

## Review and Extra Homework Problems for Final Exam

Question 1, Calculate limits using the limit laws (Section 2.3, HW p92, #2, 30, 36, 56 ).

Question 2, Continuity (Section 2.5, HW p113, 37, 38, 39).

Question 3, Tangents, velocities and other rates of changes (Section 2.6, p121, HW, #7, 8, Ch2, Review Problems, p125, #15, 16).

Question 4, Differentiation formulas (Section 3.3, HW p157 #55, 57).

Question 5, Derivatives of trigonometric functions, (Section 3.5, formula in box of p173, HW, p175, #6, 23).

Question 6, The chain rule (Section 3.6, HW p183, #5, 45, 54).

Question 7, Implicit differentials (Section 3.7, HW p190, #25, 26).

Question 8, Higher derivatives (Section 3.8, HW p197, #7, 17).

Question 9, Related rates (Section 3.9, HW p203, #1, 3).

Question 10, Linear approximations (Section 3.10, HW p211, #6, 7. Ch3, Review Problems, p216, #41, 42, 53).

Question 11, Maximum and minimum values (Section 4.1, HW p231, #37, 56 ).

Question 12, The mean value theorem (Section 4.2, HW p239, #12, 14).

Question 13, Inflection points (Section 4.4, HW, p248 #31, 36).

Question 14, Slant asymptotes (Section 4.5, HW p270 #44, 47).

Question 15, Optimization problems (Section 4.7, HW, p283, #15, 18).

Question 16, The substitution rule (Section 5.5, HW p361, #12, 19, 27, 40, 45).

Question 17, Areas between two curves (Section 6.1, HW p377, #7, 11).

Question 18, Volumes (Section 6.2, HW p387, #7, 11).

Question 19, Volumes by cylindrical shells (Section 6.3, HW p393, #35, 40).

Question 20, Average value of a function (Section 6.5, HW p399, #1, 5).