

## SOME ISSUES ON THE FIRST MIDTERM

- $\lim |a_{n+1} - a_n| = 0$  does NOT imply the sequence is Cauchy.
- Bounded sequences may not be convergent.
- In the proof of 1(c), you don't have to choose different  $N_1$  and  $N_2$ .
- In Problem 2, after taking  $n \rightarrow \infty$ , you should get  $a = a^2$  (where  $a$  is the limit) instead of  $a = \frac{n}{n+3}a^2$ .
- A few of you like to “prove” by writing explanations in words. This is what you should avoid in this class. You should try to write mathematical proofs in a rigorous manner.