

**Quiz/Test 1 Study Guide**  
**BUSA130**  
25 Sept 2014

Chapters 2 and 3 are covered on Quiz 1 and Test 1! You should know all theorems, definitions, rules, and properties from these chapters and be able to solve problems similar to those assigned in the homework.

Pay particular attention to the definitions of

1. the elasticity of demand
2. unitary, elastic, and inelastic demand
3. a function
4. the derivative
5. continuity
6. the limit.

You will want to be able to

1. write the equation of a tangent line at a given point
2. calculate limits at infinity
3. calculate limits using cancellation and multiplication by a conjugate
4. use the vertical line test to identify functions
5. determine where a function is continuous and/or differentiable given its equation and/or its graph
6. do related rates problems
7. use the differential to approximate  $\Delta y$
8. use **all** differentiation rules
9. perform implicit differentiation

10. compute the elasticity of demand
11. compute one-sided limits
12. use **all** limit rules
13. do related rates problems
14. create simple mathematical models
15. apply the intermediate value theorem