

① a) Lim prvodni posloupnosti musi jit k nule: $\lim_{k \rightarrow \infty} (a_k) = 0 \rightarrow$ pak ma' nekonecna racha soucit

\rightarrow pokud lim nevjde nula, pak nema konvergenci a nema soucit soucet mit muze, ale nebude konecny

$$\sum_{k=1}^{\infty} \frac{k^2+1}{\sqrt{k^3+1}} ; \lim_{k \rightarrow \infty} \left(\frac{k^2+1}{\sqrt{k^3+1}} \right) = \infty$$

$$\sum_{k=1}^{\infty} \frac{\sqrt{k^3+1}}{k^2+1} ; \lim_{k \rightarrow \infty} \left(\frac{\sqrt{k^3+1}}{k^2+1} \right) = 0$$

$$\sum_{k=1}^{\infty} \frac{(-1)^k}{k^2} ; \lim_{k \rightarrow \infty} \left(\frac{(-1)^k}{k^2} \right) = \text{nema lim}$$

maji limitu, je rovna nule

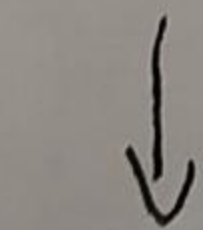
$$\sum_{k=1}^{\infty} \left(\frac{(-3)^k}{2^{2k}} \right) ; \lim_{k \rightarrow \infty} \left(\frac{(-3)^k}{2^{2k}} \right) = \text{nema lim}$$

$$\sum_{k=1}^{\infty} \frac{2^k}{k^2} ; \lim_{k \rightarrow \infty} \left(\frac{2^k}{k^2} \right) = \infty$$

b) pokud scitam kladni cely, pak je posloupnost rostouci a ma' lim.

$$\textcircled{2} \quad \frac{1}{k^5} < \frac{1}{\sqrt[3]{k^7}} < \frac{1}{k^2} < \frac{1}{\sqrt[4]{k^5}} < \frac{1}{k} < \frac{1}{\sqrt{k}}$$

konvergentni



ani jedno

divergentni

???

jedno z toho ano, ale neumime rozhodnout srovnacim kriteriem