

Name: _____ Period: _____

Score:
_____ / _____
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HW 3-1 HONORS: Arithmetic and Geometric Sequences

For Problems 1-3

a) Fill in the chart b) Write a recursive equation for the sequence

1. You run a business making birdhouses. You spend \$600 to start your business, and it costs you \$5.00 to make each birdhouse.

# of birdhouses	0	1	2	3	4	5	6
Total cost to build							

b) _____

2. You borrow \$500 from a relative, and you agree to pay back the debt at a rate of \$15 each month.

# of months	0	1	2	3	4	5	6
Amount of \$ owed							

b) _____

3. You earn \$10 a week.

# of weeks	0	1	2	3	4	5	6
Amount of \$ saved							

b) _____

For problems 4-8

- a) What is the change between terms in the sequence?**
- b) Determine if the sequence is arithmetic or geometric**
- c) Complete the table**
- d) Write a recursive equation for the sequence**

4.

Term x	1	2	3	4	5	6	7	8
Value f(x)	2	4	8	16	32			

a) _____

b) _____

d) _____

5.

Term x	8	9	10	11	12	13	14	15
Value f(x)	180	120	80	$\frac{160}{3}$				

a) _____

b) _____

d) _____

6.

Term x	0	1	2	3	4	5	6	7
Value f(x)	2	4	8	16	32			

a) _____

b) _____

d) _____

7.

Term x	3	4	5	6	7	8	9	10
Value f(x)	1.2	2.5	3.8	5.1				

a) _____

b) _____

c) _____

8.

Term x	1	2	3	4	5	6	7	8
Value f(x)	-9	-2	5	12				

a) _____

b) _____

c) _____

For problems 9- 16

a) Determine if the sequence is arithmetic, geometric, or neither

b) If the sequence is arithmetic or geometric write a recursive equation.

9) 4, 9, 14, 19, ...

10) 2, 4, 16, ...

11) 10, 120, 1440, 17280, ...

12) 18, 16, 15, 13, ...

13) 365, 351.5, 338, 324.5 ...

14) 200, 40, 8, ...

15) 3, 5, 8, 12, ...

16) 550, 110, 22, 4.4, ...