HOMEWORK 2 - SEQUENCES AND SERIES


- **READING:** Read the following parts from the Calculus Biographies that I have given (online supplement of our textbook):
  
  (a) History of Sequences and Series
  
  (b) Biographies of the following mathematicians (and scientists):
    
    • Oresme, Nicole (ca. 1320–1382)
    • Pascal, Blaise (1623–1662)
    • Albert of Saxony (1316–1390)
    • Taylor, Brook (1685–1731)
    • Maclaurin, Colin (1698–1746)

- **SOLVE THE BELOW EXERCISES FROM YOUR TEXTBOOK.**
  Of course, solve as many exercises as you need to be sure that you have learned the concepts and can do computations without error but I require you to be prepared to solve some of the following exercises next week:

  **Section 7.1 Sequences** (pages 419–422):
  
  Exercises 8, 10, 16, 21, 22, 26, 28, 32, 34, 36, 42, 44, 50, 52, 54, 59, 60, 62, 65, 68, 70–73, 76, 78, 80, 81, 82, 84, 86, 89, 90, 96, 100, 104, 110, 11, 117–119, 123, 124, 132.

  **Section 7.2 Infinite Series** (pages 429–430):
  
  Exercises 6, 13, 16, 25, 30, 32, 34, 37, 40, 43, 44, 46, 48, 50, 53, 56, 57, 60, 62, 63, 65, 66.

  **Section 7.3 The Integral Test** (pages 435–436):
  
  Exercises 5, 6, 9, 16, 18, 22, 24, 26, 28, 30, 32–40.

  **Section 7.4 Comparison Tests** (page 439):
  
  Exercises 2, 4, 6, 7, 9, 10, 12–14, 16–18, 20, 22, 26, 28, 30, 32, 34, 36, 37–40.

  **Section 7.5 The Ratio and Root Tests** (page 442):
  
  Exercises 2, 4, 10, 12, 16, 20, 22, 24, 25, 26, 28, 30, 34–36, 39–44.

  **Section 7.6 Alternating Series, Absolute and Conditional Convergence** (pages 447–448):
  
  Exercises 2, 4, 6, 8, 9, 12, 14, 18, 20, 22, 26, 28, 29, 32, 34–47, 51, 53, 55–58.

  **Review.** For a review of improper integrals which you shall need in the integral test, study also:

  **Section 5.7 Improper Integrals** (pages 352–353):
  
  Exercises 4, 6, 12, 14, 16, 17, 18, 20, 24, 26, 28, 32, 34, 36, 38, 41–44, 47–66, 68, 69, 71(b), 72(b), 73(b,c), 74.