

Mathematics Assignment (Class-X)

Chapter-5 Arithmetic Progression

	1 MARKER QUESTIONS
1	Two APs have the same common difference. The first term of one AP is -1 and that of the other is -8 . Then the difference between their fourth terms is: (a) -1 (b) -8 (c) 7 (d) -9
2	In an AP, if $a = -5$, $l = 21$ and $S = 200$, then n is equal to: (a) 50 (b) 40 (c) 32 (d) 25
3	The tenth term of an AP, whose first term is 18 and the common difference is -2 , is _____.
4	The sum of first 29 natural numbers is _____.
5	The number of terms in the series $5 + 8 + 11 + 14 + \dots$, if the last term is 95 , is _____.
6	Which term of the AP $21, 42, 63, 84, \dots$ is 420 ?
7	For what value of k , the numbers x , $2x + k$ and $3x + 6$ are three consecutive terms of the AP?
8	Write the missing terms of the AP: $0, _, -8, -12, _$.
	2 MARKER QUESTIONS
9	Write the first four terms of AP whose n^{th} term is $7 - 3n$.
10	Using AP, find the sum of all 3-digit natural numbers which are divisible by 7 .
11	How many multiples of 6 lie between 10 and 250 ?
12	Find the 6^{th} term from the end of the AP: $17, 14, 11, \dots, -40$.
13	Find the 10^{th} term from the end of the AP $4, 9, 14, \dots, 254$.
14	Find the sum of $0.6, 1.7, 2.8, \dots$ to 100 terms.
15	Which term of the AP : $121, 117, 113, \dots$ is the first negative term?
16	If the n^{th} term of a sequence is given by $2n^2 + 3$, show that it is not an AP.
	3 MARKER QUESTIONS
17	If 6^{th} term of an AP is -10 and the 10^{th} term is -26 , find the 15^{th} term of the AP.
18	The sum of first n terms of an AP is given by $S_n = 3n^2 - 4n$. Determine the AP and its 12^{th} term.
19	Find the middle term of the AP $1, 8, 15, \dots, 505$.

20	If S_n denotes the sum of n terms of an AP, prove that $S_{30} = 3(S_{20} - S_{10})$.
21	If S_n denotes the sum of n terms of an AP, prove that $S_{12} = 3(S_8 - S_4)$.
22	In an AP the sum of first ten terms is -150 and the sum of its next ten terms is -550 . Find the AP.
	4 MARKER QUESTIONS
23	A manufacturer of TV sets produced 600 units in the third year and 700 units in the seventh year. Assuming that the production increases uniformly by a fixed number every year, find the production in (i) the first year. (ii) the 10^{th} year (iii) 7 years.
24	Ramkali would need Rs. 1800 for admission fee and books etc., for her daughter to start going to school from next year. She saved Rs. 50 in the first month of this year and increased her monthly saving by Rs. 20. After a year, how much money will she save? Will she be able to fulfil her dream of sending her daughter to school?
25	Find the middle term of the sequence formed by all three-digit numbers which leave a remainder 5 when divided by 7. Also find the sum of all numbers on both sides of the middle term separately.
	HOTS
26	The sum of the sum of first five terms and the sum of the first seven terms of an AP is 167. If the sum of first ten terms of this AP is 235, find the sum of its first twenty terms.
27	The sum of three numbers in AP is 24 and the sum of their squares is 194. Find the numbers.
28	If m times the m^{th} term of an AP is equal to n times the n^{th} term, find its $(m + n)^{\text{th}}$ term.
29	If the ratio of sum of p terms and q terms of an AP is $p^2 : q^2$, prove that the common difference is twice the first term.
30	If the sum of first m terms of an AP is $3n^2 + 5n$ and its m^{th} term is 164, find the value of m .
31	Divide 56 into 4 parts which are in A.P such that the ratio of product of extremes to the product of means is 5:6.