HW 8-1
Secondary 3

Name: Selected Answers
Date: _____ Class: _____

Use the given table to write an explicit and a recursive rule for the sequence.

2.

n	0	1	2	3	4
$f(n)$	−6	1	8	15	22

+7 +7 +7 +7

$a = -6$
$d = +7$

Explicit: $f(n) = 7n - 6$ Recursive: $f(0) = -6$, $f(n) = f(n-1) + 7$

3.

n	0	1	2	3	4
$f(n)$	8	5	2	−1	−4

Given the recursive rule for an arithmetic sequence, write the explicit rule.

4. $f(0) = 6$ and $f(n) = f(n-1) + 5$ for $n \geq 1$

$a = 6$
$d = 5$

Explicit: $f(n) = 5n + 6$

5. $f(n) = f(n-1) - 10; f(0) = 19$

Given the explicit rule for an arithmetic sequence, write the recursive rule.

6. $f(n) = -0.2n + 9.6$

$a = 9.6$
$d = -0.2$

$f(0) = 9.6$ $f(n) = f(n-1) - 0.2$

7. $f(n) = 14 + 8n$ for $n \geq 0$

Write a recursive rule and an explicit rule for an arithmetic sequence that models the situation. Then use the rule to answer the question.

12. Thomas begins an exercise routine for 20 minutes each day. Each week he plans to add 5 minutes per day to the length of his exercise routine. For how many minutes will he exercise each day of the 6th week?

Write the explicit and recursive rules for a geometric sequence given a table of values.

4.

n	0	1	2	3	4	...
$f(n)$	0.1	0.3	0.9	2.7	8.1	...

×3 ×3 ×3 ×3

$a = 0.1$
$r = 3$

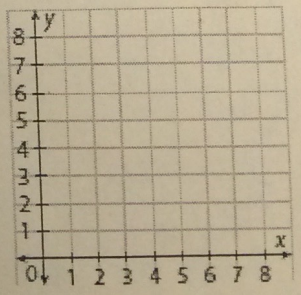
Explicit: $f(n) = 0.1(3)^n$

Recursive: $f(0) = 0.1$
$f(n) = f(n-1) \cdot 3$

Given either an explicit or recursive rule for a geometric sequence, use a table to generate values and draw the graph of the sequence.

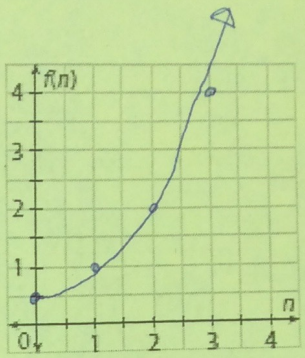
8. $f(n) = \left(\frac{1}{2}\right) \cdot 4^n, n \geq 0$

n	0	1	2	3	4	...
$f(n)$						...



9. $f(n) = 2 \cdot f(n-1), n \geq 1$ and $f(0) = 0.5$

n	0	1	2	3	4	...
$f(n)$	0.5	1	2	4	8	...



12. The Alphaville Youth Basketball committee is planning a single-elimination tournament. The committee wants the winner to play 4 games. How many teams should the committee invite?

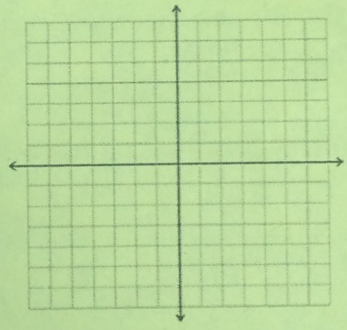
Hint:

games	teams
0	
1	
2	
3	
4	

Review

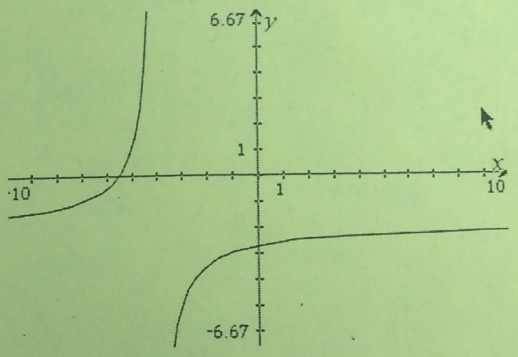
1. Sketch a graph of the following function.

$$f(x) = \frac{x-2}{x+1}$$



2. Given the following graph, write an equation and then analyze the function

g(x) =



Holes:
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Xint:
Yint:
HEB:

Domain:
Range:
Increasing:
Decreasing:
End Behavior: