

Determine whether each sequence is an arithmetic sequence. Write *yes* or *no*.

Explain your answer.

1.  $-3, 1, 5, 9, \dots$                       2.  $\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, \dots$                       3.  $-12.3, -9.7, -7.1, -4.5, \dots$

Write the recursive & explicit equation for the arithmetic sequences. Be sure to note which is recursive and which is explicit.

4.  $0.02, 1.08, 2.14, 3.2, \dots$

5.  $6, 12, 18, 24, \dots$

Recursive: \_\_\_\_\_

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_

Explicit: \_\_\_\_\_

6.  $21, 19, 17, 15, \dots$

7.  $-\frac{1}{2}, 0, \frac{1}{2}, 1, \dots$

Recursive: \_\_\_\_\_

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_

Explicit: \_\_\_\_\_

8.  $2\frac{1}{3}, 2\frac{2}{3}, 3, 3\frac{1}{3}, \dots$

9.  $\frac{7}{12}, 1\frac{1}{3}, 2\frac{1}{12}, 2\frac{5}{6}, \dots$

Recursive: \_\_\_\_\_

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_

Explicit: \_\_\_\_\_

10.  $0.5, 1.25, 2, 2.75, \dots$

11.  $8, 6, 4, 2, \dots$

Recursive: \_\_\_\_\_

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_

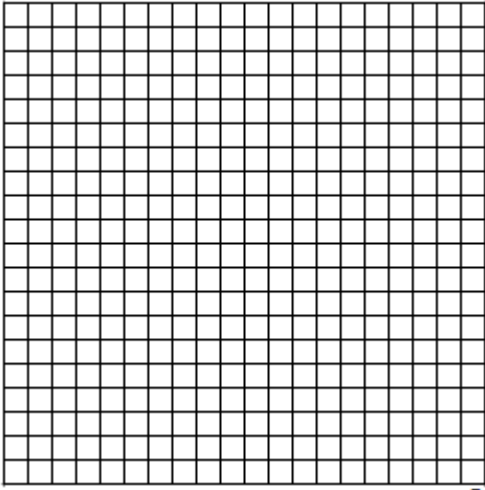
Explicit: \_\_\_\_\_

Write *both* the recursive formula and explicit formula for each sequence. Then graph the first five terms of the sequence.

12. -3, -8, -13, -18, ...

Recursive: \_\_\_\_\_

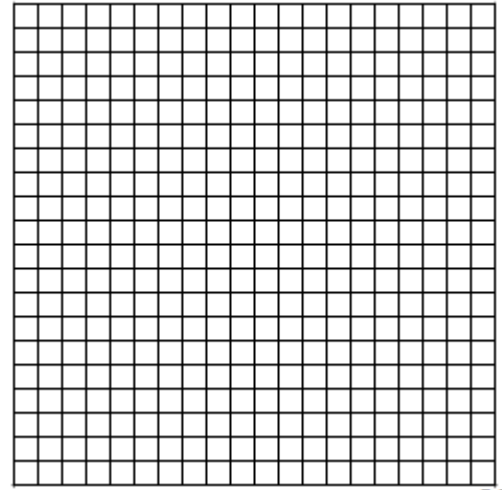
Explicit: \_\_\_\_\_



13. -2, 3, 8, 13, ...

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_



14. Find the first five terms of the arithmetic sequence defined as follows:

$$a_n = a_{n-1} - 4; a_0 = -5$$

15. Find the first five terms of the arithmetic sequence defined as follows:

$$a_n = a_{n-1} + \frac{2}{3}; a_0 = \frac{1}{3}$$

16. You have read 25 pages of a book. You plan to read an additional 10 pages each night. Write the explicit and recursive formulas to represent the number of pages you will read after  $n$  nights. Note which is recursive and which is explicit.

17. You are going on vacation. You have \$105 to bring with you. You expect to spend \$15 each day. You want to have \$30 remaining at the end of the vacation.

a. Write the explicit and recursive formulas to represent this scenario.

b. For how many days can you spend \$15 each day?