



# BURARI PUBLIC SCHOOL

a venture with **UNIQUE**

PERIODIC TEST III (2024-25)

CLASS: VII

MATHEMATICS

Date \_\_\_ / \_\_\_ / \_\_\_

Time -1 hour

M:M- 20 marks

Name: ..... Roll No. .... T. Sign.....

### Instructions:

- All questions are compulsory.
- This question paper is divided into three sections: A, B, C.

### Section A

#### Q 1 . Multiple choice questions:

4 marks

1. The degree of the expression  $7p^3q^4 + p^2q^6 + 2p^5q$  is
  - (a) 6
  - (b) 8
  - (c) 7
  - (d) 5
2. The expression  $2x^2 - x + 5$  is a
  - (a) monomial
  - (b) binomial
  - (c) trinomial
  - (d) multinomial
3. The coefficient of x in  $(5x-3y)$  is
  - (a) -3y
  - (b) 5x
  - (c) -3
  - (d) 5
4. If a, b, c are the three positive integers, then which of the following is true for Pythagorean triplets?
  - (a)  $a^2 + c^2 > b^2$
  - (b)  $a^2 + b^2 = c^2$
  - (c)  $a^2 + b^2 > c^2$
  - (d)  $b^2 + c^2 > a^2$

#### Q 2 . Assertion and Reason:

2 marks

In each of the following questions, an Assertion (A) and a corresponding Reason (R) supporting it is given.

Study both the statements and state which of the following is correct:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

1. **Assertion(A):** In a triangle, the angle opposite to the largest side is the largest.

**Reason(R):** In a right triangle, the square of the hypotenuse is equal to the sum of the square of its other two sides

2. **Assertion(A):**  $9xyz$  is a monomial but  $9 + x + y + z$  is a quadrinomial or a polynomial of four terms.

**Reason(R):** An algebraic expression containing two or more terms is called a polynomial.

### Section – B

Q 3. Write in exponential form:

$$7 \times a \times a \times b \times b \times c \times c$$

0.5 mark

Q 4. Write all the terms of given algebraic expression:

$$2x^2 + y^2 - 3xy + 4$$

0.5 mark

Q 5. Identify the like terms:

$$x^2, 2y^2, 2x^2, z^2$$

0.5 mark

Q 6. 8 times a number  $p$  is  $x$  less than a number  $y$ . Express this statement using literal numbers, numbers and sign of basic operations.

1 mark

Q 7. Verify that  $y = 9$  is the solution of the equation  $\frac{y}{3} + 5 = 8$

1.5 marks

Q 8. Solve for  $x$  :

$$3(x-1) = 2x - 11$$

1.5 marks

Q 9. A man goes 10m due to east and then 24m due north. Find the distance from the starting point.

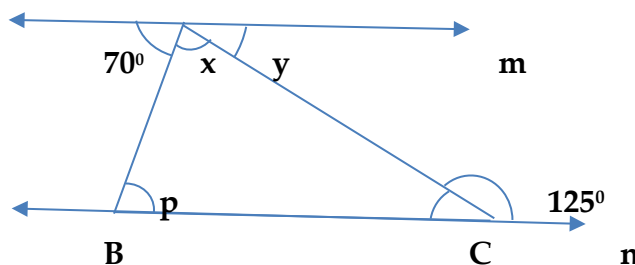
1.5 marks

Q 10. One of the angle of a triangle has measure of  $80^\circ$  and the other two angles are equal. Find the measure of two angles.

2 marks

Q 11. In the given figure, if  $m \parallel n$  then find the value of angle  $x$ ,  $y$  and  $p$ .

2 marks



**Q12.**

**CASE STUDY**

**3 marks**

In mathematics, the Pythagorean theorem or Pythagoras' theorem is a fundamental relation in Euclidean geometry between the three sides of a right triangle. It states that the square whose side is the hypotenuse (the side opposite the right angle) is equal to the sum of the squares on the other two sides.

The theorem can be written as an equation relating the lengths of the sides  $a$ ,  $b$  and the hypotenuse  $c$ , sometimes called the Pythagorean equation:

$$\gg (\text{Hypotenuse})^2 = (\text{perpendicular})^2 + (\text{base})^2$$

On the basis of above theory find the answers of the following:

Q1. The longest side of the right triangle is

- a. Base
- b. Perpendicular side
- c. Hypotenuse
- d. None

Q2. Pythagoras theorem is applicable only to

- a. Acute angled triangle
- b. Right angled triangle
- c. Obtuse angled triangle
- d. All of the above

Q3. The hypotenuse of a right triangle is the side opposite to the

- a. Acute angle
- b. Complete angle
- c. Obtuse angle
- d. Right angle