$$\sum_n {}_n\text{ʅ} \underset{\text{summ}}{\Rightarrow} \Leftrightarrow {}^n\blacktriangleleft \ .\text{ʅ} = \sum_m^n {}_m\text{ʅ} \leadsto \Leftrightarrow \bigwedge_{\varepsilon}^{>0} \bigvee_{m_0}^{\mathbb{N}} \bigwedge_{m}^{\geqslant m_0} \left| \sum_{n \geqslant m} {}_n\text{ʅ} \right| \leqslant \varepsilon$$

$$\sum_n {}_n\text{ʅ} \Rightarrow \underset{\text{Cau}}{\Leftrightarrow} \bigwedge_{\varepsilon}^{>0} \bigvee_{n_0}^{\mathbb{N}} \bigwedge_{q > p}^{\geqslant n_0} \left| {}^{q \llcorner p}\langle \ .\text{ʅ} \right| = \left| \sum_n^{q \llcorner p} {}_n\text{ʅ} \right| \leqslant \varepsilon$$

$$\sum_n^{q \llcorner p} {}_n\text{ʅ} = {}^q\langle \ .\text{ʅ} - {}^p\langle \ .\text{ʅ}$$

$$\sum_n {}_n\text{ʅ} \Rightarrow \xrightarrow[\text{test}]{\text{triv}} {}_n\text{ʅ} \leadsto 0$$

$${}_n\text{ʅ} = {}^{n+1}\langle \ .\text{ʅ} - {}^n\langle \ .\text{ʅ} \leadsto s - s = 0$$

$$\sum_n \left| {}_n\text{ʅ} \right| < \infty \Longrightarrow \sum_n {}_n\text{ʅ} \Rightarrow$$

$$\sum_n \left| {}_n\text{ʅ} \right| < \infty \Longrightarrow \bigwedge_{\varepsilon}^{>0} \bigvee_{n_0}^{\mathbb{N}} \bigwedge_{q > p}^{\geqslant n_0} \sum_n^{q \llcorner p} \left| {}_n\text{ʅ} \right| \leqslant \varepsilon \Longrightarrow \left| \sum_n^{q \llcorner p} {}_n\text{ʅ} \right| \leqslant \sum_n^{q \llcorner p} \left| {}_n\text{ʅ} \right| \leqslant \varepsilon$$

$$\overline{\lim}\, \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} < 1 \overset{\text{ratio}}{\underset{\text{test}}{\Longrightarrow}} \sum_{n}^{\mathbb{N}} \overline{{}_{n}\rfloor} < \infty$$

$$1 > \overline{\lim}\, \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \swarrow \underset{n}{\overset{\geqslant m}{\curlyvee}} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \underset{\text{Pos-Regel}}{\Longrightarrow} \bigvee_{k}^{\mathbb{N}} b = \underset{n}{\overset{\geqslant k}{\curlyvee}} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} < 1$$

$$\Longrightarrow \bigwedge_{n}^{\geqslant k} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \leqslant b \Longrightarrow \frac{\overline{{}_{n}\rfloor}}{\overline{{}_{k}\rfloor}} = \frac{\overline{{}_{n}\rfloor}}{\overline{{}_{n-1}\rfloor}} \cdots \frac{\overline{{}_{k+1}\rfloor}}{\overline{{}_{k}\rfloor}} \leqslant b^{n-k} = b^{n}/b^{k}$$

$$\Longrightarrow \bigwedge_{m}^{\geqslant k} \bigwedge_{q>p}^{\geqslant m} \frac{b^{k}}{\overline{{}_{k}\rfloor}} \sum_{n}^{q \llcorner p} \overline{{}_{n}\rfloor} \leqslant \sum_{n}^{q \llcorner p} b^{n} = \sum_{n}^{q} b^{n} - \sum_{n}^{p} b^{n} = \frac{1-b^{q}}{1-b} - \frac{1-b^{p}}{1-b}$$

$$= \frac{b^{p}-b^{q}}{1-b} \leqslant \frac{b^{p}}{1-b} \leqslant \frac{b^{m}}{1-b} \searrow 0 \Longrightarrow \sum_{n}^{\mathbb{N}} \overline{{}_{n}\rfloor} \text{ Cau}$$

$$\underline{\lim}\, \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} > 1 \overset{\text{ratio}}{\underset{\text{test}}{\Longrightarrow}} \sum_{n}^{\mathbb{N}} {}_{n}\rfloor \text{ not summ}$$

$$1 < a = \underline{\lim}\, \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \backsim \underset{n}{\overset{\geqslant m}{\curlywedge}} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \underset{\text{Pos-Regel}}{\Longrightarrow} \bigvee_{k}^{\mathbb{N}} \underset{n}{\overset{\geqslant k}{\curlywedge}} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \geqslant 1$$

$$\Longrightarrow \bigwedge_{n}^{\geqslant k} \frac{\overline{{}_{n+1}\rfloor}}{\overline{{}_{n}\rfloor}} \geqslant 1 \Longrightarrow \overline{{}_{n}\rfloor} \geqslant \overline{{}_{k}\rfloor} > 0 \Longrightarrow {}_{n}\rfloor \not\to 0 \underset{\text{triv test}}{\Longrightarrow} \sum_{n}^{\mathbb{N}} {}_{n}\rfloor \text{ not summ}$$