1) • $x_0 = 4\sin^2\theta$, $x_{n+1} = 4x_n - x_n^2 \longrightarrow x_{n+1} = 4\sin^2(2^{n+1}\theta)$

$x_{0+1} = 4(4\sin^2\theta) - 4^2(\sin^2\theta)^2$
$= 16\sin^2\theta - 16(\sin^2\theta)^2$
$= 16(\sin^2\theta - (\sin^2\theta)^2)$
$= 16\sin^2\theta(1 - \sin^2\theta)$ ⟵ $\cos^2\theta = 1 - \operatorname{Sen}^2\theta$
$= 16\sin^2\theta\cos^2\theta$ ⟵ $\sin(2\theta) = 2\sin\theta\cos\theta$
$x_{0+1} = 4\sin^2(2\theta) = x_{n+1} = 4\sin^2(2^{n+1}\theta)$

$x_1 = 4\sin^2(2^1\theta)$, $\theta \in [0, \pi/2]$

$4\sin^2(2\theta)$ en $0 \leq \theta \leq \pi/2$, Valor máximo $= 4$
Valor mínimo $= 0$

• $x_0 = \sin^2\theta$, $x_{n+1} = 4x_n - 4x_n^2$

$x_{0+1} = 4(\sin^2\theta) - 4(\sin^2\theta)^2$
$= 4(\sin^2\theta - (\sin^2\theta)^2)$
$= 4\sin^2\theta(1 - \sin^2\theta)$
$= 4\sin^2\theta\cos^2\theta$
$= \sin^2(2\theta)$, $\theta \in [0, \pi/2]$

$x_1 = \sin^2(2^1\theta) = x_{n+1} = \sin^2(2^{n+1}\theta)$