Calculus Section 9.5 Alternating Series Test  
-Use the alternating series test to determine convergence

Homework: page 625 #’s 5 – 21 odd

Most of the tests that we’ve used so far have dealt with only positive terms (geometric test withstanding). A series whose terms switch between positive and negative is called an **alternating series**. An alternating series cannot have two terms of the same sign back-to-back.

**Alternating Series Test**Let an > 0. The alternating series:  
   
will converge if the following two conditions are met:  
1)  and 2) for all n

If the test fails the first condition, then the series diverges by the nth term test.  
 **Example) Using the Alternating Series Test**  
Determine the convergence or divergence of

**Example) Use the Alternating Series Test**  
1) 2)

3)