

Exam 3
Calculus II

April 2026
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- 9.1 Sequences $\{a_n\}$, terms, convergence, squeeze theorem, use of continuous functions and L'Hospital's rule to compute.
- 9.2 Infinite series $\sum a_n = a_1 + a_2, \dots$, partial sums $s_n = \sum_{k=1}^n a_k$, convergence, telescoping series and partial fractions, geometric series test, the n th term test.
- 9.3 Integral test (check the 3 hypotheses to apply), p -series test.
- 9.4 Direct comparison test (DCT) and Limit comparison test (LCT).
- 9.5 Absolute convergence, $\sum |a_n|$ converges $\Rightarrow \sum a_n$ converges also, the ratio test, the root test.
- 9.6 Alternating series and the alternating series test (AST).
- 9.7 Power series, interval of convergence, radius of convergence, term-by-term differentiation and integration.
- 9.8 The n th Taylor polynomials for a function $f(x)$ centered at c is given by $\sum_{k=0}^n \frac{f^{(k)}(c)}{k!} (x - c)^k$, corresponding Taylor series, Maclaurin series is the case when $c = 0$.

Suggestions: Look over homework, quizzes, and examples from class. I've listed ranges of review problems from each section above, but there's no need to do all of them: if you read one and you know how to do it, then the problem has already served its purpose!