



A Level Maths

Topic: Arithmetic Sequences and Sums

Instructions

Answer all questions. Show all necessary steps. Use the formulas for arithmetic sequences and series.

Practice Problems

1. Find the 10th term of the arithmetic sequence: $3, 7, 11, \dots$
2. An arithmetic sequence has first term $a = 5$ and common difference $d = 4$. Find the 15th term.
3. The 4th term of an arithmetic sequence is 18, and the 9th term is 33. Find the first term and the common difference.
4. In an arithmetic sequence, the 1st term is 12 and the 20th term is 87. Find the common difference.
5. Find the sum of the first 20 terms of the sequence: $6, 10, 14, \dots$
6. An arithmetic series has $a = 2$, $d = 5$, and number of terms $n = 12$. Find the sum of the series.
7. The 8th term of an arithmetic sequence is 50 and the sum of the first 8 terms is 232. Find the first term.
8. The sum of the first n terms of an arithmetic sequence is $S_n = \frac{n}{2}(6n + 1)$. Find the first term and the common difference.

Multiple-Choice Questions

1. What is the 12th term of the arithmetic sequence $4, 9, 14, \dots$?
 - A. 59
 - B. 62
 - C. 64
 - D. 66
2. The sum of the first 10 terms of the sequence $2, 6, 10, \dots$ is:
 - A. 180
 - B. 200
 - C. 220
 - D. 240
3. An arithmetic sequence has $a = 7$, $d = 3$. What is the 25th term?
 - A. 79
 - B. 82
 - C. 85
 - D. 88
4. The 5th term of an arithmetic sequence is 23 and the common difference is 4. What is the 10th term?
 - A. 39
 - B. 41
 - C. 43
 - D. 45
5. In an arithmetic series, $a = 3$, $d = 5$, $n = 8$. What is the sum?
 - A. 148
 - B. 152
 - C. 156
 - D. 160

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