CLASS TEST PRE – MID SYLLABUS **FM – 15**

MATHEMATICS

1. The perpendicular distance of the point (4, -7) from the x-axis is **1**

(a) 4 units (b) 7 units (c) -7 units (d) $\sqrt{4^2-(-7)^2}$ units

2. If $(x+\frac{1}{x})$ = 5, then the value of $(x^2+\frac{1}{x^2})$ is: **1**

(a) 25 (b) 27 (c) 23 (d) 20

Choose the correct Options:

Option A: Both (A) and (R) are true and (R) is the correct explanation of (A).

Option B: Both (A) and (R) are true but (R) is not the correct explanation of (A).

Option C: (A) is true but (R) is false.

Option D: (A) is false but (R) is true.

3. **Assertion (A):** The zero of the polynomial p(x) = x - 5 is 5.

Reason (R): The zero of a polynomial p(x) is the value of x for which p(x) = 0. **1**

4. **Assertion (A):** The number $\sqrt{3}$ is an irrational number.

Reason (R): The square root of any positive integer is always an irrational number. **1**

5. Evaluate using identities: Compute the value of $(998)^3$ without direct multiplication. **2**

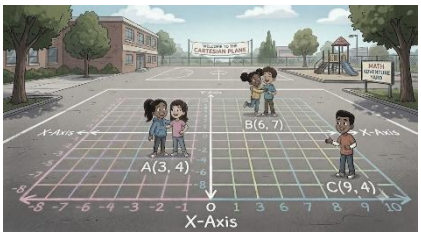
6. Express $0.4\overline{7}$ in the form $\frac{p}{q}$, where p and q are integers and q≠0. **2**

7. A local club charges a joining fee of ₹ 500 plus ₹ 100 per month for membership. **3**

a) Write a linear polynomial to represent the total cost for m months.

b) What is the total cost of membership for 1 year (12 months)?

8. For a class activity students went to the field and drew a perfect cartesian plane on the ground with all four quadrants clearly mentioned. Three students are positioned in the plane drawn for a drill. Their positions on the coordinate plane are marked as points A(3, 4), B(6, 7), and C(9, 4).



a) What is the distance of student A's position from the y-axis? **1**

b) What is the mid-point of the position of student B and student C? **1**

c) Find the coordinates of a point D if ABCD forms a rectangle. **2**

OR

Find the perimeter of ΔABC so formed.