

Math 341 Exam 3 Preparation Sheet

Exam 3 is on Sections 4.4-4.6, 5.2-5.4, 6.2-6.3.

Definitions to Know:

1. Uniform Continuity (p.132)
2. Intermediate Value Property (p.139)
3. Monotone Function (p.141)
4. Derivative (p.148)
5. Pointwise convergence of a sequence of functions (p.174)
6. Uniform convergence of a sequence of functions (p.177)

Theorems to Know (be ready to give the statement and a proof of all of the following; ONE of them is on the exam):

1. Interior Extremum Theorem (p.151)
2. Generalized Mean Value Theorem (p.158)
3. Continuous Limit Theorem (p.178)

You should be able to do all of following:

1. Determine if a function is uniformly continuous and know the consequences.
2. Know and apply the Intermediate Value Theorem (p.136).
3. Determine if a function is increasing or decreasing.
4. Prove that a derivative exists for a function using the definition.
5. Know and apply the Mean Value Theorem.
6. Prove pointwise convergence for a sequence of functions.
7. Prove that a sequence of functions is uniformly convergent and know the consequences.
8. Know when the derivative of the limit functions exists.