NAME	EQUATION	EQUILIBRIA	STABILITY
Arithmetic	$\Delta x = d$	none	
sequence	$x_{n+1} = x_n + d, (d \neq 0)$		
	$x_n = x_0 + d \cdot n$		
Geometric	$\Delta x = k \cdot x_n$	A = 0 if	stable if
sequence	$x = R \cdot x \cdot (R = 1 + k)$	$R \neq 1$	-1 < R < 1
	$n_{n+1} = n_n (1 - 1)$		unstable if
	solution: $x_n = x_0 \cdot K$		$R \leq -1$ or
		A	R > 1
		A = any # if	unstable
Exponential		K = 1	atabla if
Exponential arouth / decay	$\Delta N = \kappa \cdot N_t$	A = 0 If $P \neq 1$	1 < P < 1
gi owin/decuy	$N_{t+1} = R \cdot N_t, (R = 1+k)$	$\Lambda \neq 1$	-I< K <i< td=""></i<>
	solution: $N_t = N_0 \cdot R^t$		$R \le -1$ or
	i U		$R \ge 1$
		A=anv # if	unstable
		R=1	
First order,	$x_{n+1} = a \cdot x_n + b, (a \neq 1, b \neq 0)$	b b	stable if
linear	solution:	$A = \frac{1}{1-a}$	-1 < a < 1
difference	$\begin{pmatrix} h \end{pmatrix}$ h		unstable if
equation with	$x_n = \left x_0 - \frac{b}{1-a} \right \cdot a^n + \frac{b}{1-a}$		$a \leq -1$ or
constant	(1-a) $1-a$		<i>a</i> >1
coefficients			
Logistic	$\Delta N = \gamma \cdot \left(1 - \frac{N_t}{N_t}\right) \cdot N (0 < \gamma < 3)$	A = 0	unstable
growth model	$\sum_{i=1}^{m} \left(\begin{array}{c} 1 \\ K \end{array} \right) \prod_{i=1}^{m} \left(\begin{array}{c} 0 \\ i \end{array} \right$	A = K	stable if
	$\gamma (1) \gamma (1)^2$		$0 < \gamma < 2$
	$N_{t+1} = (1+\gamma) \cdot N_t - \frac{\gamma}{K} \cdot (N_t)$		oscillates if
	(R-1)		$1 < \gamma < 2$
	$N_{t+1} = R \cdot N_t - \frac{(R-1)}{V} \cdot (N_t)^2, (R = 1 + \gamma)$		unstable if
	Λ		$2 < \gamma < 3$
Gompertz	$\left(V_{\text{max}} \right)^{\gamma} = 1 \text{U} (\qquad 0)$	$A = V_{\text{max}}$	stable if
growth model	$\Delta V = \left \left \frac{\max}{V} \right - 1 \right \cdot V_t, (\gamma > 0)$		$0 < \gamma < 2$
for tumors			oscillates if
	$V_{t+1} = \left(V_{\max}\right)^{\gamma} \cdot \left(V_{t}\right)^{(1-\gamma)}$		$1 < \gamma < 2$
	$[1+1]$ (\max) (1) $[(1-\gamma)^t]$		unstable if
	solution: $V - V = \left(\frac{V_0}{V_0} \right)^{(1/7)}$		$\gamma > 2$
	Solution: $V_t = V_{\text{max}} \left(V_{\text{max}} \right)$		