

CHAPTER-5 | Arithmetic Progressions

QUIZ
PART-06

1. Which term of the A.P. 3, 8, 13, 18, ... is 78 ?

- A. 15th
B. 14th
C. 13th
D. 16th (A)

Explanation: Using the formula $a_n = a + (n-1) \cdot d$, we find that the 15th term is 78.

2. In the A.P. 7, 13, 19, ..., how many terms are there up to 205?

- A. 35
B. 34
C. 36
D. 32 (A)

Explanation: Using $a_n = a + (n-1) \cdot d$, we find that the number of terms is 35.

3. Is -150 a term in the A.P. 11, 8, 5, 2, ...?

- A. Yes
B. No
C. Maybe
D. Cannot be determined (B)

Explanation: The common difference is -3, and -150 is not a multiple of -3 starting from 11.

4. Find the 31st term of an A.P. where the 11th term is 38 and the 16th term is 73.

- A. 91
B. 92
C. 90
D. 93 (A)

Explanation: Using the formula for nth terms, the 31st term is calculated as 91.

5. In an A.P. with 50 terms, the 3rd term is 12 and the last term is 106. What is the 29th term?

- A. 60
B. 59
C. 61
D. 62 (B)

Explanation: Using the nth term formula, the 29th term is 59.

6. If the 3rd and 9th terms of an A.P. are 4 and -8 respectively, what term is zero?

- A. 6th
B. 5th
C. 4th
D. 7th (A)

Explanation: By using the nth term formula, the term where the A.P. equals zero is the 6th term.

7. What is the common difference of the A.P. 15, 10, 5, 0, ...?

- A. 5
B. 4
C. -5
D. -4 (C)

Explanation: The common difference is -5.

8. What is the 10th term of the A.P. 5, 9, 13, 17, ...?

- A. 41
B. 42
C. 40
D. 43 (B)

Explanation: Using the nth term formula, the 10th term is 42.

9. The A.P. 4, 9, 14, ... has what common difference?

- A. 3
B. 4
C. 5
D. 6 (A)

Explanation: The common difference is 5.

10. What is the sum of the first 15 terms of the A.P. 2, 5, 8, ...?

- A. 120
B. 130
C. 125
D. 135 (C)

Explanation: Using the sum formula

$$S_n = \frac{n}{2} \cdot (2a + (n-1) \cdot d), \text{ the sum is 125.}$$