ACE Calc I $Chapter \; 2A - Differentiation_{(version \; 6)}$

**This is a tentative schedule only. Actual assignments may differ from what is shown.

Day	Section	Page	Assignment
1	2.1 Derivative – Limit Definition	103	Odds: #7,11,13,19,21,29a,47
2	2.1 Derivative – Alt. Limit Definition	103	Odds: #9,17,65,67,75-79,85,87
3	2.2 Basic Derivative Rules	114	Odds: #3-23(eo),31-51(eo),53,61
4	2.3 Product Rule	125	Odds: #1-5,13,17,31,35,39,53,63,91,97,101,137
5	2.3 Quotient Rule	125	Odds: #7-11,25,29,41-51,65,75,87,95
6	2.4 Chain Rule	136	Odds: #7-21, 43-53,65,75
7	2.4 More Chain Rule	136	Odds #23-33,55-63,71,85,89
8	Review		
9	Test		

Chapter 2A – Board Problems

	А	В	С	D		
	Find $f'(x)$ using limits.	Find $f'(x)$ using limits.	Find the equation of the	Find the equation of the		
	f(x) = 6x + 5	3	line tangent to $f(x)$ at	line tangent to $f(x)$ at		
1		$f'(x) = \frac{1}{\sqrt{x}}$	the point (1,4).	the point (10,3).		
		N	$f(x) = x^2 + 3x$	$f(x) = \sqrt{x-1}$		

	Find $f'(x)$ at	Find $f'(x)$ at	Determine all values of x for which	Determine all values of
	c = 1 using the Alt.	c = -3 using the	f(x) is not differentiable.	x for which $f(x)$ is not
	Def. of Deriv.	Alt. Def. of Deriv.		differentiable.
	f(x) = 3x - 7	$f(\mathbf{r}) = \frac{2}{2}$	f(x) $f(x)$	$f(x) = \int 2x + 1, x \ge 3$
2		$\int (x) = \frac{1}{x}$		$\int (x) = \begin{cases} x^2 - 2, & x < 3 \end{cases}$
		Write the eq. of		
		the tangent line at	5	
		x = -3.		

	Find $f'(x)$:	Find $\frac{dy}{dx}$:	Find y': $y = (x^2 + 1)(x - 7)$	Find $f'(x)$: $3x^4 - 7x^3 + 4x^2$
3	$f(x) = 7\sqrt{x} + \frac{-}{x^2} + \sqrt{5}$	$y = 3x^3 - \cos(x)$	y = (x + 1)(x + 1)	$f(x) = \frac{5x + 7x + 4x}{x^2}$

4	Find y': $y = (x^2 - x + 1)(7x + 8)$	Find $f'(x)$: $f(x) = 3\cos x \sin x$	Find $\frac{dy}{dx}$:	Find $f^{(4)}(x)$: y = (x+1)(x+2)(x+3)(x+4)
			$y = \left(x^2 - 1\right)^3$	

5	Find $\frac{dy}{dx}$:	Find $f'(x)$: $f(x) = \frac{3x^5 - 2x^3 + 5}{\sqrt{2}}$	Find $f'(x)$: $f(x) = \frac{4x^2 \cot x}{1-x^2 \cot x}$	Find $\frac{d^3 y}{dx^3}$:
	$y = \frac{x + 3x}{2x - 5}$	\sqrt{x}	sec x	$\frac{dy}{dx} = \frac{2}{\tan x}$

	Find $f'(x)$:	Find w':	dy	Eind $f'(x)$:
		Tind y.	Find $\frac{dy}{dt}$:	$f = \int (x) dx$
6	$f(x) = \sqrt{8x^2 + 7x}$	1	dx	$f(x) = 3\csc(5x)$
		$y = \frac{1}{(x+3)^4}$	$y = 6\sin(2x^2 + 5)$	

	Find y':	Find $f'(x)$:	Find $f'(x)$:	Find $\frac{dy}{dy}$.
7	$y = (x^3 + 5)^{10} (5x)$	$f(x) = 8x^4 - \sqrt{x}$	$f(x) = \sqrt{4x}$	$\frac{1}{dx}$.
		$f(x) = \frac{1}{\sin(2x)}$	$f(x) = \sqrt{\frac{1}{x^3 - 3}}$	$y = \cos^2(\sqrt{3x-7})$