Mathematics

Practice Test Paper 5

(Chapter 5: Arithmetic Progressions)

Class X | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Use algebraic methods where required. Use of calculators is not allowed.

SECTION A

(5 questions × 1 mark = 5 marks)

1. Which sequence has common difference zero?

(A) 9, 9, 9, …
(B) 0, 1, 2, …
(C) 3, 0, −3, …
(D) 2, 4, 6, …

2. The next term of the AP $\sqrt{7}, 2\sqrt{7}, 3\sqrt{7}, \ldots$ is:

(A) $5\sqrt{7}$
(B) $3\sqrt{14}$
(C) $\sqrt{70}$
(D) $4\sqrt{7}$

3. If $S_5 = 80$ and $S_4 = 58$, the fifth term is:

(A) 138
(B) 22
(C) 20
(D) 18

4. The fifteenth term of the AP $-2, 2, 6, \ldots$ is:

(A) 50
(B) 58
(C) 54
(D) 60

5. Which statement about the common difference is correct?

(A) It may be positive, negative or zero.
(B) It must be positive.
(C) It cannot be zero.
(D) It must be an integer.

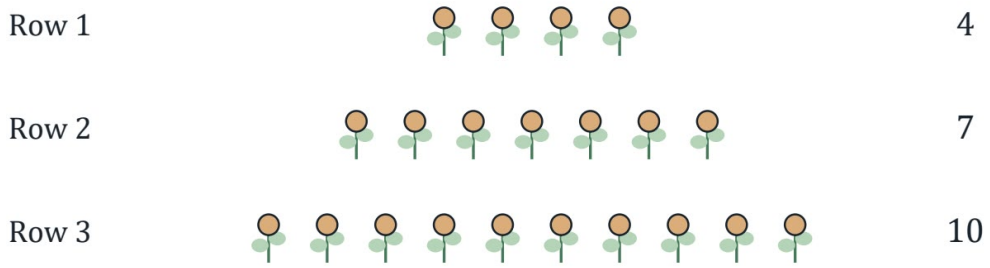
SECTION B

(4 questions × 2 marks = 8 marks)

6. Is −150 a term of the AP 11, 8, 5, 2, …? Justify.

7. Find the sum of the first 22 terms of the AP 8, 3, −2, ….

8. The flower rows shown continue by adding three plants per row. Find the number in row 11 and the total in the first 11 rows.



9. The sum of the first five terms of an AP is 75. Find its third term without determining a or d.

SECTION C

(3 questions × 3 marks = 9 marks)

10. Determine the AP whose third term is 16 and whose seventh term exceeds its fifth term by 12.

11. Find every possible number of terms of the AP 24, 21, 18, … whose sum is 78. Explain why two answers occur.

12. A flower bed has 23 plants in its first row, 21 in the second, 19 in the third and so on, ending with 5 plants. Find the number of rows and total plants.

SECTION D

(Application Based Question - 3 marks)

13. A factory's production increases by a fixed number each year. It makes 16,000 units in year 6 and 22,600 units in year 9.

(i) Find the annual increase.

(ii) Find production in the first year.

(iii) Find total production in the first three years.