# MATH 1500 - Calculus I Homework Practice Problems 

| Section |  | Page | Assigned Problems |
| :---: | :---: | :---: | :---: |
| App A | Numbers, Inequalities, and Absolute Values | A9 | \# 1-37 odd |
| App B | Coordinate Geometry and Lines | A15 | \# 1-9 odd, 21-41 odd |
| App D | Trigonometry | A32 | \# 1-11 odd, 23-29 odd, 77, 79 |
| 1.1 | Four Ways to Represent a Function | 19 | \# 3, 7, 9, 11, 27, 29, 31, 35, 37, 41, 43 |
| 1.2 | Mathematical Models: A Catalog of Essential Fctns | 33 | \# 3, 5, 13, 15 |
| 1.3 | New Functions from Old Functions | 42 | \# 1, 3, 5, 9, 11, 13, 17, 19, 21, 31, 33, 35, |
| 1.4 | The Tangent and Velocity Problems | 49 | \# 1, 3, 5, 7 |
| 1.5 | The Limit of a Function | 59 | \# 1, 3, 5, 7, 9, 11, 29-39 odd |
| 1.6 | Calculating Limits Using the Limit Laws | 70 | \# 1, 11-31 odd, 35, 39, 43, 49, 51 |
| 3.4 | Limits at Infinity; Horizontal Asymptotes | 241 | \# 3, 9-31 odd, 35, 37, 39, 49, 51 |
| 1.8 | Continuity | 91 | \# 3, 5, 7, 9, 11, 13, 17, 19, 23, 53, 55, 69, 73 |
| 2.1 | Derivatives and Rates of Change | 113 | \# 1, 3, 5, 7, 9ab, 13, 17, 21, 31, 33, 35, 37, 41, 53, 55, 57 |
| 2.2 | The Derivative as a Function | 125 | \# 1, 3, 5, 5, 7, 13, 19-29 odd, 39, 41, 47, 49, 51 |
| 2.3 | Differentiation Formulas | 140 | \# 1-43 odd, 51, 59, 61, 63, 65, 69, 71, 77, 79 |
| 2.4 | Derivatives of Trigonometric Functions | 150 | \# 1-23 odd, 29, 31, 35, 51, 53 |
| 2.5 | The Chain Rule | 158 | \# 1-53 odd, 63, 65, 67, 73, |
| 2.6 | Implicit Differentiation | 166 | \# 1-21 odd, 27, 29, 31, 35, 37 |
| 2.8 | Related Rates | 185 | \# 1, 3, 5, 7, 13, 15, 17, 21, 23, 27, 29, 33, 45 |
| 2.9 | Linear Approximations | 192 | \# 1, 3, 5, 23, 25 |
| 3.1 | Maximum and Minimum Values | 211 | \# 3, 5, 29-39 odd, 45-53 odd |
| 3.2 | The Mean Value Theorem | 219 | \# 5, 7, 9, 11, 13, 15, 17, 21, 25, 31, 35 |
| 3.3 | How Derivatives Affect the Shape of the Graph | 227 | \# 1, 5, 7, 9, 11, 15, 17, 31, 33, 35, 37, 39, 41 |
| 3.5 | Summary of Curve Sketching | 250 | \# 1, 3, 9, 17, 21, 25, 27, 29 |
| 3.7 | Optimization Problems | 264 | \# 3, 5, 7, 11, 13, 15, 17, 19, 35, 51, 53 |
| 3.9 | Antiderivatives | 282 | \# 1-19 odd, 23-41 odd, 45, 47, 53, 55, 57, 59, 63 |
| 4.1 | Areas and Distances | 303 | \# 1, 3, 5, 13, 15, 21, 23, 25 |
| 4.2 | The Definite Integral | 316 | \# 5, 7, 17, 19, 29, 33, 35, 37, 39, 43, 47, 49, |
| 4.3 | The Fundamental Theorem of Calculus | 318 | \# 3, 7-37 odd, 53, 55, 67 |
| 4.4 | Indefinite Integrals and the Net Change Thm | 336 | \# 1-15 odd, 19-41 odd, 47-53 odd |
| 4.5 | The Substitution Rule | 346 | \# 1-29 odd, 35-51 odd |
| 5.1 | Areas Between Curves | 362 | \# 1-27 odd |
| 5.2 | Volumes | 374 | \# 1-17 odd, 47, 49, 57, 59 |
| 5.4 | Work | 381 | \# 1, 3, 7, 9, 13, 15, 21, 23 |

