

Arithmetic Sequences

Determine whether each sequence appears to be an arithmetic sequence. If so, name the common difference (d) and the next three terms.

1. 2, 8, 14, 20, ...

2. 2.1, 1.4, 0.7, 0, ...

3. 1, 1, 2, 3, ...

4. 0.1, 0.3, 0.9, 2.7, ...

5. -1, 10, -100, 1100, ...

6. 0, -2, -4, -6, ...

Find the common difference (d) for each arithmetic sequence.

7. 0, 6, 12, 18, ..

8. 45, 32, 19, 6, ...

9. 107, 105, 103, 101, ...

10. 7.9, 5.7, 3.5, 1.3, ...

11. $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \dots$

12. 4.25, 4.32, 4.39, 4.46, ...

Find the next four terms in each arithmetic sequence.

13. -4, -7, -10, -13, ...

14. 14, 21, 28, 35, ...

15. 505, 512, 519, 526, ...

16. 1.8, 1.3, 0.8, 0.3, ...

17. 25, 42, 59, 76, ...

18. 64, 53, 42, 31, ...

Find the missing term in the arithmetic sequence.

19. -30, -21, _____, -3, 6

20. $\frac{1}{8}, \frac{3}{8}, \frac{5}{8}, \dots, 1\frac{1}{8}$

Practice Arithmetic Sequences

Name _____

Date _____ Class _____

1. What defines a sequence as arithmetic?

2. 0, 5, 10, 15, 20, ...

- a. Is this sequence an arithmetic sequence?
- b. Describe how consecutive terms of the sequence change.
- c. Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the n th term - $a_n = a_1 + d(n - 1)$.
- d. Use your rule to make a table to illustrate the sequence.

Term						
Value						

- e. Plot the ordered pairs from your table on graph paper.
- f. Describe the shape of the graph.
- g. Does your graph represent a linear function?

3. 7, 4, 1, -2, -5, ...

- a. Is this sequence an arithmetic sequence?
- b. Describe how consecutive terms of the sequence change.
- c. Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the n th term - $a_n = a_1 + d(n - 1)$.
- d. Use your rule to make a table to illustrate the sequence.

Term						
Value						

- e. Plot the ordered pairs from your table on graph paper.
- f. Describe the shape of the graph.
- g. Does your graph represent a linear function?

4. 0, 3, 8, 15, 24, 35, 48, ...
- Is this sequence an arithmetic sequence?
 - Describe how consecutive terms of the sequence change.
 - Describe the sequence by stating a rule that can be used to continue the sequence. Use the formula for finding the n th term - $a_n = a_1 + d(n - 1)$.
 - Use your rule to make a table to illustrate the sequence.

Term							
Value							
 - Plot the ordered pairs from your table on graph paper.
 - Describe the shape of the graph.
 - Does your graph represent a linear function?

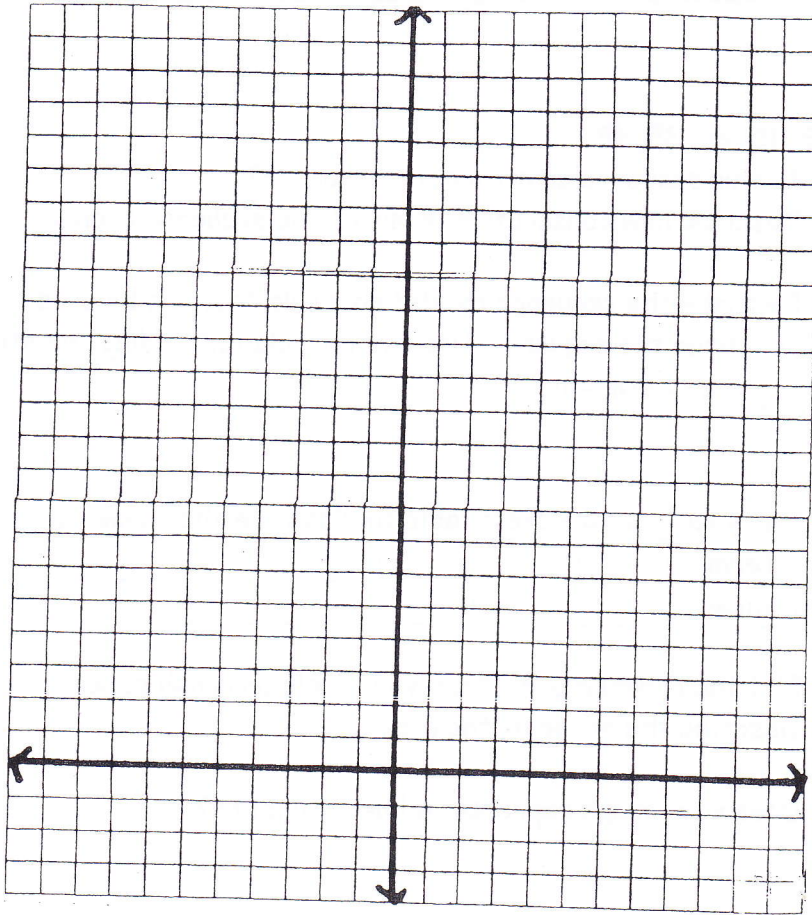
5. Which sequence is not a linear function?
- | | |
|--------------------|----------------------|
| a. 2, 4, 6, 8, ... | c. -12, -8, -4, ... |
| b. 1, 2, 3, 4, ... | d. 2, 6, 13, 19, ... |

6. Which function is related to the arithmetic sequence found in the table below?

Term	1	2	3	4	x
Value	2	6	10	14	y

- | | |
|-----------------|-----------------|
| a. $y = 2n$ | c. $y = 4n - 2$ |
| b. $y = 3n - 1$ | d. $y = 6n - 4$ |
7. Are all arithmetic sequences linear functions?

2.



3.

