

CHAPTER-5 | Arithmetic Progressions

QUIZ PART-08

1. Determine the A.P. whose 3rd term is 16 and the 7th term exceeds the 5th term by 12.
- A. 2, 6, 10,... B. 3, 6, 9,...
C. 4, 7, 10,... D. 5, 8, 11,... (C)

Explanation: The common difference is 3, and the first term is 4.

2. Find the 20th term from the last term of the A.P. 3, 8, 13, ..., 253.
- A. 153 B. 154
C. 155 D. 156 (B)

Explanation: Using the formula, the 20th term from the last term is 154.

3. The sum of the 4th and 8th terms of an A.P. is 24, and the sum of the 6th and 10th terms is 44. Find the first three terms of the A.P.
- A. 2, 4, 6 B. 3, 5, 7
C. 4, 6, 8 D. 5, 7, 9 (A)

Explanation: The first three terms of the A.P. are 2, 4, 6.

4. Subba Rao started work in 1995 at an annual salary of ₹5000 and received an increment of ₹200 each year. In which year did his income reach ₹7000?
- A. 2005 B. 2006
C. 2007 D. 2008 (B)

Explanation: Subba Rao's income reached ₹7000 in 2006.

5. Ramkali saved ₹5 in the first week of a year and then increased her weekly savings by ₹1.75. If in the n th week, her weekly savings become ₹20.75, find n .
- A. 10 B. 11
C. 12 D. 13 (C)

Explanation: In the 12th week, Ramkali's savings reach ₹20.75.

6. Find the n th term of the A.P. 2, 6, 10, ...
- A. $2n + 4$
B. $4n - 2$
C. $4n$
D. $2n + 2$ (B)

Explanation: The n th term formula is $4n - 2$.

7. What is the 25th term of the A.P. 5, 10, 15, ...?
- A. 120
B. 125
C. 130
D. 135 (B)

Explanation: The 25th term is $5 + (25 - 1) \times 5 = 125$.

8. What is the common difference of the A.P. 3, 6, 9, 12, ...?
- A. 1
B. 2
C. 3
D. 4 (B)

Explanation: The common difference is 3.

9. What is the sum of the first 10 terms of the A.P. 2, 4, 6, 8, ...?
- A. 45 B. 50
C. 55 D. 60 (C)

Explanation: The sum is $S_{10} =$

$$\frac{10}{2} \times (2 \times 2 + (10-1) \times 2) = 55.$$

10. How many terms are there in the A.P. 5, 11, 17, ..., 89?
- A. 15 B. 16
C. 17 D. 18 (B)

Explanation: There are 16 terms in this A.P. up to 89.