1. 2-D linear dynamical systems

Linear system

Let:

- $(M, \mathbb{N}, f)$ functional dynamical system

Then, $(M, \mathbb{N}, f)$ is linear if:

- $\exists\, A \in \mathcal{M}_{n\times n}(\mathbb{R})$:

$$\begin{array}{rccc} f & : \mathbb{R}^n & \longrightarrow & \mathbb{R}^n \\ & x & \longmapsto & Ax \end{array}$$

Multiplier

Let:

- $(M, \mathbb{N}, f)$ functional dynamical system
- $x \in M$

We namemultiplier of x to:

- $Df(p)$