Section 4.2 – Recursion Models
Creating Explicit Models

Find the requested term of the sequence given the RECURSIVE or EXPLICIT definitions.

1) Determine $t_{12}$, given that $t_1 = 2$ and $t_{n+1} = t_n + 4$

2) Determine $a_8$, given that $a_1 = 1$ and $a_n = 2 \cdot a_{n-1} + 1$

3) Determine $t_{21}$, given that $t_1 = 25$ and $t_n = 3 \cdot n^2 - 50$

4) Determine $a_{14}$, given that $a_1 = 1$ and $a_n = 2^n - n$

Find the requested term number of the sequence given the RECURSIVE or EXPLICIT definitions.

5) Given that $t_1 = 5$ and $t_{n+1} = 2 \cdot t_n - 3$, determine which term of the sequence is 515.

6) Given that $a_1 = 1$ and $a_n = 6 \cdot n - 5$, determine which term of the sequence is 241.
Find the RECURSIVE & EXPLICIT definitions and then find the requested term

7) 3, 5, 7, 9, 11, .... Find $a_{42} =$

Recursive: 

Explicit: 

8) 5, 8, 11, 14, .... Find $a_{33} =$

Recursive: 

Explicit: 

9) 4, 12, 36, 108, .... Find $a_{21} =$

Recursive: 

Explicit: 
10) Jessie started creating the following pattern using red square blocks. How many red squares will she need for the 12th step of the sequence?

11) Ethan started creating the following pattern using blue square blocks. How many blue squares will she need for the 8th step of the sequence?

11) Ashley started drawing several iterations of a binary tree. In each iterative step, the number of new leaves is doubled. How many new leaves will there be on the 9th step of the sequence?