

2) Does this series converge or diverge?

$$\sum_{n=4}^{\infty} \frac{1}{\sqrt[3]{n^2-3}}$$

Compare with $\sum \frac{1}{\sqrt[3]{n^2}} = \sum \frac{1}{n^{2/3}}$

This series will diverge since $p = 2/3$

$$\lim_{n \rightarrow \infty} \frac{\frac{1}{\sqrt[3]{n^2-3}}}{\frac{1}{\sqrt[3]{n^2}}} = \lim_{n \rightarrow \infty} \frac{\sqrt[3]{n^2}}{\sqrt[3]{n^2-3}} =$$

$$= \lim_{n \rightarrow \infty} \sqrt[3]{\frac{n^2}{n^2-3}} = \sqrt[3]{1} = 1$$

by LCT Both series will diverge