

WORKSHEET FOR 3/16/2009

Reading assignment. Sections 8.2-11.3

Homework due Friday. Lots of questions about calculus that don't start with "Will this be on the exam?"

Exercises:

- (1) Show that $\sum_{k=0}^{\infty} 3^{-k}$ converges in 4 ways.
- (2) Does $\sum_{k=1}^{\infty} \frac{1}{2k-1}$ converge? Show your answer in two ways.
- (3) Does $\sum_{k=1}^{\infty} \frac{2}{x^2+1}$ converge? Show your answer in two ways.
- (4) Does $\sum_{k=1}^{\infty} \frac{k^2}{e^{k^3}}$ converge? Show your answer in three ways. (Hint for the comparison test $e^x > x$ for all x .)