

**Directions:** For each of the following tables:

- Describe how to find the next term in the sequence.
- Find the next term in the table.
- Write a recursive rule for the function.
- Write an explicit rule for the function.

1)

x	y
0	5
1	10
2	15
3	20
4	?
...	...
n	?

$\rightarrow +5$   
 $\rightarrow +5$   
 $\rightarrow +5$   
 $\rightarrow +5$

- To find the next term, Add 5
- Next term in table: 25
- Recursive Rule:  $f(0) = 5$      $f(n) = f(n-1) + 5$
- Explicit Rule:  $f(n) = 5n + 5$

2)

x	y
0	8
1	6
2	4
3	2
4	?
...	...
n	?

- To find the next term, \_\_\_\_\_
- Next term in table: \_\_\_\_\_
- Recursive Rule: \_\_\_\_\_
- Explicit Rule: \_\_\_\_\_

3)

x	y
0	8
1	9
2	10
3	11
4	?
...	...
n	?

$\rightarrow +1$   
 $\rightarrow +1$   
 $\rightarrow +1$   
 $\rightarrow +1$

- To find the next term, Add 1
- Next term in table: 12
- Recursive Rule:  $f(0) = 8$      $f(n) = f(n-1) + 1$
- Explicit Rule:  $f(n) = 1 \cdot n + 8$

4)

x	y
0	-5
1	-1
2	3
3	7
4	?
...	...
n	?

- To find the next term, \_\_\_\_\_
- Next term in table: \_\_\_\_\_
- Recursive Rule: \_\_\_\_\_
- Explicit Rule: \_\_\_\_\_



What is the 0<sup>th</sup> term?

Find the 25<sup>th</sup> term in each of the following sequences

5) 1, 4, 7, 10, ...

6) 12, 18, 24, 30, ...

$+3 +3 +3 +3$

0<sup>th</sup> term: -2

$d = 3$

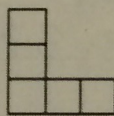
$$f(n) = 3(n) - 2$$

$$f(25) = 3(25) - 2 = \boxed{73}$$

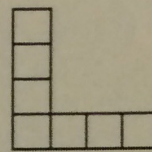
7) Given the following pattern answer the questions



$n = 1$



$n = 2$



$n = 3$

a) To find the next term, \_\_\_\_\_

b) blocks at  $n=6$ ? \_\_\_\_\_

c) Recursive Rule: \_\_\_\_\_

d) Explicit Rule: \_\_\_\_\_