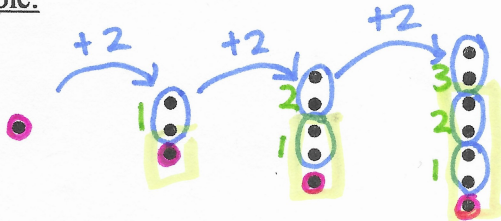


Arithmetic Sequences

- REPEATED ADDITION of a Common Difference to get from one term to the next.
- Graph is a LINE (constant rate of change)
- repeated addition \Rightarrow rewrite as a PRODUCT (multiplication)
ex: $2+2+2+2+2+2 = 2(6)$

Example:

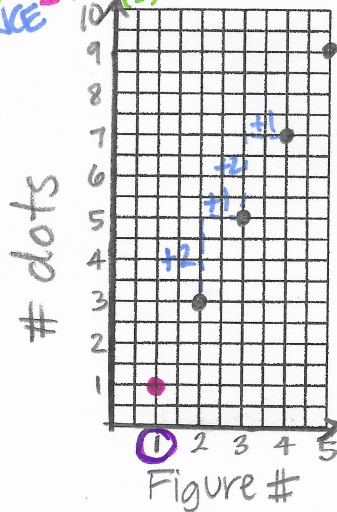


Adding 2 dots to previous figure each time \Rightarrow RECURSIVE
Bottom dot + $(n-1)$ groups of 2 dots
 \Rightarrow EXPLICIT

Figure 1: 1
Figure 2: $1+2(1)$
Figure 3: $1+2(2)$
Figure 4: $1+2(3)$

Fig #	#dots
1	1
2	3 $\leftarrow +2$
3	5 $\leftarrow +2$
4	7 $\leftarrow +2$
5	9 $\leftarrow +2$

COMMON DIFFERENCE



SLOPE is up 2 dots over right 1 fig#

$$m = \frac{+2}{+1}$$

Recursive Formula:

$d(1) = 1$; $d(n) = d(n-1) + 2$
Fig #1 has 1 dot
Fig #n has #dots in fig n
is #dots in PREVIOUS figure plus 2

Explicit Formula:

$d(n) = 1 + 2(n-1)$
dots in fig n
Start w/ 1 dot then add 2 for every day AFTER the 1st day