Outils mathématiques

I – Notations de Landau

- $u_n = o(v_n)\ si$:

$$\exists (\mathcal{E}_n)_{n\in\mathbb{N}} \in \mathbb{K}^{\mathbb{N}}, u_n = v_n\mathcal{E}_n\ et\ \mathcal{E}_n \xrightarrow[n\to+\infty]{} 0$$
$$\forall \mathcal{E} > 0, \exists n_0 \in \mathbb{N}, \forall n \geq n_0, |u_n| \leq \mathcal{E}|v_n|$$

- $u_n = O(v_n) si$:

$$\exists (\mathcal{E}_n)_{n\in\mathbb{N}} \in \mathbb{K}^{\mathbb{N}}\ bornée, \exists n_0 \in \mathbb{N}, \forall n \geq n_0, u_n = v_n \cdot \mathcal{E}_n$$
$$\exists M \in \mathbb{R}_+, \exists n_0 \in \mathbb{N}, \forall n \geq n_0, |u_n| \leq M \cdot |v_n|$$