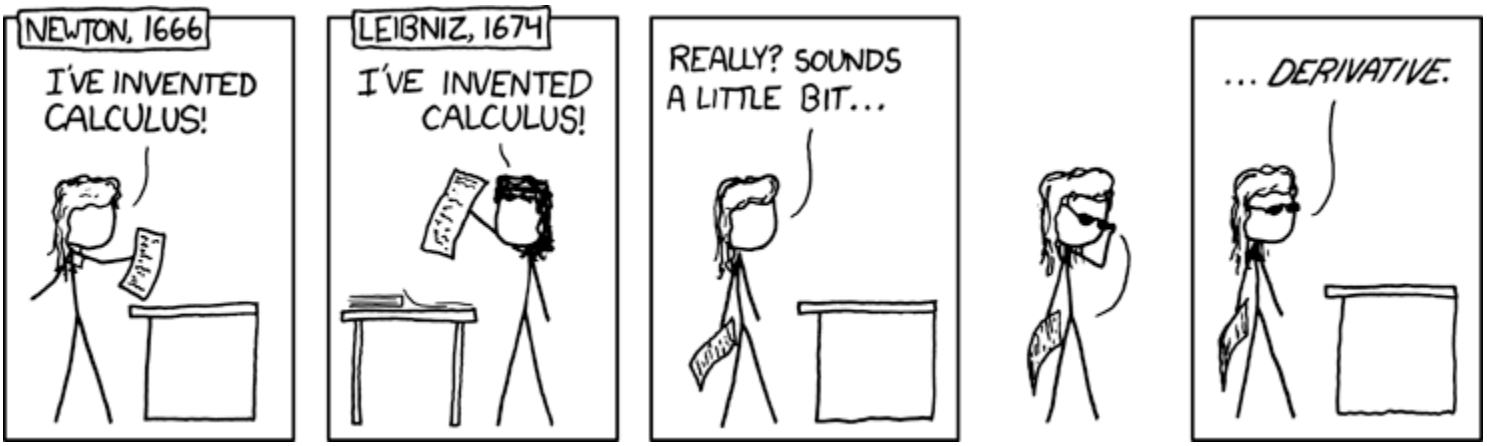
Name: _____

Calculus

(10/29-11/16)



"**Mathematics is the music of reason.**"

– James Joseph Sylvester

Overview:

Welcome to Quarter Two! Over the next few weeks, we will be seeing how limits apply to the first concept of derivatives. We will begin with an analysis of what a derivative is, then proceed to prove it using our knowledge of slope. Finally, we will review some rules and techniques to evaluate even the most complex derivatives.

UPDATES:

- **No late work will be accepted from this point forward.**
- **You will now be required to submit your warm up/exit ticket by worksheet; more information will be available during class.**
- **IXL recommended skills must be at least the 9th grade level to count towards your grade.**

Lessons:

Content Lesson Themes

____ 3.1: Tangent, Velocity, and Rates of Change

____ 3.2: The Derivative Function

____ 3.3: Techniques of Differentiation

____ 3.4: The Product and Quotient Rules

Unit Question: How is position, velocity, and accelerated to each other? If we can model the first, how can we predict the

Assignments	Due Date (BoC)
10/29-11/2: **Guiding Question: What is a derivative, and why is it important?**	
____ **Lesson:** 3.1: Tangent Velocity, Rates of Change ____ **1) *Problem Set:*** 3.1- p.176 #'s 1-21 odds	**Thurs, 11/1**
____ **2)** Vocabulary: **secant, tangent line, instantaneous velocity, rate of change, derivative, differentiation, product rule, quotient rule,** (do one of the below). a. Write the words, their definitions, and an example for each of the above terms in your notebook. b. Create a mind-map with connections, a story, or a drawing with captions that shows the connections between the above terms. c. Create vocabulary cards of the above terms. Be sure to include an example for each.	**Any time before Thurs, 11/15**
____ **Lesson:** 3.2: The Derivative Function ____ ***3) Problem Set:*** 3.2- p.187 #'s 9-25 odds, 35, 37	**Mon, 11/5**
____ ***4) IXL:*** Achieve proficiency in 3 skills (smart-score of 80) **OR** spend 1-hour total for the week. You may work either in: a. Recommended Tab (AT LEAST 9th grade level!) b. Calculus: J.1-J.7 ***Note:*** *If you choose to achieve proficiency, you must work on your skills for at least 30min.*	**Mon, 11/5**
11/5-11/9: **Guiding Question: What are some rules that we can use so that we don't have to use the definition of a derivative every time we want to differentiate a function?**	
____ **Lesson:** 3.3: Techniques of Differentiation ____ ***5) Problem Set:*** 3.3- p.196 #'s 1-25 odds, 39, 41, 43, 57	**Thurs, 11/8**
____ **Lesson:** 3.4: The Product and Quotient Rule ____ ***6)*** **Problem Set:** 3.4- p.203 #'s 1-19 odds	**Thurs, 11/15**
____ ***7) Scavenger Hunt:*** Using either section 3.3 or a resource of your choice, write **(a)** the general form and **(b)** a specific example of: **The Power Rule** (191) **, Sum/Difference Rules** (193) **, Higher Derivatives** (195)	**Thurs, 11/15**

____ ***8) IXL:*** Achieve proficiency in 3 skills (smart-score of 80) **OR** spend 1-hour total for the week. You may work either in: a. Recommended Tab (AT LEAST 9th grade level!) b. Calculus: K.1-K.5	**Mon, 11/12**
11/12-11/16: ____ **TUESDAY ONLY: Catch-up day:** On this day, you must: 1. Work on IXL for 45 minutes (CANNOT BE MADE UP!) 2. Submit any individual work you may have missed in the past two weeks. ____ ***9) Kahoot Review:*** Review for the assessment which will occur during the second hour of class.	**Thurs, 11/15**

____ ***10)*** ***Assessment: Derivatives*** **(Thurs, 11/15)**

Have a great Thanksgiving Break!