For this exam, you will have the following general types of problems:

(1) - Work with infinite sequences, *finding limits*, patterns, or terms. Recursive sequences are fair game!
(2a) - Find the sum of a series via geometric series (definitely) or possibly using the sequence of partial sums
(2b) - Determine the convergence or divergence of series. I may ask for a specific test; most likely, you have will have to determine what test is appropriate.

You need to show your work, justify your limits, identify the test you use, properly apply the tests, etc. Show your work! If a test you try fails, say so and try another. I am not testing definitions, statements of theorems, etc. I want you to be able to apply the concepts to successfully solve problems.

Work through as many problems as you need to understand and successfully complete the process of solving each type of problem. Please plan to visit my office if you have questions. Starred topics are most likely to appear on the exam - other topics included as time allows.

- Sequences (Section 9.1):

    (a) *Find a formula for a sequence of numbers

    (b) *Determine whether a sequence converges

    (c) Work with recursive sequences: list terms, find a pattern, or find a limit.

- Sum of Series (Section 9.3):

    (a) *Find the sum a geometric series

    (b) Use the sequence of partial sums

    Please don't confuse series with sequences!

- Convergence/Divergence of Series (Sections 9.4 & 9.5))

    9.4:
    (a) *Test for divergence
    (b) *Integral Test

    9.5:
    (c) Comparison Test
    (d) *Limit Comparison Test
    (e) *Ratio Test

    9.6:
    (f) ~~Alternating series test.~~
    (g) See summary table, $\sim$pg 560, ignore root test down.

- More in Ch 9 Review. pg 602-603: 11, 12, 15, 17, 18b, 19, 20a, 23a