UMass Boston
Department of Mathematics
Math 140 – Summer 2013

Recommended Problems

(From Calculus, Early Transcendentals, 7th Edition, by James Stewart)

2.1 The Tangent and Velocity Problems: #1, 3, 5, 9.
2.2 The Limit of a Function: #1, 3, 5, 7, 10, 11, 17, 23, 25, 31, 33, 41.
2.3 Calculating Limits Using the Limit Laws: #1, 9, 15, 21, 23, 31, 39, 43, 57.
2.5 Continuity: #3, 9, 21, 27, 39, 41, 45, 51, 53, 65.
2.6 Limits at Infinity; Horizontal Asymptotes: #3, 7, 9, 13, 19, 25, 33, 35, 37, 43, 61, 63.
2.7 Derivatives and Rates of Change: #5, 11, 17, 19, 21, 25, 29, 37, 43, 45, 47.
2.8 The Derivative as a Function: #1, 3, 11, 21, 27, 29, 37, 43.

3.1 Derivatives of Polynomials and Exponential Functions: #1, 3, 7, 11, 17, 23, 33, 35, 43, 47, 51, 63, 75.
3.2 The Product and Quotient Rules: #3, 7, 11, 13, 23, 27, 31, 43, 45, 49, 51, 55, 57.
3.3 Derivatives of Trigonometric Functions: #1, 5, 9, 15, 23, 29, 33, 35, 37, 39, 45, 49, 51.
3.4 The Chain Rule: #1, 5, 7, 27, 49, 51, 59, 61, 63, 65, 69, 75, 77, 79, 85, 87.
3.5 Implicit Differentiation: #3, 7, 15, 21, 23, 27, 37, 39, 45, 51, 67, 75.
3.6 Derivatives of Logarithmic Functions: #3, 9, 13, 19, 25, 33, 39, 45, 51.
3.7 Rates of Change in the Natural and Social Sciences: #1, 5, 7, 11, 15, 23, 25, 31, 33, 35, 37.
3.8 Exponential Growth and Decay: #3, 5, 9, 13, 17, 19.
3.9 Related Rates: #3, 5, 11, 15, 17, 21, 27, 31, 39, 41.
3.10 Linear Approximations and Differentials: #3, 9, 13, 17, 19, 25, 33, 37, 43.

4.1 Maximum and Minimum Values: #5, 9, 11, 13, 27, 31, 39, 43, 49, 57, 61, 63, 69.
4.2 The Mean Value Theorem: #1, 5, 7, 11, 15, 17, 19, 23, 25, 35.
4.3 How Derivatives Affect the Shape of a Graph: #1, 5, 11, 13, 15, 21, 25, 31, 39, 51, 61, 65, 71, 77.
4.5 Summary of Curve Sketching: #5, 9, 35, 43, 45, 57, 59, 61, 69.
4.7 Optimization Problems: #1, 5, 9, 11, 15, 19, 29, 33, 37, 47, 49, 57, 59, 67.
4.8 Newton's Method: #1, 3, 5, 7, 11, 15, 31, 41.
4.9 Antiderivatives: #7, 15, 17, 23, 25, 41, 51, 53, 59, 63, 67, 74, 75, 77.

5.1 Areas and Distances: #1, 5, 13, 17, 19.
5.2 The Definite Integral: #1, 5, 7, 23, 29, 33, 37, 49, 57.
5.3 The Fundamental Theorem of Calculus: #3, 5, 9, 13, 21, 29, 31, 41, 43, 57, 61, 77.
5.4 Indefinite Integrals and the Net Change Theorem: #3, 11, 17, 25, 31, 35, 51, 57, 59, 61, 65.
5.5 The Substitution Rule: #1, 3, 7, 13, 17, 21, 25, 53, 59, 69, 71, 81.

6.1 Areas Between Curves: #1, 5, 11, 19, 23, 43, 45, 47, 51,
6.2 Volumes: #7, 11, 17, 31, 41, 43, 47, 49, 55, 61.
6.3 Volumes by Cylindrical Shells: #5, 13, 17, 29, 39, 41, 47.
6.4 Work: #5, 7, 13, 17, 19.
6.5 Average Value of a Function: #3, 9, 13, 15, 17.