

QUIZ 4

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1. 5 points Write down the first 4 terms of the following series. Does the series converge, or does it diverge? Find its sum if it converges. **Explain!**

$$\sum_{n=1}^{\infty} \frac{2}{3^n}$$

2. 5 points Write down the first 4 terms of the following series. Does the series converge, or does it diverge? Find its sum if it converges. **Explain!**

$$\sum_{n=2}^{\infty} \left( \frac{1}{\ln(n)} - \frac{1}{\ln(n+1)} \right)$$

3. 5 points Does the following series converge, or does it diverge? **Explain!**

$$\sum_{n=1}^{\infty} \frac{2n}{10n+1}$$

4. 5 points For which values of  $x$  does the following series converge? Find the sum of the series when it converges.

$$\sum_{n=0}^{\infty} \left( \frac{x-3}{2} \right)^n$$