Alg 1 Honors – Name: _____ Teacher: Register Due: April 24th

Week 4 Online Learning

Week of April 20th covers Algebra Nation Section 7: Topics 1 – 2. Use the Algebra Nation workbook and practice book you already have for Days 1 and 2.

Day 1: Section 7 – Topic 1: Geometric Sequences
Watch the video on Algebra Nation & Complete Workbook p. 175 – 177
Complete Practice Book p. 109 – 110 #1 – 7

Day 2: Section 7 – Topic 2: Exponential Functions
Watch the video on Algebra Nation & Complete Workbook p. 178 – 182
Complete Practice Book p. 111 – 112 #1 – 7

Day 3: Geometric Sequences Practice #1 – 14
Exponential Functions Practice #1 – 5

Day 4: Geometric Sequences and Exponential Functions Practice #1 – 7

Day 5: Quiz covering Section 7 – Topics 1 & 2

*Directions: Show ALL work; box/circle answer(s) unless there is a line for the answer.

Due: Friday, April 24th by 10 pm on Focus

Ms. Register

Website: www.MsRegister.weebly.com

Office Hours: 9:00am – 10:00am
1:00pm – 2:00pm

Email: registere@leonschools.net

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Day 3 – Geometric Sequences Practice

Determine whether each sequence is a geometric sequence. If yes, identify the common ratio.

1. 4, 12, 36, 108, …
2. 5, 10, 15, 20, …
3. 120, -60, 30, -15, …
4. 1, -4, 16, -64, …
5. 50, 35, 20, …
6. 625, 125, 25, 5, …

Find the next three terms of the geometric sequence.

7. 4, 8, 16, _____, _____, _____
8. 1, -6, 36, _____, _____, _____
9. 486, 162, 54, _____, _____, _____
10. 3, 15, 75, _____, _____, _____
11. 240, -120, 60, _____, _____, _____
12. -5, -20, -80, _____, _____, _____

Write an equation (recursive & explicit) to find the nth term of each sequence. Then find a_9.

13. 5, 20 , 80, …

Recursive: _____

Explicit: _____

14. -2, 10, -50, …

Recursive: _____

Explicit: _____

Exponential Functions Practice - Write an exponential function, $f(x) = a \cdot b^x$, represented by the table or graph.

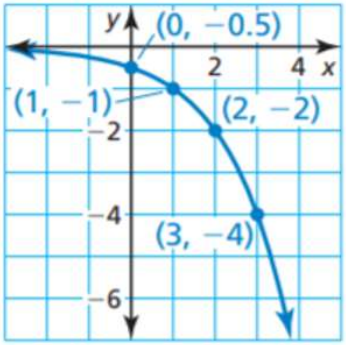
1.

x	0	1	2	3
y	2	14	98	686

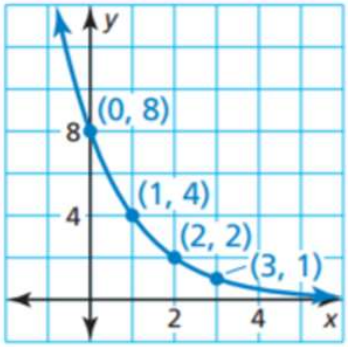
2.

x	0	1	2	3
y	-50	-10	-2	-0.4

3.



4.



5. Suppose 15 animals are taken to an island, and then their population triples every 8 months. Write a function to represent the growth of the animals on the island over time. Use x to represent the number of months.

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Day 4 – Geometric Sequences and Exponential Functions Practice

1. For the function below, which set produces the sequence -11, 0, 5?

$$k(n) = 8n - 3n^2$$

A. $k(-1), k(0), k(1)$
B. $k(1), k(2), k(3)$
C. $k(-3), k(-2), k(-1)$
D. $k(-11), k(0), k(5)$

2. If a sequence is defined recursively $by\ f(0) = 2$ and $f(n+1) = -2f(n) + 3$ for $n \geq 0$, then $f(2)$ is equal to

A. -11
B. 1
C. 5
D. 17

3. The third term in an arithmetic sequence is 10 and the fifth term is 26. If the first term is a_1, which is an equation for the nth term of this sequence?

A. $a_n = 8n + 10$
B. $a_n = 8n - 14$
C. $a_n = 16n + 10$
D. $a_n = 16n - 38$

4. A certain type of lily plant is growing in a pond in such a way that the number of plants is growing exponentially. The number of plants N in the pond at time tis modeled by the function $N(t) = ab^t$, where a and b are constants and t is measured in months. The table shows two values of the function.

t	$N(t)$
0	150
1	450

Which equation can be used to find the number of plants in the pond at time t?

A. $N(t) = 150(1)^t$
B. $N(t) = 450(1)^t$
C. $N(t) = 150(3)^t$
D. $N(t) = 450(3)^t$

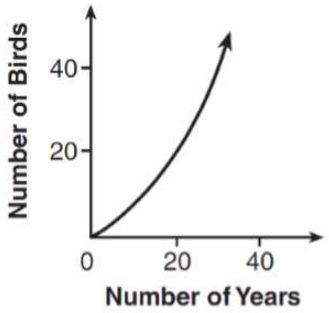
5. A sequence is created from the function $k(n) = 3n + 1$, where n represents the position of the term in the sequence. The sequence does not begin at 0. Which list represents the first five terms of the sequence?

A. $5, 6, 7, 8, 9$
B. $4, 7, 10, 13, 16$
C. $4, 7, 11, 18, 29$
D. $6,9,12,15,18$

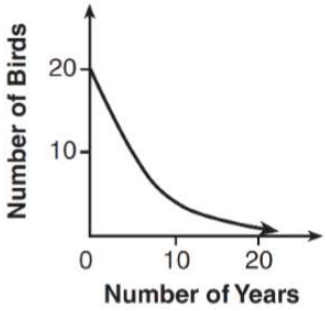
Day 4 Continued...

6. A population that initially has 20 birds approximately doubles every 10 years. Which graph represents this population growth?

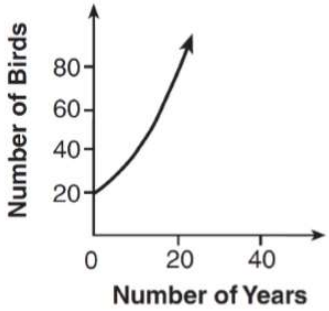
A.



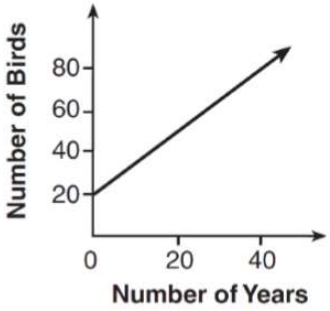
B.



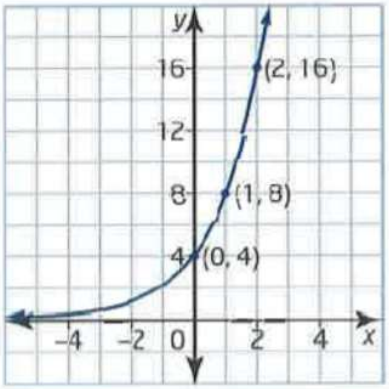
C.

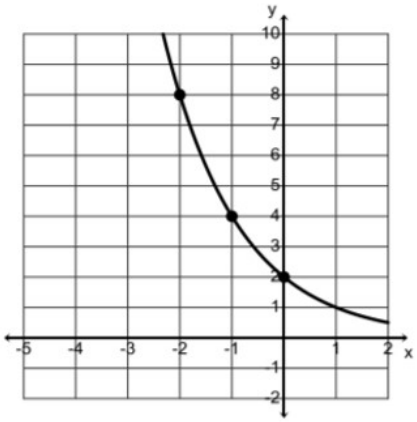


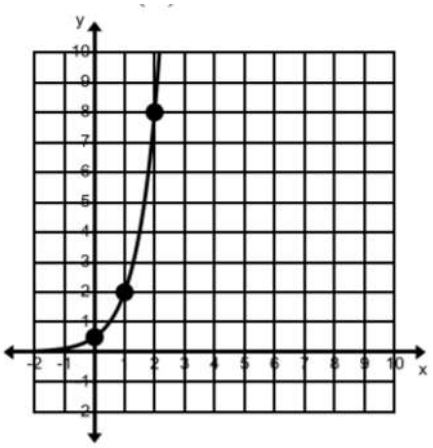
D.



7. Determine the exponential equation, $f(x) = a \bullet b^x$, for each of the following graphs.







$f(x) =$ _____ $f(x) =$ _____ $f(x) =$ _____