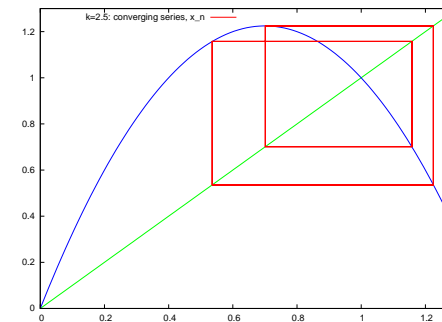
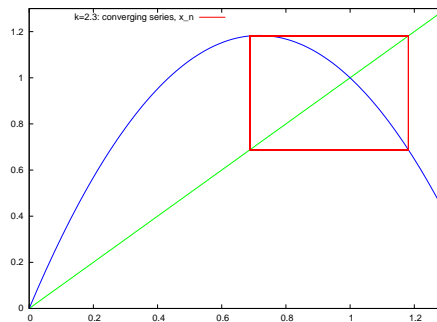
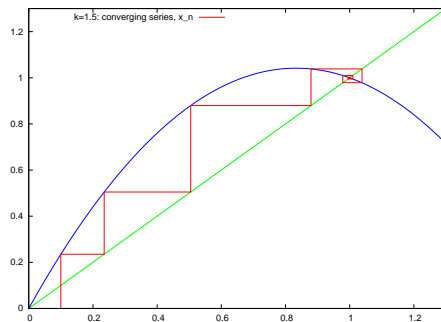


Verhulst map and chaos

- ➔ Given the sequence: $x_{n+1} = x_n + kx_n(1 - x_n)$ where $x_0 = 0.1$
- ➔ What does x_n converge to as $n \rightarrow \infty$ for different values of k ?
- ➔ Take $k = 1.5$, $k = 2.3$ or $k = 2.5$ below:



- ➔ Plot converged values of x_n for different values of k
- ➔ Does the result depend on x_0 ? What happens for $k > 2.5$? When does no. of converged solutions change from 1 to 2 to 4 to 8, and so on?