

ARITHMETIC PROGRESSION

PYQS OF 2025

1. If the sum of first m terms of an AP is $2m^2 + 3m$, then its second term is: CBSE CODE: 30/1/1
(A) 10 (B) 9 (C) 12 (D) 4
2. Three numbers in AP have the sum 30. What is its middle term?
(A) 4 (B) 10 (C) 16 (D) 8
3. The 11th and 13th term of an AP are 39 and 45, respectively. What is the common difference of the AP? CBSE CODE 30/1/3
4. (A) 42 (B) 21 (C) 6 (D) 3
5. The 10th term of the AP $5, \frac{19}{4}, \frac{9}{2}, \frac{17}{4}, \dots$ is: CBSE CODE 30/2/1
(A) $\frac{11}{4}$ (B) $\frac{4}{11}$ (C) $\frac{13}{4}$ (D) $\frac{4}{13}$
6. The 9th term from the end (towards first term) of the AP 7, 11, 15, 19, ..., 147 is: CBSE CODE 30/2/2
(A) 135 (B) 125 (C) 115 (D) 39
7. Assertion (A): Common difference of the AP: 5, 1, -3, -7, ... is 4. CBSE CODE 30/2/1

Reason (R): Common difference of the AP: $a_1, a_2, a_3, \dots, a_n$ is obtained by $d = a_n - a_{n-1}$.

3 MARKERS

1. A sum of ₹ 2,000 is invested at 7% per annum simple interest. Calculate the interests at the end of 1st, 2nd and 3rd year. Do these interests form an AP? If so, find the interest at the end of the 27th year.
2. Find the sum of all 3-digit natural numbers which are divisible by 11. CBSE CODE 30/2/3

CASE STUDY - 1

1. A school is organizing a charity run to raise funds for a local hospital. The run is planned as a series of rounds around a track, with each round being 300 metres. To make the event more challenging and engaging, the organizers decide to increase the distance of each subsequent round by 50 metres. For example, the second round will be 350 metres, the third round will be 400 metres and so on. The total number of rounds planned is 10. CBSE CODE: 30/1/1 & 30/1/2



Based on the information given above, answer the following questions:

(i) Write the fourth, fifth and sixth term of the Arithmetic Progression so formed.

(ii) Determine the distance of the 8th round.

(iii) (a) Find the total distance run after completing all 10 rounds.

OR

(iii) (b) If a runner completes only the first 6 rounds, what is the total distance run by the runner?