

Warm - Up

Name: Key

1) Simplify.  $2(5) - 3(1 + 2) + (4)^2$   
 $2(5) - 3(3) + (4)^2$   
 $2(5) - 3(3) + 16$   
 $10 - 9 + 16$   
 $1 + 16$   
17

2) Evaluate.  $f(n) = 1 - 2n$   
 $f(2) = \underline{-3}$   
 $= 1 - 2(2)$   
 $= 1 - 4$   
 $f(-5) = \underline{11}$   
 $= 1 - 2(-5)$   
 $= 1 - (-10)$

3) Determine if each sequence is arithmetic, geometric, or neither.

- |   |                   |                  |                |
|---|-------------------|------------------|----------------|
| a) $7, 8.5, 10, 11.5, 13, \dots$<br><i>+1.5</i>             | <u>Arithmetic</u> | Geometric        | Neither        |
| b) $3, 4, 8, 17, 33, \dots$<br><i>+1, +4, +9</i>            | Arithmetic        | Geometric        | <u>Neither</u> |
| c) $7, 21, 63, 189, 567, \dots$<br><i>.3, .3, .3, .3</i>    | Arithmetic        | <u>Geometric</u> | Neither        |
| d) $9, 4, -1, -6, -11, \dots$<br><i>-5, -5, -5, -5</i>      | <u>Arithmetic</u> | Geometric        | Neither        |
| e) $200, 100, 50, 25, 12.5, \dots$<br><i>.5, .5, .5, .5</i> | Arithmetic        | <u>Geometric</u> | Neither        |

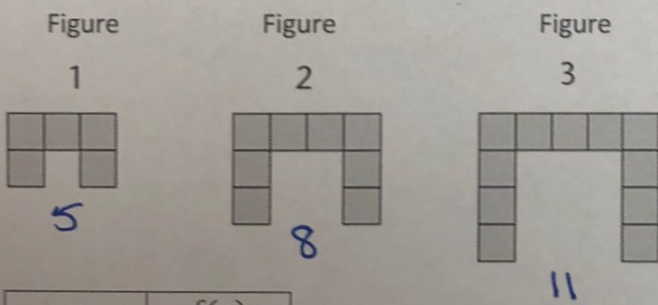
4) Use each equation to find the first three terms of each sequence.

a)  $f(n) = 4n + 1$

5    9    13  
 1st    2nd    3rd  
 $4(1)+1$      $4(2)+1$      $4(3)+1$

b)  $f(1) = 8$  ← 1st term  
 $f(n) = 2f(n-1)$  ← 2(Previous Term)  
8    16    32

5) Describe visually how the pattern grows. Then make a table and graph. Be sure to label your axes!



Start: The figure starts with one square in the middle of 2 legs, each 2 squares long.

Continue: One square is added to the middle and each leg every figure.

n	f(n)
1	5
2	8
3	11

