

Konvergence řad 4

Taylorovy polynomy

7. cvičení

Matematická analýza 2, NMMA102, Ondřej Bouchala

Teorie:

Vyšetřete **absolutní** konvergenci následujících řad:

$$45. \sum_{n=1}^{\infty} \sin \frac{1}{n} - \arcsin \frac{1}{n}$$

$$50. \sum_{n=1}^{\infty} \sqrt{n+2} - 2\sqrt{n+1} + \sqrt{n}$$

$$46. \sum_{n=1}^{\infty} 2 \left(\tan \frac{1}{n^{\frac{1}{5}}} - \sin \frac{1}{n^{\frac{1}{5}}} \right) - \frac{1}{n^{\frac{3}{5}}}$$

$$51. \sum_{n=1}^{\infty} \left(e - \left(1 + \frac{1}{n} \right)^n \right)^p, p \in \mathbb{R}$$

$$47. \sum_{n=1}^{\infty} \sin \left(\frac{1}{n} - \arcsin \frac{1}{n} \right)$$

$$52. \sum_{n=1}^{\infty} \left(e^{\frac{1}{n}} - 1 - \frac{1}{n} \right) \left(\arcsin \frac{1}{n} - \frac{1}{\sqrt{n}} \right)$$

$$48. \sum_{n=1}^{\infty} \log \frac{1}{n^{\beta}} - \log \left(\sin \frac{1}{n^{\beta}} \right), \beta > 0$$

$$53. \sum_{n=1}^{\infty} \sin \frac{1}{\sqrt{n}} - \log \left(1 + \frac{1}{\sqrt[3]{n}} \right)$$

$$49. \sum_{n=1}^{\infty} \left(\sin \frac{1}{n} - \frac{1}{n} \right) \frac{1}{n^{\alpha}}, \alpha \in \mathbb{R}.$$

$$54. \sum_{n=1}^{\infty} \frac{1}{\sqrt{n}} + \log \left(\sqrt{1 + \frac{1}{n}} - \frac{1}{\sqrt{n}} \right)$$

