is the alphabet used in an algebraic expression is called?
- Which terms cannot be added or subtracted in an algebraic expression?
- Write multiplicative inverse of integer  $-3/7$ ?
- Multiply  $3xy$  and  $4x$

### III. Answer the following (any 5)

5 x 2 = 10M

- Solve the following  
i)  $10x = 30$       ii)  $y - 9 = 21$
- Identify the property in the following  
i)  $8/9 \times 1 = 8/9$ .  
ii) Factorize  $a^2 - 5a + 6$
- In  $m - 30 = -26$  find the value of m.
- Find the total surface area and volume of a cube with  $L = 20$  cm.
- Use identity  $(a - b)^2$  and solve  
i)  $(x - 6)^2$       ii)  $(3x - 5y)^2$
- a. Write the definition of a line segment and a ray and give examples.  
b. Write the definition of complementary angles and give examples.

### IV. Solve (any 3)

3 x 3 = 9M

- Write 3 x 3 magic squares for first 9 odd numbers.

2. Construct a triangle ABC whose perimeter is 12 cm and whose base angles are  $50^\circ$  and  $80^\circ$ .

3. Separate the monomials, binomials, trinomials.

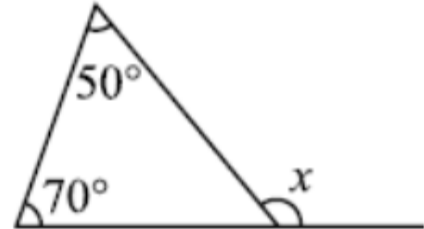
$$9 - 4y, 4y^2 - 3xz, 8xy, 7xyz, x - 2y + 3z, 4 + 5y - 6z$$

4. a. Solve the alpha numerical puzzle and find A

$$\begin{array}{r} 1 \quad A \quad A \\ +1 \quad A \quad A \\ \hline 2 \quad A \quad A \end{array}$$

b. Write the definition for Adjacent angles and vertically opposite angles.

5. a. Find the value of x in the following diagram.



b. Find the TSA of cuboid with  $L = 5\text{cm}$ ,  $B = 7\text{cm}$  and  $h = 10\text{cm}$ .

**V. Solve the following (Any 2)**

**$2 \times 4 = 8\text{M}$**

1. Add

i)  $5x^2y$ ,  $-7x^2y$  and  $9x^2y$

ii)  $8a^2 - 3b + 2c$  and  $-7a^2 + 3b$

**OR**

Multiply

i)  $(3x + 4)(2x + 3)$

ii)  $(-5a^3b^2c)(-8ab^3c^2)$

2. a. Find the sum of  $1 + 3 + 5 + \dots + 51$  (sum of odd numbers from 1 to 51 without actually adding them)?

b. A student was asked to find  $\sqrt{961}$ . He read it wrongly and found  $\sqrt{691}$  to the nearest integer. How much small was his number from the correct answer?

3. a. What is the difference between an Axiom and Postulate?

b. What are undefined objects in Euclid's geometry?

4. a. Factorize by grouping

i)  $ax - bx + ay - by$

ii)  $y^3 - 3y^2 + 2y - 6 - xy + 3x$

b. Write first four postulates of Euclid.

**VI. Solve the following (any one)**

**$1 \times 5 = 5\text{M}$**

1. a. Theorem: In a triangle the angles opposite to equal sides are equal.

b. Construct a triangle ABC whose perimeter is 14 cm and whose sides are in the ratio 2:4:5.

2. a. Draw the graph of the following straight line

i)  $y = x - 3$

b. Plot the order pairs and determine which quadrant they lie

A. (4, 5) B. (-4, -5) C. (4, -5)