$$\|v_1 : v_2\| = \max\left(\|v_1\| : \|v_2\|\right) \text{ Norm on } E_1 \times E_2$$

$$E_1 \text{ voll } E_2 \Rightarrow E_1 \times E_2 \text{ voll}$$

$$E \text{ Norm}: \quad m\|v\| \leqslant {}^{\sim}\|v\| \leqslant M\|v\|: \quad \text{equ-rel } /E \text{ voll } \|()\| \Leftrightarrow E \text{ voll } {}^{\sim}\|()\|$$

$$\big|\|v\| - \|w\|\big| \leqslant \|v - w\|$$

$$\mathbb{R}^2: \quad {}^1\|x:y\| = |x| + |y| \text{ equ } {}^{\infty}\|x:y\| = \max\left(|x| : |y|\right)$$

$$E \xrightarrow[\text{lin}]{T} F \Rightarrow \text{ equ } \begin{cases} T \text{ stet} \\ T \text{ stet in } 0 \\ \|Tv\| \leqslant C\|v\| \end{cases}$$

$$\mathcal{C}^1\,(a|b) \ni \daleth \mapsto \begin{cases} \daleth' \\ \int_a^x \daleth' \end{cases} \in \mathcal{C}\,(a|b) \text{ stet in sup-norm beiderseits?}$$

$$\mathcal{C}_b\,(M:\mathbb{R}) = \frac{M \xrightarrow{\daleth} \mathbb{R}}{\text{stet/bes}} \text{ voll VR/sup-Norm}$$

$$a \in M: \quad \mathcal{C}_b\,(M:\mathbb{R}) \ni \daleth \underset{\text{stet}}{\mapsto} {}^a\daleth \in \mathbb{R}$$

$$\text{cpt intval } \mathbb{I} \xrightarrow[\text{stet/streng mon}]{\gimel} \mathbb{R} \Rightarrow \bigwedge_{\daleth}^{\mathcal{C}\,(\mathbb{I}:\mathbb{R})} \bigwedge_{\varepsilon}^{>0} \bigvee_{n}^{\mathbb{N}} \bigvee_{c_0 : \cdots c_n}^{\mathbb{R}} \bigwedge_{x}^{\mathbb{I}} \left|{}^x\daleth - \sum_k^{0|n} {}^x\gimel^k\right| \leqslant \varepsilon$$

$$\frac{\mathbb{I} \xrightarrow[\text{diff}]{\daleth} \mathbb{R}}{\daleth : \daleth' \text{ bes}} \text{ Banach-Raum/Norm } \|\daleth\| = \sup_x^{\mathbb{I}} \left|{}^x\daleth\right| + \sup_x^{\mathbb{I}} \left|{}^x\daleth'\right|$$

$$\mathcal{C}\,(\mathbb{I}:\mathbb{R}) \xrightarrow[\text{surj Ring-Hom}]{\varepsilon_a} \mathbb{R}: \quad \daleth \mapsto {}^a\daleth / \text{ Kern } \varepsilon_a = \frac{\daleth \in \mathcal{C}\,(\mathbb{I}:\mathbb{R})}{{}^a\daleth = 0} \text{ max Ideal}$$

$$R \text{ geord Korper } R^X = \{X \xrightarrow{\daleth} R\}: \quad \daleth \leqslant \beth \Leftrightarrow \bigwedge_x^X {}^x\daleth \leqslant {}^x\beth \Rightarrow R^X \text{ geord/nicht total } \sharp X > 1$$

$$X \xrightarrow[\text{bes}]{\daleth/\beth} \mathbb{R} \Rightarrow \begin{cases} \daleth\beth \text{ bes} \\ {}^{\infty}\|\daleth\beth\| \leqslant {}^{\infty}\|\daleth\|\,{}^{\infty}\|\beth\| \end{cases} : \quad X \neq \text{ pt } \underset{\text{EX}}{\Rightarrow} {}^{\infty}\|\daleth\beth\| < {}^{\infty}\|\daleth\|\,{}^{\infty}\|\beth\|$$

$$a|b \xrightarrow[\text{stet}]{\daleth} \mathbb{R}: \quad {}^{\infty}\|\daleth\| \text{ via } \max_{a|b} \daleth / \min_{a|b} \daleth$$

$$X \subset Y \Rightarrow \mathcal{C}\,(Y) \xrightarrow[\text{lin}]{\varrho} \mathcal{C}\,(X): \quad \daleth \mapsto \daleth|_X \text{ Einschr stet funct ist stet}: \quad \mathcal{C}\,(\mathbb{R}) \xrightarrow[\text{surj/nicht inj}]{\varrho} \mathcal{C}\,(a|b)$$

$$\mathbb{R} \xrightarrow[\text{bes}]{\text{ɿ}_n} \mathbb{R}\colon \quad {}^{x}\text{ɿ}_n = \begin{cases} 1 & x = n \\ 0 & x \neq n \end{cases} : \quad \bigwedge_{m:n}^{\mathbb{Z}} {}^{\infty}\overline{\ulcorner \text{ɿ}_m - \text{ɿ}_n \urcorner} : \quad \mathcal{B}\left(\mathbb{R}\right) \supset \text{ɿ}_{\mathbb{Z}} \ \text{bes/abg?}$$