

TEST ONE HOMEWORK PRACTICE PROBLEMS AND DEFINITIONS

NOTES: 1) All problems are taken from the Exercise Sets instead of the Quick Checks unless stated otherwise.

2) Graphing or otherwise programmable calculators are prohibited on the exam. Non-programmable calculators are optional.

SECTION 2.1-LIMITS (AN INTUITIVE APPROACH)

Pages 110-111 #2 from the Quick Check, #1-12 all

---

Section 2.2-Computing Limits

Pages 121-122 #1-31 odds, 32, 37, 38

---

Section 2.3-Limits at Infinity; End Behavior of a Function

Pages 131-132 #1-35 odds, 43-47 all, 49, 51, 53, 54, 55, 57

---

Section 2.4-Limits (Discussed More Rigorously). We will study this section at the end of the course. Hence, problems from the section will occur on the Final Exam rather than Test One.

---

Section 2.5-Continuity

Pages 152-154 #1-6 all, 11-30 all, 41, 43, 44. Also, you will be asked to state the Definition of Continuity at a point  $x=c$  as given on page 144 of your text.

---

Section 2.6-Continuity of Trigonometric Functions and Inverse Functions

Pages 160-161 #1-39 odds, 45-53 odds, 59

---

Section 3.2-The Derivative Function

Pages 187-189 #1-22 all, 27, 29, 41, 43, 44. Also, you will be asked to state the Definition of the Derivative Function as given on page 178 of your text.

---

Section 3.3-Techniques of Differentiation

Pages 196-197 #1-25 odds, 29-51 odds

---

Section 3.4-The Product and Quotient Rules

Page 203 #1-15 odds, 19-25 odds

---

Section 3.5-Derivatives of Trigonometric Functions

Pages 207-208 #1-29 odds, 39. Also, be able to prove the differentiation formulas for sine, cosine, tangent, secant, cosecant, and cotangent. You can use the derivatives of sine and cosine along with identities and differentiation techniques for the last four. The differentiation formulas of sine and cosine must be proved using the Definition of Derivative.

---

Section 3.6-The Chain Rule

Pages 214-215 #1-39 odds, #43-57 odds

---

Section 3.8-Linear Approximation, Differentials

Pages 230-231 #5, 7, 19-27 all, 33-43 odds, 45a,47a,51

---