Montgomery County Community College

MAT 190 - Calculus I Assignments

CALCULUS by Larson, 7th ed.

Sect.	Topic	Page	Assignment
P.1	Graphs and Models	8	2,19,23,69,72,77
P.2	Linear Models	16	5, 9,13, 20, 31,41,43,67,77,79 ,81
P.3	Functions	27	5,7,9,,11,13,17,20,25,31,35,45,53,54,55,71c and 71d
P.4	Data	33	7,15,17
P.5	Trig Review		Do Trig Review in Chapter P Handouts
P.S.	Problem Solving	38	5,9
1.1	Preview	47	10
1.2	Limits Graphically & Numerically	54	1,3,7,11,13,15,17,39,41,43,44,47
1.3	Limits Analytically	65	3-37 odd;43,49,53,55,57,63,67,71,73,77,79,83,85,87,89,93,101,103
1.4	Continuity	76	1,5,7,11,15,17,25,28,35,41,47,57,67,71,75,83,85,87,95
1.5	Infinite Limits	85	7,11,13,15,17,27,29,31,37,41,43,47,51,61,63
3.5	Limits at Infinity	199	9,13,15;19-31 odd;33,37,45
1.2	Limit Proofs	55	21,23,27,29
P.S.	Problem Solving	90	9
2.1	The Derivative	101	1,5,7;11-23 odd;26,29,31,35;38-42 all;67;71-79 odd;85
2.2	Differentiation Rules	113	1-25 odd;29,33,37;41-51 odd; 53,61,71,72,91,93,95,99
2.3	Product and Quotient Rules	124	1-23 odd;35,39,43,47,51,53, 57,61,65,67,69,77, 79,81,83,87,91,101,103
2.4	The Chain Rule	133	9-31 odd;49,53,59,65,67,73,77,81,93
2.5	Implicit Differentiation	142	5,9,11,13,15,17,23,25,27,29,31,35,41,47
2.6	Related Rates	149	13,15,19,23,27a,29,31,33,35,43,45
3.1	Extrema on an Interval	165	5,13,15,21,25,31,39,49,51,58
3.2	Mean Value Theorem	172	1,7,11,21,25,27,35,37,42,43,53
3.3	The 1st Derivative Test	181	3;11-33 odd;43-47 odd;
3.4	The 2nd Derivative Test	189	3,5,7;11-25 odd;31,35,39,45,51,53,61,69
3.6	Curve Sketching	209	1-4 all;5,11,19,25,33,51,53,55,67
3.7	Optimization	217	16,17,19,23,31c&e,33,40,49,57c&d
3.9	Linearization	233	5,7,9,13,15,17,21,23,29,31,33,37,38
P.S.	Problem Solving	238	8,17
4.1	Indefinite Integrals	249	1,3,5,7;11-39 odd;45,47,51,57,61,63,67,70,73,81
4.2	Area	261	1,3,17,21,25,27,39,43,49,53,83
4.3	Definite Integrals	273	5,7,9,11,13,15,17,19,27,29,31;33-41 odd;45a&b&c
4.4	The Fundamental Theorem	284	5-25 odd;33,35,37,39,43,47,49,51,55,57,59,65a,77;81-85 odd.
4.5	Substitution	297	11,15,21,25,29,37,43,47,53,65,67,71,77,87
6.1	Area Between Two Curves	418	1,3,17,19,23,29,33,37,39,43,65,77
That's It --- THE END!			

MAT 190 Calculus I
Even Answers

P.1 #2 Choose (d)
#72 (1,-3) and (-2,0)
P.2 #20 (a) m = 1/3 (b) 30 ft
P.3 #20 (a) 1 (b) 2 (c) 3 (d) 25 (e) D: $[-4,+\infty)$ R: $[0,+\infty)$
#54 $(f \circ g)(x) = \cos^2(x) - 1; (g \circ f)(x) = \cos(x^2 - 1)$;Domains are both all reals

1.1 #10 10.42 sq units approx using 4 rectangles
1.2 #44 $f(2) = 4$ has no bearing on the limit
$\lim_{x \to 2} f(x) = 4$ has no bearing on the value of f at 2
1.4 #28 discontinuous at x=1; $\lim_{x \to 1} f(x) \neq f(1) = 2$

2.1 #26 y = -4x-8
#38 $h'(-1) = \frac{1}{2}$
#40 $f'(x) = 2x$
2.2 #72 $f(x) = ax^2 + bx + c; f'(x) = 2ax + b$

3.1 #58 (a) C is minimized if x=300 units
(b) If $1 \le x \le 400$ then x = 387 would minimize C
3.2 #42 (a) m=15 (b) $c \approx 0.67$ or $c \approx 3.79$
3.7 #16 Flow rate is maximized when the velocity is 33 mps
#40 $r \approx 5.636$ ft and $h \approx 22.545$ ft.
3.9 #38 31.4 cubic cm.

4.1 #70 (a) $t \approx 2.562$ sec. (b) $v \approx -65.97$ ft/sec.