

## ***Assignment for Mathematics 1b*** Problem Set # 2

(This problem set is due on Friday for MWF classes and Tuesday for TTh classes.)

Read the rest of §8.2.

Do: §8.2 # 18, 20, 34, 48, 51

*Think, and think again:* Write out the first few terms of the series  $\sum_{k=1}^{\infty} \left(\frac{1}{2^k+k}\right)$ . (This series is not a geometric series.) Now write out the first few terms of the geometric series  $\sum_{k=1}^{\infty} \left(\frac{1}{2^k}\right)$ . By comparing the terms of the two series, determine whether or not the former series converges. Explain your reasoning in words carefully and clearly. Your answer will form the launching pad for the next class.

Extra credit # 52.