Math 351: Questions for class discussion, 12 September 2018



1. *Review:*
2. Prove that
3. Determine whether exists. If so, find its limit and verify using the definition of limit.
4. exists. If so, find its limit and verify using the definition of limit.
5. exists. If so, find its limit and verify using the definition of limit.
6. Prove that if a sequence converges to *L*, then *L* is unique.
7. Prove that every convergent sequence is bounded.
8. Prove that if {an} is a non-negative sequence converging to 0, the sequence must converge to 0 as well.
9. Define an = ∞.
10. Prove that the sequence an = 1+ n2 .
11. Which of the following sequences tend to ∞? For those that do, prove it.
12. (-1)2
13.
14. (-1)n n2
15.
16. 1+ n2
17. sin n + ln n
18. State the K- Principle. Prove that the sequence converges.
19. Using the K- Principle prove that the sequence converges.
20. Prove that ln(ln n) .
21. Prove that .
22. Prove the theorem:

1. Prove that every convergent sequence is bounded.

(c)

1. Let. Find
2. Let. Find
3. Let . Find
4. Prove that if