

MCV 4U Learning Goals and Success Criteria
Chapter 1: Introduction to Calculus

Learning Goal	
I will be able to make connections between average rate of change and instantaneous rate of change using the slopes of secants and tangents and the concept of the limit.	
Success Criteria	
I can: <ul style="list-style-type: none"> • Describe real world examples of rates of change. • Make connections between average rate of change and the slope of a secant, and instantaneous rate of change and the slope of a tangent. • Recognize graphical and numeric examples of limits, and explain the reasoning involved. • Make connections between the average rate of change (difference quotient) and the instantaneous rate of change (limit) at a given point. 	
Quest Information:	
Your test is Tuesday, February 18 th . You will have 75 minutes to write it. No extra time can be provided. Please be prepared to answer questions about the theory and practice the math so that you can complete problems efficiently.	
There is a more detailed outline below. These are the types of questions you can expect. To prepare well for this test, you should (in this order): <ul style="list-style-type: none"> • Review your notes and makes study notes. We learned new vocabulary, so be sure that you actually understand it! • Review/redo your quizzes and go through the examples in the notes and be sure that you can do them yourself. • Complete questions in the suggested review that you think you need to do. The text book should be your last stop, not your first! 	
Questions to Expect	<ul style="list-style-type: none"> • Rationalize numerators/denominators • Determine the average and instantaneous rates of change for a real-world situation. • Explain the difference between average rate of change and instantaneous rate of change using secants and tangents. • Find the equation of a tangent to a graph at a given point. • Explain what a limit of a function is, and when a limit of a function exists. This question will also incorporate continuity. • State limits given a graph. • Evaluate limits of given functions using a variety of techniques. • Determine values that make a piecewise function continuous on its domain and explain your thinking.
Text book Questions:	p. 32 #1 – 4, 7 – 12 p. 60 #1, 3, 5 – 8 p. 56 #1, 2, 4, 5, 9 – 11, 15c, 16 – 20