

Name: Woods		Grading Quarter:1	Week Beginning: 8/21/23
School Year: 23-24		Subject: AP Calculus AB	
Monday	Notes:	Objective: Students will create a difference quotient to represent the slope of a curve. Lesson Overview: Notes: “Big picture” concept of what a derivative is and two ways to write one: a difference quotient in terms of a small horizontal distance h and a difference quotient between two x-values. Students work in partners to simplify difference quotients before trying book examples independently.	Academic Standards: AP Calculus AB 2.2 Defining the Derivative of a Function and Using Derivative Notation 1.D Identify an appropriate mathematical rule or procedure based on the relationship between concepts (e.g., rate of change and accumulation) or processes (e.g., differentiation and its inverse process, anti-differentiation) to solve problems.
Tuesday	Notes:	All juniors and seniors will be taking the ASVAB test during this block.	Academic Standards: N/A
Wednesday	Notes:	Objective: Students will use the power rule to find the derivative of polynomial functions. Lesson Overview: Discuss when derivatives do not exist. Differentiability implies continuity. Difference between a tangent and normal line – focus on what information you need to create each of these things (a point and a slope). Connection between position, velocity, and acceleration. Students work in pairs on textbook problems.	Academic Standards: AP Calculus AB 2.4 Connecting Differentiability and Continuity: Determining When Derivatives Do and Do Not Exist 3.E Provide reasons or rationales for solutions and conclusions. 2.5 Applying the Power Rule 1.E Apply appropriate mathematical rules or procedures, with and without technology.
Thursday	Notes:	Objective: Students will use the product and quotient rules to find the derivatives of rational functions. Lesson Overview: Discuss: What kinds of functions will require the product and quotient rules? Proof of why the product rule is necessary using a simplified and unsimplified polynomial function to get two different answers. Introduce higher-order derivatives. Students work independently on the big whiteboards to practice using these rules.	Academic Standards: AP Calculus AB 2.8 The Product Rule 1.E Apply appropriate mathematical rules or procedures, with and without technology. 2.9 The Quotient Rule 1.E Apply appropriate mathematical rules or procedures, with and without technology.

Friday	Notes:	Objective: Students will be able to match derivative graphs to their original functions. Lesson Overview: Use Desmos.com to practice sketching derivatives for various basic functions (constant, linear, quadratic, and basic trig). Use printed worksheets to match derivative graphs to their original functions. Also introduce different notations commonly used for derivatives.	Academic Standards: AP Calculus AB 2.2 Defining the Derivative of a Function and Using Derivative Notation 1.D Identify an appropriate mathematical rule or procedure based on the relationship between concepts (e.g., rate of change and accumulation) or processes (e.g., differentiation and its inverse process, anti-differentiation) to solve problems. 4.C Use appropriate mathematical symbols and notation (e.g., Represent a derivative using $f'(x)$, y' and dy/dx.
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