

Mathematics — Ganita Manjari

Chapter 2 Test 2

Introduction to Linear Polynomials

Class IX | 2026-27

Time Allowed: 45 Minutes

Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. Choose one option in A; show working in B-D.
2. Show the main steps and give reasons where asked. Calculators are not allowed.
3. Read graph scales carefully and state units where appropriate.

SECTION A

(5 questions × 1 mark = 5 marks)

1. The degree of the non-zero polynomial -18 is:

- | | |
|--------|-----------|
| (A) 18 | (B) 1 |
| (C) 0 | (D) -18 |

2. The coefficient of x^2 in $4x^3 - 9x + 6$ is:

- | | |
|-------|----------|
| (A) 4 | (B) -9 |
| (C) 6 | (D) 0 |

3. The graph of $y = 2x + 5$ meets the y-axis at:

- | | |
|------------|------------|
| (A) (0, 5) | (B) (5, 0) |
| (C) (0, 2) | (D) (2, 5) |

4. As x increases, the value of $-7x + 3$:

- (A) increases by 7 per unit
- (B) decreases by 7 per unit
- (C) stays equal to 3
- (D) decreases by 3 per unit

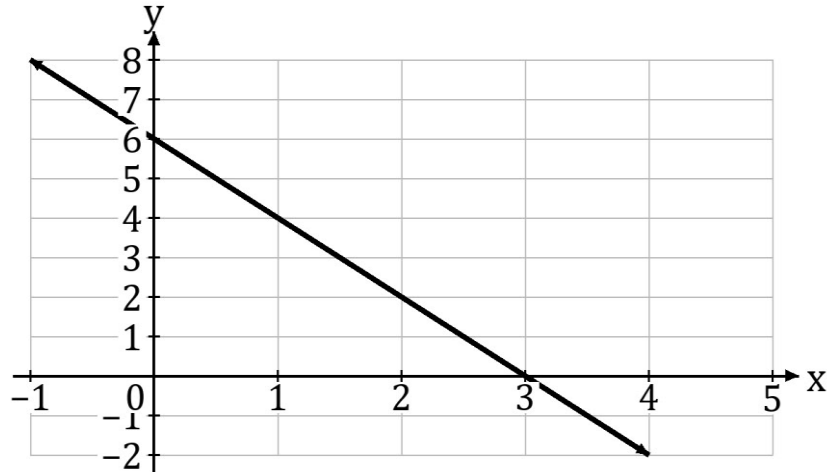
5. Which line is parallel to $y = -2x + 6$?

- | | |
|-------------------|------------------|
| (A) $y = 2x + 6$ | (B) $y = 6x - 2$ |
| (C) $y = -2x - 1$ | (D) $y = -x + 6$ |

SECTION B

(4 questions $\times$ 2 marks = 8 marks)

6. Evaluate $3t^2 - 2t + 4$ at $t = -3$.
7. Write $4y = 6x - 12$ in the form $y = ax + b$. State its slope and y-intercept.
8. Use the graph to find the output when $x = 2$ and the input for which the output is zero.



9. A rectangle has length 16 cm and width b cm. Express its area as a polynomial in b . Find its width when the area is 104 cm^2 .

SECTION C

(3 questions $\times$ 3 marks = 9 marks)

10. A linear polynomial $p(x) = ax + b$ satisfies $p(-1) = 9$ and $p(2) = 0$. Find $p(x)$ and $p(4)$.
11. A mother is four times as old as her daughter. In 6 years, the sum of their ages will be 72 years. Find their present ages.
12. A pupil says that $(-2, 5)$ lies on $y = 4x + 13$ and that the line cuts the x-axis at $(13, 0)$. Check both claims and correct any error.

SECTION D

(1 application question $\times$ 3 marks = 3 marks)

13. A tank holds 240 litres. Water drains at a constant rate of 18 litres per minute. Form the volume rule, find the amount after 7 minutes, and find when 60 litres remain.