

Mathematics — Ganita Manjari

Chapter 2 Test 7

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 $\times$ 1 mark = 5 marks)

1. The degree of $2z^5 - 3z^2 + 1$ is:

- | | |
|-------|-------|
| (A) 2 | (B) 3 |
| (C) 5 | (D) 1 |

2. If $p(x) = -2x + 9$, then $p(-4)$ is:

- | | |
|--------|---------|
| (A) 1 | (B) -17 |
| (C) -1 | (D) 17 |

3. Which equation represents a line passing through $(0, 0)$?

- (A) $y = -5x$
(B) $y = x + 5$
(C) $y = 5x - 1$
(D) $y = 2x + 3$

4. For $ax + 7$ to have degree 1, which condition is necessary?

- | | |
|-------------|----------------|
| (A) $a = 0$ | (B) $a \neq 0$ |
| (C) $a = 7$ | (D) $a > 7$ |

5. Which line is NOT parallel to $y = 4x - 8$?

- | | |
|-------------------|--------------------|
| (A) $y = 4x + 1$ | (B) $2y = 8x - 6$ |
| (C) $y = -4x + 2$ | (D) $3y = 12x + 9$ |

SECTION B

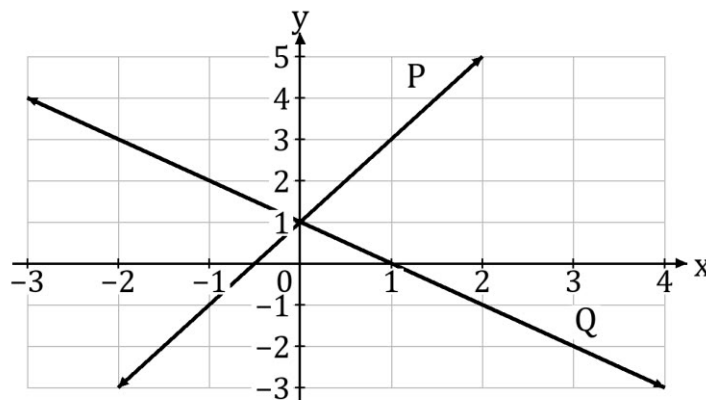
(4 questions $\times$ 2 marks = 8 marks)

6. Compare the degrees of $p(x) = 11$ and $q(x) = 11x$. Also find $p(3)$ and $q(3)$.
7. Given $f(x) = 3x - 8$ and $g(x) = -x + 5$, find $(f + g)(x)$ and $(f + g)(-2)$.
8. The line $y = kx - 6$ passes through $(3, 9)$. Find k and the point where the line meets the y -axis.
9. A linear rule gives outputs 14, 9 and 4 for consecutive inputs 0, 1 and 2. Find the rule and the output for input -2 .

SECTION C

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

10. Printing 30 booklets costs ₹690, while printing 50 costs ₹1050. Assume a fixed setup cost plus a constant cost per booklet. Find these charges and how many booklets can be printed for ₹1590.
11. The tens digit of a two-digit number is 4 greater than its units digit. The number and its reversal add to 132. Find the original number.
12. The graphs of p and q are labelled P and Q. Find the slope of each graph and read the point where they intersect.



SECTION D

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

13. A sapling is 1.2 m tall and grows 0.15 m each month. Express its height after n months. Find its height after 10 months and when it reaches 3 m.