

Representing Sequences

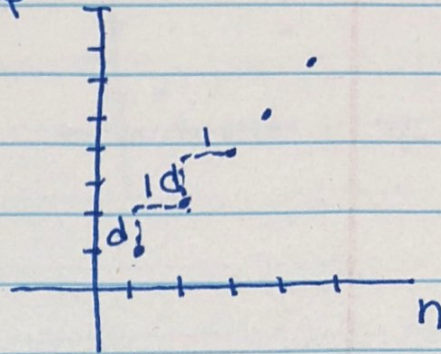
Arithmetic: $+/-$ the same #.

Table!

n	$f(n)$

Diagram illustrating the recursive relationship in an arithmetic sequence. On the left, three downward arrows labeled $+1$ indicate the constant change in the index n . On the right, three downward arrows labeled $+d$ indicate the constant change in the function value $f(n)$.

Graph: $f(n)$



* Constant Rate of Change

Recursive:

$$f(1) = \# \text{ or } f(0) = \#$$

$$f(n) = f(n-1) + d$$

Explicit:

$$f(n) = f(1) + d(n-1)$$

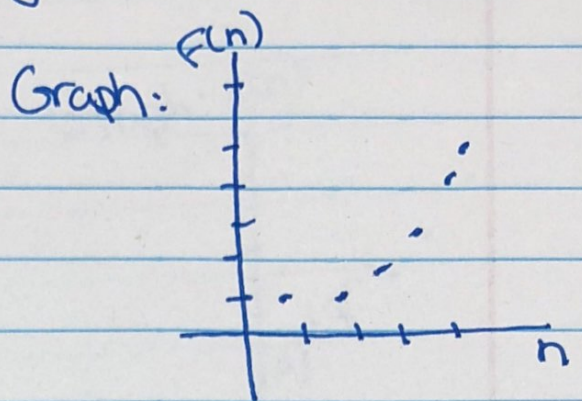
or

$$f(n) = f(0) + dn$$

Geometric: multiply by the same #

Table:

n	f(n)
	$\downarrow \cdot r$
	$\downarrow \cdot r$
	$\downarrow \cdot r$



Recursive:

$$f(1) = \# \text{ or } f(1) = \# \text{ or } f(0) = \#$$

$$f(n) = f(n-1) \cdot r$$

Explicit:

$$f(n) = f(1) \cdot r^{(n-1)}$$

or

$$f(n) = f(0) \cdot r^n$$

Hw: Pg 29 8 + 9

Pg 30 11 + 12

Pg 34 all

Pg 35 7, 8