

Algebra Agenda

				Stamp
nday	9/21/2015	Objective:	Arithmetic Sequences	
Mo		Assignment:	Practice #1-9	
day	9/22/2015	Objective:	Geometric Sequences	
Tues		Assignment:	Practice #1-13	
Wednesday	9/23/2015	Objective:	Review	
		Assignment:	Study!!!	
sday		Objective:	Test Unit 2	
Thurs	9/24/2015	Assignment:	None	
Friday	9/25/2015	Objective:	CBR	
		Assignment:	HW 1.5 Due!	

Final Weekly HW Grade: \_\_\_\_\_

Monday: 1 <sup>st</sup> Attempt (DO NOT ERASE)	Correct Solution:
Tuesday: 1st Attempt (DO NOT ERASE)	Correct Solution:
Wednesday: 1 <sup>st</sup> Attempt (DO NOT ERASE)	Correct Solution:
Thursday: 1 <sup>st</sup> Attempt (DO NOT ERASE)	Correct Solution:
Friday: 1 <sup>st</sup> Attempt (DO NOT ERASE)	Correct Solution:

<ul> <li>Warm Up Expectations:</li> <li>Try warm up problem(s) on your own on the "First Attempt" side.</li> <li>Politely request teacher signature when complete before timer goes off.</li> <li>Gopy the correct work/solution in the right-hand box.</li> </ul>		3       • Complete first attempt         • Complete first attempt         • Teacher signature         • Completed correct solution		
<ul> <li>Ask questions ☺</li> </ul>	2	above are present		
When absent Write the word "ABSENT" on the first attempt column for 2 points. Copy the correct solution from a shoulder partner on the		One of the three listed     above are present		
		None of the three listed     above are present		

# **Student Practice – Arithmetic Sequences as Functions**

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_

Determine if the sequences below are arithmetic. Explain why or why not. If it is, what is the common difference?

- 1. 15.5, 28, 40.5, 53, 65.5, ...
- 2. 2, 4, 6, 4, 2, ...

## Answer the following questions below about the following sequence.

3. Use a graph of the sequence to determine the next three terms in the sequence below.



3, 5, 7, 9, \_\_\_\_, \_\_\_\_, \_\_\_\_

### Find the *n*th term given an arithmetic sequence.

4. 4.5, 6, 7.5, 9, 10.5, ... 5. 5, -13, -31, ...

Find the12<sup>th</sup> term of the arithmetic sequence using the *n*th term.

6.9, 16, 23, 30, ...7.24, 19, 14, 9, 4, ...

#### Answer the questions below. Show all work.

8. If  $a_5 = 45$  and d = 3, then what is the *n*th term of the arithmetic sequence?

9. If  $a_6 = 11$  and d = -4, then what is the 12<sup>th</sup> term of the arithmetic sequence?

## Algebra I Unit 2 Geometric Sequences as Functions

Student Practice – Geometric Sequences as Name	Functions Date	Period
Determine whether the sequence is arithmetic o	r geometric. Explain why.	
1. 35, 32, 29, 26,	2. 2, $\frac{1}{2}$ , $\frac{1}{8}$ , $\frac{1}{32}$ , $\frac{1}{128}$ ,	
3. 2, 4, 8, 16, 32,	4. 9, 14, 19, 24,	
State the common ratio, <i>r</i> , for each geometric se each.	equence. Then find the nex	t three terms for
5. 7, 14, 28, 56,,,,	6729, 81, -9, 1,	111
r=	r=	
7. $a_n = 8 \cdot (-2)^{n-1}$	8. $a_n = \frac{1}{4} \cdot (4)^{n-1}$	
Find a formula for the "nth" term for a geometrie 9. 2, 10, 50, 250,	<b>c sequence:</b> 100.25, 2, -16, 128,	
<i>a</i> <sub>1</sub> =	<i>a</i> <sub>1</sub> =	
<i>r</i> =	r =	
<i>a<sub>n</sub></i> =	<i>a<sub>n</sub></i> =	
11. 16, 4, 1, $\frac{1}{4}$ , $\frac{1}{16}$ ,	12. First term is 20 and co	mmon ratio is $\frac{1}{2}$ .
<i>a</i> <sub>1</sub> = <i>r</i> =		
<i>a<sub>n</sub></i> =		

13. Find the 11<sup>th</sup> term when the first term is 3 and the common ratio is 2.

# **Unit 2: Functions Review**

#### Name \_\_\_\_\_

## Domain & Range

1. State the domain and range of the following set of ordered pairs.

 $\{(-3, 6), (0, 4), (3, 5), (-2, -6), (1, 10)\}$ 

Domain:	
Range:	

2. Find the range for the equation 3x + 2y = -4 if the domain is  $\{-2, -1, 0\}$ 

3. What is the range of the function shown on the graph?



4. What is the domain of the function shown in the graph?



5. State the domain and range of the graph shown below.





## 6. State the Domain and Range.

#### Sequences

7. If *n* represents a number's position in the sequence, write the first four numbers in the sequence described by the expression, n(n-8) + 3

8. Which equation can be used to find the nth term in the following sequence, where *n* represents a number's position in the sequence?

Position in Sequence	1	3	6	9	n
Term	5	9	15	21	

- A.  $a_n = n + 4$ B.  $a_n = 4n + 1$ C.  $a_n = 2n + 3$ D.  $a_n = 2n$
- 10. Find the common difference for this arithmetic sequence 5, 9, 13, 17 ...
- 11. Find a formula for the sequence 1, 3, 5, 7,  $\dots$

Given the first term and the common difference of an arithmetic sequence find the first five terms and the formula.

12.  $a_1 = 28$ , d = 1013.  $a_1 = -38$ , d = -100

Determine if the sequence is geometric. If it is, find the common ratio.

Given the first term and the common ratio of a geometric sequence find the first five terms and the formula.

16. 
$$a_1 = 0.8, r = -5$$
 17.  $a_1 = 1, r = 2$ 

## Functions

Determine which of the relations below are functions. State *yes* if the relation is a function and *no* if the relation is not a function.



28. Which of the following represents a function?



B. {(1, 2), (2, 3), (3, 2), (3, 4)}





29. Which of the following sets of ordered pairs does not represent y as a function of x?

- A. {(-2,5), (1,1), (2,4), (3, -6), (-3, 0)}
  B. {(-2,-2), (1,1), (2,2), (3, 3), (-3, -3)}
  C. {(-2,5), (-6,3), (-2,4), (3, -6), (0, 0)}
- D.  $\{(-2,4), (-1,1), (2,4), (3, 9), (-3, 9)\}$

#### Evaluating

30. If  $f(x) = x^2 + 3x + 12$ , find f(-3)

31. If 
$$f(x) = \frac{2}{3}x^2 + 8x$$
, what is the value of  $f(6)$ ?

32. (x, 7) is a solution of 3x + 4y = -8. What is the value of x?

33. Use the given graph to find....

- A. The value of f(6)
- B. The value(s) of x where f(x) = 4

