

Limit  $L$  is equal to

$$L = \frac{b}{(1-a)}$$

$a$  = sets limit

$b$  = moves limit

$U_n$  = no effect  
on limit

Given three values in a  
sequence e.g.  $U_{10}$ ,  $U_{11}$ ,  $U_{12}$   
we can work out  
recurrence relation

$$U_{11} = aU_{10} + b$$

$$U_{12} = aU_{11} + b$$

Use  
Sim. Equations

Recurrence Relations  
next number depends on the  
previous number

$$U_{n+1} = aU_n + b$$

Limit exists  
when  $|a| < 1$

$a > 1$  then growth

$a < 1$  then decay

+  $b$  = increase

-  $b$  = decrease

