

Math 1B Section 112 Quiz #7

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Name: _____

For the first two questions, the alternating series diverge. For each series, decide which parts of the Alternating Series Test it satisfies, and which parts it fails to satisfy:

1. (2 pts) $\sum_{n=1}^{\infty} (-1)^n \frac{n+1}{2n}$

2. (2 pts) $1 - \frac{1}{4} + \frac{1}{3} - \frac{1}{16} + \frac{1}{5} - \frac{1}{64} + \frac{1}{7} - \frac{1}{256} + \frac{1}{9} - \frac{1}{1024} + \frac{1}{11} - \frac{1}{4096} + \dots$

For the next two questions, use the **Ratio Test** to determine if the series converges or diverges.

3. (3 pts) $\sum_{n=0}^{\infty} \frac{n+1}{3^n}$

4. (3 pts) $\sum_{n=0}^{\infty} n! \left(\frac{1}{3}\right)^n$