## ACE Calc I

## Chapter 2A - Differentiation <br> (version 6)

## Assignment Sheet

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

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

## Chapter 2A - Board Problems

|  | A | B | C | D |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Find $f^{\prime}(x)$ using limits. $f(x)=6 x+5$ | Find $f^{\prime}(x)$ using limits. $f(x)=\frac{3}{\sqrt{x}}$ | Find the equation of the line tangent to $f(x)$ at the point $(1,4)$. $f(x)=x^{2}+3 x$ | Find the equation of the line tangent to $f(x)$ at the point $(10,3)$. $f(x)=\sqrt{x-1}$ |


| Find $f^{\prime}(x)$ at |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $c=1$ using the Alt. |
| Def. of Deriv. |
| $f(x)=3 x-7$ |$\quad$| Find $f^{\prime}(x)$ at |
| :--- |
| $c=-3$ using the |
| Alt. Def. of Deriv. |
| $f(x)=\frac{2}{x}$. |$\quad$| Determine all values of x for which |
| :--- |
| $f(x)$ is not differentiable. |$\quad$| Determine all values of |
| :--- |
| x for which $f(x)$ is not |
| differentiable. |


| 3 | Find $f^{\prime}(x):$ |  |  |
| :--- | :--- | :--- | :--- | :--- |
| $f(x)=7 \sqrt{x}+\frac{2}{x^{2}}+\sqrt{5}$ | Find $\frac{d y}{d x}:$ <br> $y=3 x^{3}-\cos (x)$ | Find $y^{\prime}:$ <br> $y=\left(x^{2}+1\right)(x-7)$ | Find $f^{\prime}(x):$ <br> $f(x)=\frac{3 x^{4}-7 x^{3}+4 x^{2}}{x^{2}}$ |


| 4 | Find $y^{\prime}:$ <br> $y=\left(x^{2}-x+1\right)(7 x+8)$ | Find $f^{\prime}(x):$ <br> $f(x)=3 \cos x \sin x$ | Find $\frac{d y}{d x}:$ <br> $y=\left(x^{2}-1\right)^{3}$ | Find $f^{(4)}(x):$ <br> $y=(x+1)(x+2)(x+3)(x+4)$ |
| :--- | :--- | :--- | :--- | :--- |


| 5 | Find $\frac{d y}{d x}:$ | Find $f^{\prime}(x):$ | Find $f^{\prime}(x):$ |
| :--- | :--- | :--- | :--- | :--- |
| $y=\frac{x^{2}+3 x}{2 x-5}$ | $f(x)=\frac{3 x^{5}-2 x^{3}+5}{\sqrt{x}}$ | $f(x)=\frac{4 x^{2} \cot x}{\sec x}$ | Find $\frac{d^{3} y}{d x^{3}}:$ |


| 6 | Find $f^{\prime}(x):$ | Find $y^{\prime}:$ |  |
| :--- | :--- | :--- | :--- | :--- |
| $f(x)=\sqrt{8 x^{2}+7 x}$ | $y=\frac{1}{(x+3)^{4}}$ | Find $\frac{d y}{d x}:$ | Find $f^{\prime}(x):$ <br> $f(x)=3 \csc (5 x)$ |


| 7 | Find $y^{\prime}:$ <br> $y=\left(x^{3}+5\right)^{10}(5 x)$ | Find $f^{\prime}(x):$ <br> $f(x)=\frac{8 x^{4}-\sqrt{x}}{\sin (2 x)}$ | Find $f^{\prime}(x):$ |
| :--- | :--- | :--- | :--- | :--- |
| $f(x)=\sqrt{\frac{4 x}{x^{3}-3}}$ | Find $\frac{d y}{d x}:$ |  |  |
| $y=\cos ^{2}(\sqrt{3 x-7})$ |  |  |  |

