Writing Rules for Arithmetic Sequences (HMH 4.2) name _____ date _____ per __

1. Tell whether each sequence is arithmetic. If it is, identify the common difference.

a. 6, 7, 8, 9, 10,…

b. 5, 10, 20, 35, 55,…

c. 0, −1, 1, −2, 2,…

d. 1, 16, 81, 625, 1296

e. −2, −4, −6, −8, −10, …

Write a recursive and an explicit rule for each of the arithmetic sequences.

2.

Month	n	1	2	3	4	5
Account balance ($)	$f(n)$	35	32	29	26	23

3.

Tickets	n	1	2	3	4	5
Total cost ($)	$f(n)$	58	65	72	79	86

4.

Month	n	1	2	3	4	5
Total deposits ($)	$f(n)$	84	100	116	132	148

5.

Delivery number	n	1	2	3	4	5
Weight of truck (lb)	$f(n)$	4567	3456	2345	1234	123

6.

Week	n	1	2	3	4	5
Account owed ($)	$f(n)$	125	100	75	50	25

7.

Skaters	n	1	2	3	4	5
Charge for lesson ($)	$f(n)$	60	80	100	120	140

Write a recursive and an explicit rule for each of the arithmetic sequences.

8. $86, 101, 116, 131, 146, \ldots$	9. $112, 110, 108, 106, 104, \ldots$
10. $5, 9, 13, 17, 21, \ldots$	11. $67, 37, 7, -23, -53, \ldots$

Write an explicit rule in function notation for each arithmetic sequence.

12. A student loan needs to be paid off beginning the first year after graduation. Beginning at Year 1, there is \$52,000 remaining to be paid. The graduate makes regular payments of \$8,000 each year. The graph shows the sequence.