

Student: Cole Lamers
Date: 07/06/19**Instructor:** Kelly Galarneau
Course: CA&T Internet (70263)
Galarneau**Assignment:** 11.2 Arithmetic Sequences;
Partial Sum

1. Complete the following statement.

If 14 is the term immediately following the sequence term 17 in an arithmetic sequence, then the common difference is _____.

If 14 is the term immediately following the sequence term 17 in an arithmetic sequence, then the common difference is -3.

2. The common difference of an arithmetic sequence is always positive. State whether this statement is true or false.

Choose the correct answer below.

- True
 False

3. Determine whether the given sequence is arithmetic. If the given sequence is arithmetic, find the first term a_1 and the common difference d .

5, 9, 13, 17, 21,

Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.

- A. The sequence is arithmetic with first term and common difference
(Simplify your answer. Type an integer or a fraction.)

- B. The sequence is not arithmetic.

4. Determine whether the given sequence is arithmetic. If the given sequence is arithmetic, find the first term a_1 and the common difference d .

4, -4, 5, -5, 9,

Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.

- A. The sequence is arithmetic with first term _____ and common difference _____
(Simplify your answer. Type an integer or a fraction.)

- B. The sequence is not arithmetic.

5. Determine whether the given sequence is arithmetic. If the given sequence is arithmetic, find the first term a_1 and the common difference d .

$$a_n = 6n + 6$$

Select the correct choice below and, if necessary, fill in the answer boxes to complete your choice.

- A. The sequence is arithmetic with first term and common difference
(Simplify your answer. Type an integer or a fraction.)

- B. The sequence is not arithmetic.

6. Find an expression for the n th term of the following arithmetic sequence.

5, 7, 9, 11, 13, ...

$$a_n = \underline{\hspace{2cm}} 2n + 3 \underline{\hspace{2cm}} \quad (\text{Simplify your answer. Type an expression using } n \text{ as the variable.})$$

7. Find the sum of the following arithmetic sequence.

$$5 + 11 + 17 + 23 + \dots + 71$$

$$\text{The sum of this series is } \underline{\hspace{2cm}} 456 \underline{\hspace{2cm}}. \quad (\text{Simplify your answer.})$$

8. Find n for $a_n = -86$ in the following arithmetic sequence.

-6, -14, -22, ...

The term -86 is the 11th term of the sequence.

9. Find n for $a_n = 36$ in the following arithmetic sequence.

4, 8, 12, ...

The term 36 is the 9th term of the sequence.

10.

The nth term a_n of a sequence is given. Find $\frac{a_2}{a_1}$, $\frac{a_3}{a_2}$, $\frac{a_4}{a_3}$, and $\frac{a_5}{a_4}$.

$$a_n = 7 \cdot 2^n$$

For the given nth term a_n , $\frac{a_2}{a_1} =$ 2, $\frac{a_3}{a_2} =$ 2, $\frac{a_4}{a_3} =$ 2, $\frac{a_5}{a_4} =$ 2.

(Simplify your answer. Type an integer or a simplified fraction.)

11. Let $a_n = -5 \cdot 8^n$. Find a_{n+1} and a_{n-5} .

$$a_{n+1} = -5 \cdot 8^{n+1} \text{ and } a_{n-5} = -5 \cdot 8^{n-5} \text{ (Do not simplify.)}$$

12. Watch the video and then solve the problem given below.

[Click here to watch the video.¹](#)

Find an expression for the nth term of the arithmetic sequence 12, 17, 22, 27, ...

$$a_n =$$
 $5n + 7$ (Simplify your answer. Type an expression using n as the variable.)

1: http://mediaplayer.pearsoncmg.com/assets/FTSr9AuOgGLGcOkm_dMbmGt_a5rBKWYn?clip=2

13. Watch the video and then solve the problem given below.

[Click here to watch the video.²](#)

Find the sum of the arithmetic sequence of numbers $8 + 11 + 14 + \dots + 59 + 62 + 65$.

The sum is 730.

2: http://mediaplayer.pearsoncmg.com/assets/FTSr9AuOgGLGcOkm_dMbmGt_a5rBKWYn?clip=4