Name: _____

1. If the series $\sum_{n=1}^{\infty} (-1)^n \frac{5}{3n+2}$ is approximated by the partial sum with 10 terms, what is the alternating series error bound?

2. Approximate an interval for the sum of the convergent alternating series $\sum_{n=1}^{\infty} \frac{(-1)^n 2}{n^3}$ using the Alternating Series Error Bound the first 6 terms.

3. The series $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{n+5}$ converges to S. Based on the alternating series error bound, what is the least number of terms to guarantee a partial sum that is within 0.001 of S?

4. If the series $\displaystyle\sum_{n=1}^{\infty} (-1)^{n+1}\frac{3}{n}$ is approximated by $\displaystyle S_k = \sum_{n=1}^{k} (-1)^{n+1}\frac{3}{n}$, what is the least value of k for which the alternating series error bound guarantees that $|S - S_k| < 10^{-2}$?

(A) 200   (B) 300   (C) 400   (D) 500

5. Determine the least number of terms necessary to approximate the sum of the series $\displaystyle\sum_{n=1}^{\infty} \frac{(-1)^n 3}{2^n}$ with an error less than 10^{-4}.