ICSE – Class VI
Mathematics Test
Time: 2 Hours | Maximum Marks: 80
(Medium Level – As per ICSE syllabus)

SECTION A – (40 Marks)

(All questions are compulsory)

Q1. Answer the following questions *(10 × 1 = 10 marks)*

1. What is the boundary of a circle called?
2. What is a radius of a circle?
3. What is a semicircle?
4. What is a secant?
5. Are all radii of a circle equal? (Yes/No)..Give reason..
6. How many terms are there in the expression $4x + 5y - 2$?
7. What is a polynomial of degree 1 called?Give example..
8. Write the coefficient of x in $9x^2 - 9yzx + 5$.
9. What is the sum of the angles of a triangle?
10. Write the cardinal number of the set {a, b, c, d, a, c}.

Q2. Write definitions (with diagrams where required) *(4 × 3 = 12 marks)*

1. Tangent of a circle (draw a neat labelled diagram)
2. Secant of a circle (draw a neat labelled diagram)
3. Chord of a circle (draw a neat labelled diagram)
4. Set

Q3. Solve the following *(4 × 2 = 8 marks)*

1. Find the diameter of a circle whose radius is 7 cm.
2. Write all the like terms from the expression: $5x + 3y - 2x + 7 - y$
3. Identify whether the following is a monomial, binomial or trinomial: $6a - 3b + 2$
4. Find the degree of the polynomial: $8x^2 - 3x + 5$

Q3A. Sets *(4 × 2 = 8 marks)*

1. Write the set of odd natural numbers which are multiple of 3 in roster form.
2. If A = {x\:x is natural number ,x<2}, find the number of elements in set A.What is this number called and what is the type of set
3. Write the set {a, e, i, o, u} in set-builder form.

4. State whether the following set is finite or infinite:

a. Set of even natural numbers.

b. {x\:x x belongs to N,is a factor of 1000}

Q4. Write the following statements in algebraic form *(4 × 2 = 8 marks)*

1. A number increased by 9 is equal to 20.
2. The sum of thrice a number and 5.
3. Seven less than twice a number.
4. The quotient of a number and 6.

SECTION B – (40 Marks)

(Attempt any FOUR questions)

Q5. (10 marks)

1. Add: (6a − 3b + 4c) and (2a + 5b − c)
2. Subtract: (3x − 5y + 6) from (9x + y − 2)
3. Find the value of the expression $2x^3 + y^3$when x = -3 and y =- 4

Q6. (10 marks)

1. Write the degree of the following polynomial: $5x^3y^3 − 2x + 7$
2. Identify whether the following expressions are polynomials: a) $4x^2 + 3x − 1$ b) $5/x + 2$
3. If one angle of a triangle is 90° and the other two angles are in the ratio 2 : 3, find the smallest angle.

Q7. (10 marks)

1. Simplify: 7x − 3x + 5 − 2
2. Evaluate the expression 3a − 2b + c when a = 2, b = −1 and c = 4
3. Add: (4p + 3q − 2) and (5p − q + 6)

Q8. (10 marks)

1. A circle has diameter 14 cm. Find: a) Radius b) Circumference (π = 22/7)
2. In a triangle, if ∠A = 40° and ∠B = 65°, find ∠C.
3. Define and draw diagrams of: a) Tangent b) Quadrant

Q9. (10 marks)

1. What must be added to $6x - 4y + 3$ to get $10x - 2y + 5$?
2. Simplify: $8x + 5 - 3x - 7 + 2x$
3. Solve the equation: $x + 7 = 15$

Q10. (10 marks)

1. Subtract: $(4x - 3y + 6)$ from $(9x + 2y - 1)$
2. Identify the following as monomial, binomial or trinomial:

a) $5x$

b) $3a - 7$

c) $x^2 + x - 4$ 3. The angles of a triangle are in the ratio 3 : 4 : 5. Find each angle.

DO NOT COPY – Strict action will be taken