B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

PRE-MID TERM-2025-26
MATHEMATICS (041) QUESTION PAPER

Class: IX **Time: 1hr**
Date: 01/08/2025 **Max Marks: 25**
Admission no: **Roll no:**

General Instructions:

1. All Questions are compulsory.
2. There are 13 questions.

I. **CHOOSE THE CORRECT ALTERNATIVE IN THE FOLLOWING.** **5**

1. Which of the following is **not** a polynomial?

a) $y^2 + \sqrt{2}$ b) $x^2 + y^2 + z^2$ c) $x^{20} + 1$ d) $3\sqrt{x} + \sqrt{2}$

2. The value of $P(x) = 5x - 4x^2 + 3$ when $x = 2$, is:

a)-3 b) -12 c) 0 d) 2

3. The points (–4,–8) lies in:

a) First quadrant b) Second quadrant c) Third quadrant d) Fourth quadrant

4. Ordinate of all the points on the *x*-axis is:

a) 0 b) 1 c) -1 d) Any natural number

5. If the coordinates of the two points are P (–7, 5) and Q (–6, 9), then

(abscissa of P) – (abscissa of Q) is :

a) -3 b) 1 c) -2 d) -1

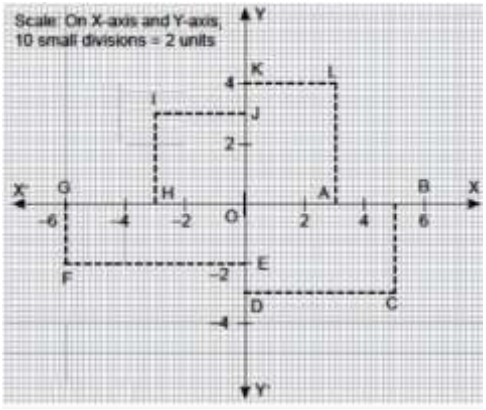
6. Determine the value of polynomial $P(x) = 7x^2 + 4x + 6$ at i) $x = -1$, ii) $x = 2$ **2**

7. Factorise: $2x^2 + 7x + 3$ **2**

8. In which quadrant or on which axis do the following points lie **2**

i) (-2 , 4) ii) (0, 6) iii) (-7 , 0) iv) (10 , 10)

9. Using the below given graph answer the following questions: **2**



i) Find the coordinates of point A, F and C.

ii) Find the abscissa of point L.

10. Use the suitable identity to find the product. **3**

i) (x + 4) (x + 10) ii) 104 x 96

11. a) Expand using suitable identity : (x + 2y + 4 z) ^{2} **3**

b) Factorise : 64 a^3 - 27 b^3 – 144 a ^{2} b + 108 a b ^{2}

12. Write the following cubes in expanded form**.** **3**

i) (2 x + 1) ^{3} ii) (x - $\frac{2y}{3}$) ^{3}

13. Plot each of the points A (-2 , 4) , B (- 2 , - 3) , C (4 , - 3) and D (4 , 4) **3**

Join AB, BC, CD and DA. What is the name of the geometrical figure formed?

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