Name: Mrs. Woods	Grading Quarter: 1	Week Beginning: 9/11/23
School Year: 23-24	Subject: AP Calculus AB	

Monday	Notes:	Objective: Students will examine the relationships between inverse functions and how inverse derivatives are connected. Lesson Overview: Notes: Graph y=x^3 and y=cubrt(x) on the same set of axes. Discuss how domain and range switch and how each graph is a reflection of the other. Find the derivatives at each of these related points. Give the formula for inverse derivatives. Independent practice: explicit formulas, graphs, and table examples.	Academic Standards: 3.3 Differentiating Inverse Functions 3.G Confirm that solutions are accurate and appropriate. 3.4 Differentiating Inverse Trigonometric Functions 1.E Apply appropriate mathematical rules or procedures, with and without technology
Tuesday	Notes:	Objective: Students will be able to take the derivative of a logarithmic function. Lesson Overview: Warm up: Log properties and rules (including e^ln(x)=x) Notes: Log derivative rules Definition of e as a limit (watch Numberphile video)	Academic Standards: 2.7 Derivatives of cos x, sin x, e x , and ln x 1.E Apply appropriate mathematical rules or procedures, with and without technology.
Wednesday	Notes:	Objective: Students will be able to show mastery of writing tangent line equations on the assessment. Lesson Overview: Tangent Line Quiz When students finish, they will practice using the chain rule independently using the “circuit” activity.	Academic Standards: 3.1 The Chain Rule 1.C Identify an appropriate mathematical rule or procedure based on the classification of a given expression (e.g., Use the chain rule to find the derivative of a composite function).
Thursday	Notes:	Objective: Students will be able to use tangent lines to create approximations for functions. Lesson Overview: Review tangent line equations. Use Desmos to show how “zooming in” makes functions and their tangent lines appear indistinguishable. Discuss when approximations are over- or under-estimates based on when a function is increasing or decreasing.	Academic Standards: 4.6 Approximating Values of a Function Using Local Linearity and Linearization 1.F Explain how an approximated value relates to the actual value.

Friday	Notes:	Objective: Students will show mastery of Chapter 3 concepts in the Chapter 3 review. Lesson Overview: Use the chapter review questions in the textbook to practice for the test next week. Choose three difficult ones to do together first, then split students into groups to finish the remainder of them.	Academic Standards: 3.1 The Chain Rule 1.C Identify an appropriate mathematical rule or procedure based on the classification of a given expression (e.g., Use the chain rule to find the derivative of a composite function). 3.2 Implicit Differentiation 1.E Apply appropriate mathematical rules or procedures, with and without technology.