

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

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

7. Find the sum of the following arithmetic sequence.

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

The sum of this series is  . (Simplify your answer.)

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

$-6, -14, -22, \dots$

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

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

$4, 8, 12, \dots$

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

10. The  $n$ th 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  $n$ th term  $a_n$ ,  $\frac{a_2}{a_1} = \text{$ ,  $\frac{a_3}{a_2} = \text{$ ,  $\frac{a_4}{a_3} = \text{$ ,  $\frac{a_5}{a_4} = \text{$ .

(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} = \text{ and  $a_{n-5} = \text{ (Do not simplify.)$$

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

[Click here to watch the video.](#)<sup>1</sup>

Find an expression for the  $n$ th term of the arithmetic sequence  $12, 17, 22, 27, \dots$

$a_n = \text{$  (Simplify your answer. Type an expression using  $n$  as the variable.)

1: [http://mediaplayer.pearsoncmg.com/assets/FTSr9AuOgGLGcOkm\\_dMbmGt\\_a5rBKWYn?clip=2](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.](#)<sup>2</sup>

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

The sum is .

2: [http://mediaplayer.pearsoncmg.com/assets/FTSr9AuOgGLGcOkm\\_dMbmGt\\_a5rBKWYn?clip=4](http://mediaplayer.pearsoncmg.com/assets/FTSr9AuOgGLGcOkm_dMbmGt_a5rBKWYn?clip=4)