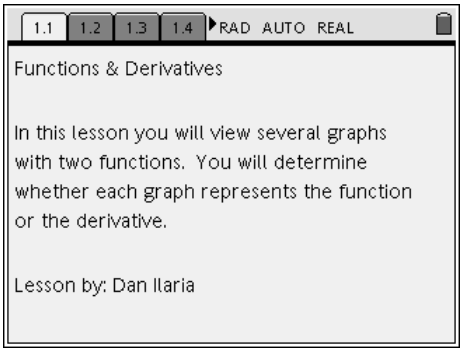
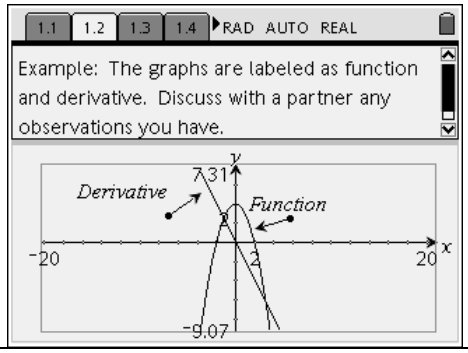
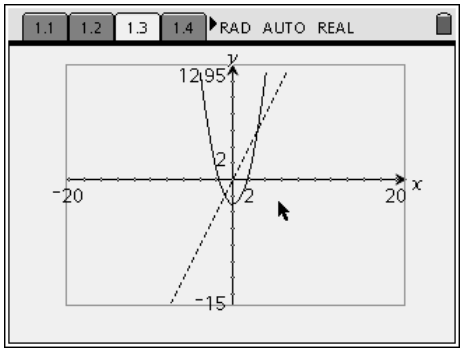
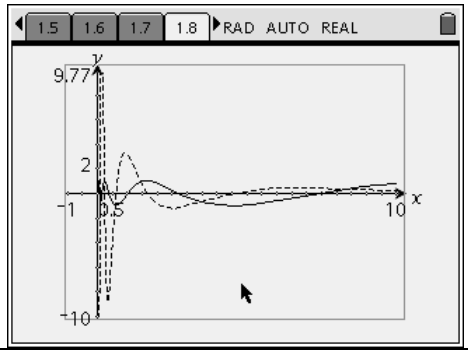
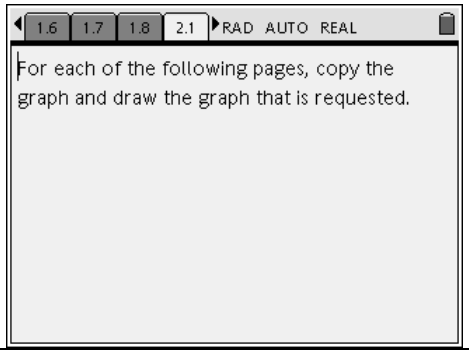
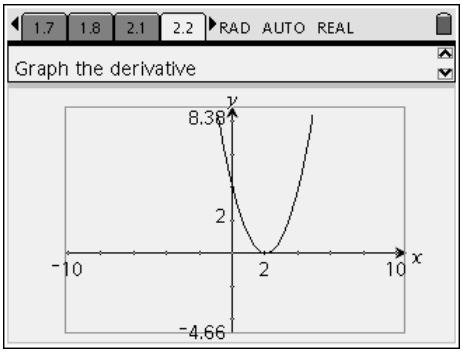
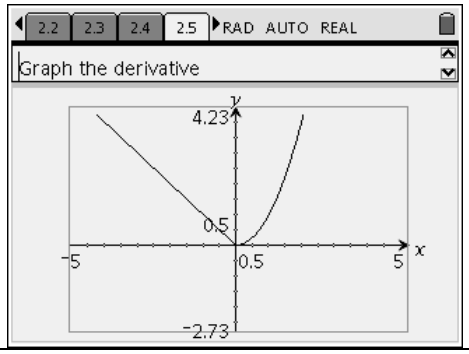
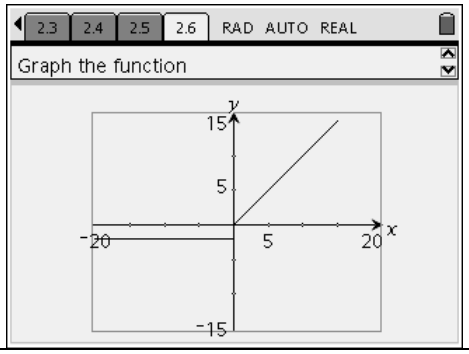
Graphical Derivatives Lesson Plan for TI-Nspire™

Subject: Calculus Lesson Time: 40 minutes
Topic: Derivatives

This lesson has several function and derivative graphs on the same screen. Students will select which graph represents the function or derivative.	
Problem 1.2 *Example 1*: Have students work in pairs to discuss their observations about the relationship between the graph labeled derivative and function. Lead a class discussion about student observations.	
Let students work in pairs to determine which graph is the derivative or function for problems 1.3-1.8. Each pair of students should determine if the dotted or solid line graph represents the derivative or the function.	 

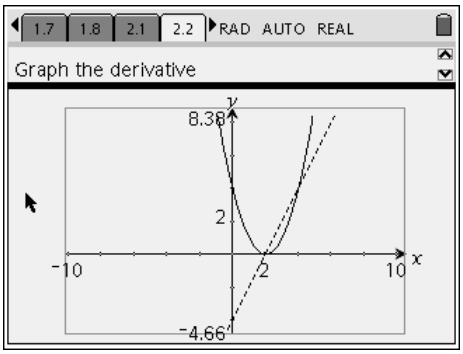
Class Discussion: Lead a class discussion about the student answers to problems 1.3 to 1.8 and why they made their selections.	
Problem 2 – This problem has several graphs for students to draw a derivative or function based on what they have learned from problem 1.	
Have students copy the graphs and draw the derivative or function for Problems 2.2 to 2.6. Students should compare results with their neighbor and discuss any differences in their graphs. If you have communicators, small whiteboards or chalkboards, students can work out each problem and then hold answers up for the class to see. If you have a whiteboard, ask one student to draw their solution on the board. **Class Discussion:** For each problem, have the class discuss how they graphed the derivative or function.	
Teacher Note: Problems 2.5 and 2.6 are piecewise functions. 	

Answer Key:

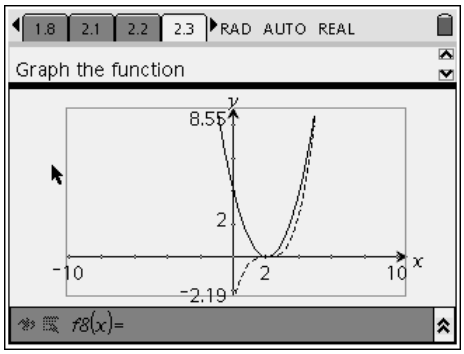
Problem 1.3 – Derivative is dotted function
Problem 1.4 – Derivative is dotted function
Problem 1.5 – Derivative is solid function
Problem 1.6 – Derivative is solid function
Problem 1.7 – Derivative is dotted function
Problem 1.8 – Derivative is solid function

Problem 2 – Function students should draw is dotted for each solution.

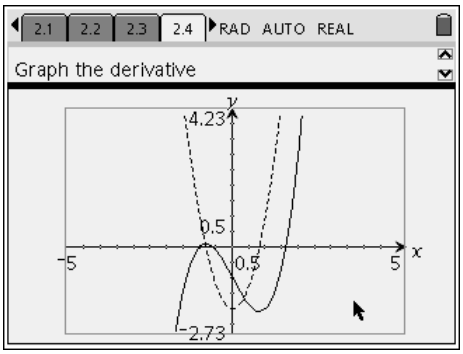
Problem 2.2



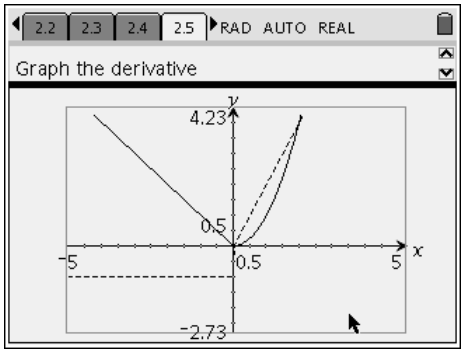
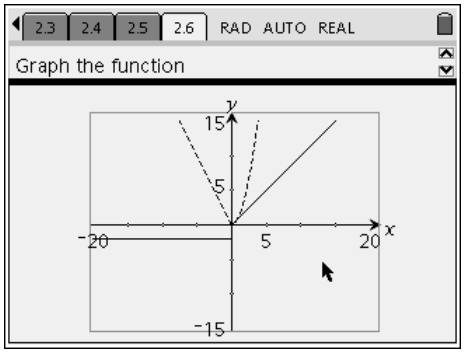
Problem 2.3 – one possible solution



Problem 2.4



Problem 2.5



Problem 2.6 – one possible solution