





# Mathematics

Class X · CBSE Board · Chapter 5: Arithmetic Progressions Questions Marks: 30

Time Allowed: 1 hour

General Instructions: All questions are compulsory. Section A carries 1 mark each. Section B carries 2 marks each. Section C carries 3 marks each.

## Section A — Multiple Choice Questions (1 Mark Each)

1. Which of the following is an Arithmetic Progression?

- (A) 1, 2, 4, 8, 16
- (B) 2, 5, 8, 11, 14
- (C) 1, 4, 9, 16, 25
- (D) 2, 3, 5, 7, 11

2. The common difference of the AP: 3, 1, -1, -3, ... is

- (A) 2
- (B) -2
- (C) 1
- (D) -1

3. The 10th term of the AP: 5, 8, 11, ... is

- (A) 29
- (B) 32
- (C) 35
- (D) 38

4. If the first term of an AP is 3 and common difference is 4, the sum of first 5 terms is

- (A) 35
- (B) 40
- (C) 45
- (D) 50

5. How many terms of the AP: 9, 17, 25, ... must be taken to give a sum of 636?

- (A) 10
- (B) 12
- (C) 14
- (D) 16

## Section B — Short Answer Questions (2 Marks Each)

6. Find the 20th term of the AP: 7, 11, 15, 19, ...

7. Find the sum of first 15 terms of the AP: 1, 4, 7, 10, ...

8. Which term of the AP: 3, 8, 13, ... is 78?

9. The first and last terms of an AP are 1 and 11. If the sum is 36, find the number of terms.

10. Determine the AP whose 3rd term is 5 and 7th term is 9.

### Section C — Long Answer Questions (3 Marks Each)

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11. If the sum of first  $n$  terms of an AP is  $4n - n^2$ , find the AP and its 10th term.

12. A sum of ₹2800 is to be used to award four prizes. If each prize is ₹200 less than its preceding prize, find the value of each prize.

13. The sum of the 4th and 8th terms of an AP is 24, and the sum of the 6th and 10th terms is 44. Find the first three terms of the AP.

