

Problems. January 18.

1. Test the series for convergence or divergence

$$\sum_{n=1}^{\infty} \frac{2n^2 + 4n}{\sqrt{n^6 + 2n - 3}}.$$

2. Test the series for convergence or divergence

$$\sum_{n=1}^{\infty} \frac{\ln n}{n^{1/3}}.$$

3. Test the series for convergence or divergence

$$\sum_{n=1}^{\infty} \frac{\sqrt[n]{n}}{n^3}.$$

4. Test the series for convergence or divergence

$$\sum_{n=1}^{\infty} \frac{\sqrt{n}}{\pi^n (n+1)!}.$$