

## Some Practice Problems for Exam I

- Testing for divergence page 9 #6, 8
- Alternating series test for convergence page 17, #3, 6
- Geometric Series page 2: calculate (if it converges)  $\sum_{n=0}^{\infty} \frac{5^n}{3^n}$  and  $\sum_{n=0}^{\infty} \frac{3^n}{4^n}$
- Complex Arithmetic: page 52 #1, 2, 7 and page 53 #26, 29
- Complex infinite series: page 59 #3-5
- Lines and Planes: page 112 #2, 3, 6, 21, 22, 30, 31
- Diagonalize a matrix: page 159 #15, 17
- Directional Derivative and Gradient: page 294 #1-3
- Divergence and Curl: page 298: #1,5