$$\mathbb{R}_+ \ni a_n \geqslant 0$$

$$\text{Pos-Rule } a_n \geqslant 0 \Rightarrow \sum_n^{\mathbb{N}} a_n \geqslant 0$$

$$\sum_n^{\mathbb{N}} a_n \overset{\Rrightarrow}{\text{summ}} \Leftrightarrow \curlyvee_n^{\mathbb{N}} \bar{a}_n < \infty \text{ bes } \Leftrightarrow \sum_n^{\mathbb{N}} a_n = \curlyvee_N^{\mathbb{N}} s_N < \infty$$

$$\bar{a}_n - \bar{a}_{n-1} = a_n \geqslant 0 \Rightarrow \bar{a}_n \nearrow \text{ isoton } \Rightarrow \bar{a}_n \rightsquigarrow \Leftrightarrow \bar{a}_n \text{ bes}$$

$$\sum_n^{\mathbb{N}} a_n \text{ assoz/unabh von Klammerung}$$

$$\text{Mon-Rule } a_n \leqslant b_n \Rightarrow \sum_n^{\mathbb{N}} a_n \leqslant \sum_n^{\mathbb{N}} b_n$$

$$a_n > 0\text{:} \quad \frac{a_{n+1}}{a_n} \rightsquigarrow L \Rightarrow \begin{cases} 0 \leqslant L < 1 \Rightarrow \sum_n a_n < +\infty \\ 1 < L \leqslant +\infty \Rightarrow \sum_n a_n = +\infty \end{cases}$$

$$0 \leqslant L < 1 \Rightarrow \bigvee_m^{\mathbb{N}} \bigwedge_{n \geqslant m} \overline{\left|\frac{a_{n+1}}{a_n} - L\right|} \leqslant \frac{1-L}{2}\text{:} \quad \frac{L-1}{2} \leqslant \frac{a_{n+1}}{a_n} - L \leqslant \frac{1-L}{2} \Rightarrow \frac{a_{n+1}}{a_n} \leqslant \frac{1+L}{2} < 1$$

$$\Rightarrow \bigwedge_k^{\mathbb{N}} \frac{a_{m+k}}{a_m} = \frac{a_{m+1}}{a_m} \frac{a_{m+2}}{a_{m+1}} \cdots \frac{a_{m+k}}{a_{m+k-1}} \leqslant \left(\frac{1+L}{2}\right)^k$$

$$\frac{\sum_n^{\mathbb{N}} a_n - \sum_n^m a_n}{a_m} = \frac{1}{a_m} \sum_{n \geqslant m} a_n = \sum_k^{\mathbb{N}} \frac{a_{m+k}}{a_m} \leqslant \sum_k^{\mathbb{N}} \left(\frac{1+L}{2}\right)^k = \frac{1}{1 - \dfrac{1+L}{2}} = \frac{2}{1-L} < +\infty$$

$$1 < L \leqslant +\infty \Rightarrow \bigvee_m^{\mathbb{N}} \bigwedge_{n \geqslant m} \overline{\left|\frac{a_{n+1}}{a_n} - L\right|} \leqslant L - 1\text{:} \quad 1 - L \leqslant \frac{a_{n+1}}{a_n} - L \leqslant L - 1 \Rightarrow 1 \leqslant \frac{a_{n+1}}{a_n}$$

$$\Rightarrow \bigwedge_{n \geqslant m} a_{n+1} \geqslant a_n \Rightarrow \bigwedge_{n \geqslant m} a_n \geqslant a_m > 0 \Rightarrow a_n \not\rightsquigarrow 0$$

$$-1 < x < 1: \quad \sum_{n}^{\mathbb{N}} p\,(n)\; x^n \text{ konv}$$

$$\overline{x} < \overline{y^{c/a}}: \quad \sum_{n}^{\mathbb{N}} p\,(n)\,\frac{x^{an+b}}{y^{cn+d}} \text{ konv}$$

$$\frac{p\,(n+1)}{p\,(n)} = \frac{p_d(n+1)^d + \sum_k^d p_k(n+1)^k}{p_d n^d + \sum_k^d p_k n^k} = \frac{p_d\left(1+\frac{1}{n}\right)^d + \sum_k^d p_k\left(\frac{1}{n}\right)^{d-k}\left(1+\frac{1}{n}\right)^k}{p_d + \sum_k^d p_k\left(\frac{1}{n}\right)^{d-k}}$$

$$\rightsquigarrow \frac{p_d(1+0)^d + \sum_k^d p_k 0^{d-k}(1+0)^k}{p_d + \sum_k^d p_k 0^{d-k}} = 1$$

$$\frac{p\,(n+1)\,x^{n+1}}{p\,(n)\,x^n} = \frac{p\,(n+1)}{p\,(n)}x \rightsquigarrow x$$

$$\frac{p\,(n+1)\,\frac{x^{a\,(n+1)+b}}{y^{c\,(n+1)+d}}}{p\,(n)\,\frac{x^{an+b}}{y^{cn+d}}} = \frac{p\,(n+1)\,x^{a\,(n+1)+b}y^{cn+d}}{p\,(n)\,x^{an+b}y^{c\,(n+1)+d}} = \frac{p\,(n+1)}{p\,(n)}\frac{x^a}{y^c} \rightsquigarrow \frac{x^a}{y^c}$$