MATH 150 (Calculus I)
Suggested Problems

Textbook: CALCULUS – Single Variable Calculus Early Transcendentals, *9th edition*, by *James Stewart*

Section	Exercise	Suggested problems
Appendix (REVIEW)		
A. Numbers, Inequalities and Absolute Values	Ex. A	13-55 (odd), 61
B. Coordinate Geometry and Lines	Ex. B	4-16 (even), 22-42 (even), 53, 57, 58
D. Trigonometry	Ex. D	1-11 (odd), 29-34 (odd), 65-72 (odd)
CHAPTER 1 (FUNCTIONS AND MODELS)		
1.1 Four Ways to Represent a Function	Ex. 1.1	4, 24, 25, 27, 29, 35, 43, 51, 58, 60, 74
1.2 Mathematical models: A Catalog of Essential Functions	Ex. 1.2	6, 14, 20, 21-22, 25
1.3 New Functions from Old Functions	Ex. 1.3	4,7,17,18, 35, 38, 39, 48, 63
1.4 Exponential Functions	Ex. 1.4	2, 3, 13, 16, 17, 19, 30, 31
1.5 Inverse Functions and Logarithms	Ex. 1.5	18, 26, 45, 53, 58, 66
CHAPTER 2 (LIMITS AND DERIVATIVES)		
2.1 The Tangent and Velocity Problems	Ex. 2.1	odds 1-9
2.2 The Limit of a Function	Ex. 2.2	7, 18,19,25,27,34,41,54
2.3 Calculating Limits Using the Limit Laws	Ex. 2.3	2,11,15,18,21,30,36, 38,52
2.5 Continuity	Ex. 2.5	4,12,20,21,30,38,43,44,56
2.6 Limits at Infinity: Horizontal Asymptotes [No precise definitions]	Ex. 2.6	3,6,21,25,27,34,48,50,65
2.7 Derivatives and Rates of Changes	Ex. 2.7	10,12,14,16,20,27,31,35,38
2.8 The Derivative as a Function	Ex. 2.8	1,26,44,51,56,58
CHAPTER 3 (DIFFERENTIATION RULES)		
3.1 Derivatives of Polynomials and Exponential Functions	Ex. 3.1	11,15,31,32,34,46,49,51, 60, 62
3.2 The product and Quotient Rules	Ex. 3.2	3,8,11,23,24,28,38,45,52, 54, 56
3.3 Derivatives of Trigonometric Functions	Ex. 3.3	5,6,16,22,31,34,36,38, 44, 47
3.4 The Chain Rule	Ex. 3.4	10, 27-43 odd, 47, 53, 60,62,80,86
3.5 Implicit Differentiation	Ex. 3.5	8,12,17,18,25,28,39,44,53,57 ,75
3.6 Derivatives of Logarithmic Functions	Ex. 3.6	13,17,21,42,48,49,52
3.7 Rates of Change of the Natural and Social Sciences	Ex. 3.7	1,6,9,14,16,18
3.8 Exponential Growth and Decay	Ex. 3.8	3,4,8,12

3.9 Related Rates	Ex. 3.9	3,5,7,13,15,16,22,30,33
3.10 Linear Approximations and Differentials	Ex. 3.10	8,17,20,25,27,33,34,35
CHAPTER 4 (APPLICATIONS OF DIFFERENTIATION)		
4.1 Maximum and Minimum Values	Ex. 4.1	6,7,31,35,42,43,50,56,57,60, 69,72
4.2 The Mean Value Theorem	Ex. 4.2	6,9,16,17,25
4.3 How Derivatives Affect the Shape of a Graph	Ex. 4.3	10,12,16,20,23,28,31,32,35,8 0
4.4 Indeterminate Forms and L'Hospital Rule	Ex. 4.4	13,22,27,43,44,51,57,58,79,9 0
4.5 Summary of Curve Sketching	Ex. 4.5	4,10,21,34,44,49,58
4.7 Optimization Problems	Ex. 4.7	4,5,8,14,22,35, 37,56
4.9 Antiderivatives	Ex. 4.9	1-21 odd, 36, 40, 45, 69, 77
CHAPTER 5 (INTEGRALS)		
5.1 Areas and Distances	Ex. 5.1	2,6,15,21,24,26
5.2 The Definite Integral	Ex. 5.2	3,17,21,22,29, 33, 36, 38,39, 48, 49
5.3 Fundamental Theorem of Calculus	Ex. 5.3	2, 7,12, 13, 20, 25, 30, 34, 40,45,47