

Math 20 Pre-Calculus

Practice Quiz

Arithmetic Sequences and Series

Name

20.1-1	2	3	4
Outcome 1-1: I can analyze arithmetic sequences and series to solve problems.	I can generate an arithmetic sequence. I can identify arithmetic series. I can find a , n , d , or t_n involving single steps.	I can determine a , n , d , or t_n in multistep problems. I can solve questions with variable answers	I can solve situational questions. I can answer theory-based questions No mistakes

Level 2

1. Circle each sequence that could be arithmetic. Determine its common difference, d .

a. 6, 10, 14, 18, ...

b. 2, -4, 8, -16, ...

2. This sequence is arithmetic. Determine the common difference, d , and then list the next 3 terms.

12, 15, 18, ...

3. Determine the indicated term in the arithmetic sequence.

6, 11, 16, t_7

4. For this arithmetic sequence -3, 2, 7, 12, ... which term has the value 212?

5. Determine the sum of the first 20 terms of the arithmetic series:

$$3 + 7 + 11 + 15 + \dots$$

6. Determine S_{28} for the arithmetic series: $-4 - 11 - 18 - 25 - \dots$

7. Use the given data about each arithmetic series to determine the indicated value.

a. $S_{20} = -850$ and $t_{20} = -90$, determine t_1 .

b. $s_n = -126$, $t_1 = -1$, and $t_n = -20$, determine n .

Level 4

11. The sum of the first two terms of an arithmetic series is 15 and of the next two terms is 43. What are the first four terms of the series?
12. Consider the arithmetic series $7 + 19 + 31 + 43 + 55 + \dots$
- How many terms are less than 1000?
 - How many terms are less than 2000?
 - Comment on the results from parts a and b
 - What is the maximum number of terms for a sum of the series less than 1000?
 - What is the maximum number of terms for a sum of the series less than 2000?