Part I: (due at the beginning of class Friday, April 5)

Read Definition 1 and try out Example 1, which is just the question right after the Example 1 label and not anything else on the page, on the green Absolute and Conditional Convergence handout.

Remember that what you turn in for Part I should have 3 parts, as mentioned in the syllabus:

(a) Your responses to the reading questions.

(b) Your own questions/comments on the reading/anything else we've been doing in class.

(c) The amount of time you spent on Part I (including the time spent reading/watching).

Part II: Exercises (prepare for class Friday, April 5)

Finish up the yellow/white Comparison Tests handout.

Part III: Homework Problems (due Wednesday, April 10 at the beginning of class)

1. Suppose that $\displaystyle\sum_{k=10}^{\infty} a_k$ converges to π. What other information do you need to determine the sum of $\displaystyle\sum_{k=1}^{\infty} a_k$?

2. Suppose $a_k \geq 0$ for all $k \in \mathbb{N}$. Which of the following statements about the sequence of partial sums (s_n) for $\displaystyle\sum_{k=1}^{\infty} a_k$ is true? For any that are true, explain why; for any that are false, give an explained counterexample (remember that to be true, a statement must be true for every case; to be false, we only need to have one instance in which the statement is false for the whole statement to be false). As always, you are welcome to work with other people, but you should not have the exact same examples as other people.

   (a) (s_n) is decreasing.
   (b) (s_n) is increasing.
   (c) (s_n) is monotone.
   (d) (s_n) is bounded below.
   (e) (s_n) is bounded above.

3. You may recall from a previous reading (which looked specifically at the number e) that we can rewrite the decimal representation of a number $0.d_1d_2d_3d_4d_5\ldots$ as follows

$$0.d_1d_2d_3d_4d_5\ldots = \frac{d_1}{10} + \frac{d_2}{10^2} + \frac{d_3}{10^3} + \frac{d_4}{10^4} + \frac{d_5}{10^5} + \cdots$$

   Show that such a series always converges.

mini-Celebration of Learning Friday, April 5

The mini-Celebration of Learning may have problems on series and their sequences of partial sums, the Integral Test, and Comparison Tests for series.