Monday, May 15th, Room 309 (with Angela Vierling-Claassen)

1:25-1:45pm

Group Members: Nicole Wilson, Kerry Anne Bradford, Gloria Montiel,
Title: Integration by Parts
Do you have trouble solving integrals where two X's are being multiplied? Learn how to do those complicated, ugly integrals the EASY way! Everyone wants to do it, so why not join the crowd? Come, join us, it might even help you on your Final!

1:50-2:10pm

Group Members: Safiya Miller, Brian Na, Simon Gawlik,
Title: Newton's Method 101
It's the end of the year and it's time to sign up for Math XB Final Project presentations. Well, we know your mind is already on overload so what better presentation to attend than one that intertwines our favorite. . .derivatives;) Yes, that's right, using Newton's Method we can find the zeros of a function through approximations. We can now go beyond the second-degree function and find the zeroes of third-degree functions through calculus by taking the derivative of the function and approximating. We hope to see you there!

2:20-2:40pm

Group Members: Eric Posner, Conor O'Brien, Eric Groszyk,
Title: Simpson's Rule
Want to relate applications (that we have already learned!!) of taking the area under a curve to near precision? Come join the three best looking students at Harvard to experience a fun and interesting class about the enticing "Simpson's Rule." Make sure you have a sweet tooth!

2:45-3:05pm

Group Members: Alex Tang, Mark Edward Crocker, Netasha Williams,
Title: Improper Integrals
Improper integrals give us the ability to integrate discontinuous function. The Improper integral will be able to split discontinuous functions into continuous segments. With simple integration and algebra technique, improper integrals will grant us the ability to examine a discontinuous function's eventual outcome – divergence or convergence.

3:10-3:30pm

Group Members: Bianca Stifani, Cydney Gray, Mandy Gray
Title: INTEGRATION USING PARTIAL FRACTIONS
Learn a simple way to master yet another type of function that you can integrate!
Would you know how to integrate: (3x+9)/(x2+6x+5)?
Well diligent math x students, never fear! Three lovely ladies, Bianca, Cydney and Mandy, are here to make all of your partial integration woes disappear! Attend our lesson and, in 20 minutes, acquire the slick technique necessary to solve this and all other types of rational function integrations. This technique teaches nothing new and requires no particular abilities: it is just a smart and easy ruse that you can learn quickly and use for the rest of your mathematical days. Simple, easy and fun! 100% satisfaction guaranteed!

Monday, May 15th, Room 309a (with Bret Benesh)

1:00-1:20pm

Group Members: Santiago Danino, Carl Ehrlich, Matthew Curtis, Chris Sanders
Title: Probability
The concept of probability is one of many examples of how derivatives and integrals can assist us in predicting the outcome of real-world situations. Any event can be represented by a curve whose integral is equal to one. The probability of an event occurring is given by the integral of the curve within the given domain. This is the basic concept in determining probability and the premise of the lesson.

1:25-1:45pm

Group Members: John Paul Zermeno, Oscar Romano, Alyson Sheehan
Title: Freshman Fifteen's Oscar Romano presents ice cream and pizza
We will be covering the amazingly interesting topic of "volumes of solids of revolution". Show up, Oscar made Freshman Fifteen and he's going to be there! Also we will be raffling off pints of Ben and Jerry's ice cream...plus, Oscar will be buying pizza for the first lucky attendees!

1:50-2:10pm

Group Members: Eesir K., Dan L., Kedamai F.,
Title: Newton's Method
Our presentation will focus on approximating the roots of random numbers. You will learn how to do this without a calculator. Dan is also willing to pay people to come. =)

2:20-2:40pm

Group Members: Sabino Ciorcari, Rebecca Ledford, Jessica Means,
Title: The Wonders of Integration by Parts
Do you spend sleepless nights wondering how to do the “product rule” in reverse? Do you have a deep inner hunger to integrate the product of functions? Come satisfy your hunger with a quick and easy explanation of “Integration by Parts” (and free delicious treats, too).

2:45-3:05pm

Group Members: Kristin Bannon, Jan Zilinsky, Anthony Lopez, Kayla Feld
Title: Probability and integration
Attend our presentation to discover how you can use probability functions to learn about exciting possible outcomes. We will show practical uses of integration and how to apply it to decisions in your daily life. This includes determining the probability of freshman friendships developing into romantic relationships. Learn about this and other ways to apply the integral in a way that mathematically models human behavior!

3:10-3:30pm

Group Members: Justin Morgan, Zach Copple, Bryan Sweeney, William
Title: Finding Volumes of Solids of Rotation
By using our knowledge of the intergral and basic algebra, we will show how to compute the exact area of a 3-D object created by rotating a graph about a fixed axis. All you need to know is the area formula of basic shapes (circles, squares. triangles, etc) and the intergral and this lession should be easy to understand.

Tuesday, May 16th, Room 309 (with Tom Barnet-Lamb)

1:00-1:20pm

Group Members: Jenessa Fenton, Erin Wylie, Jennifer DeCoste,
Title: Integration by Parts
Integration by parts is a technique for finding integrals that comes from the Product Rule. It is very easy to understand, but very important for finding the integrals of common expressions like x sin x, xe^x, and other integrals that involve products. We will also be bribing you to actively participate in the lesson by giving out candy for answering questions!

1:25-1:45pm

Group Members: Annie Chen, Matthew Thomas, Michael Regan,
Title: Substitute This! Trigonometric Integrals and Substitution
Confronted with a tough problem? No idea where to start? The trigonometric identities that we learned earlier this semester will prove to be valuable tools in solving integrals. Come learn how to "integrate" old with new and solve some really cool problems!

1:50-2:10pm

Group Members: Alexis Alexander, Paola Duguet, Jimmy Fraser, Dom Pellegrini
Title: Integral Test for Infinite Series
Curious how to best determine whether more difficult series converge? Come join our group on May 16th for a brief presentation on how to evaluate infinite series using the integral test. While you're at it, cool down with free popsicles! Basics followed by practice will give you all the skills you need.

2:20-2:40pm

Group Members: Michael Mure, Jordon Ricks, Ryan Walsh,
Title: Volumes of Solids of Revolution
Expect our presentation to be like a good radio station and an indecisive baseball coach - the rotations will never be the same! Maybe that isn't good enough to whet your whistle. How about a little freestyling courtesy of Mr. Mike "110 percent" Mure along with DJ Walsh and DJ Rix spinning on the one's and two's (that is, the first and the second examples "spinning" about their designated axis). Anyway, so come to our presentation about finding volumes of solids of revolution. We'll be sure to handle mathematical volumes...but trying to handle the volume of a crowd-gone-wild might be a challenge. So watch out, y'all!

2:45-3:05pm

Group Members: Katherine Sancken, Leslie Jimenez, John Compton,
Title: Applications of Integration: Probability
This lesson will explore how we can determine the probability of an event by evaluating the integral of the function. Through a few examples, we will show how the area under the curve of function X represents the probability that event X will occur. A pretty basic and easy concept to learn, and so so fun!

3:10-3:30pm

Group Members: Stephen Sheehan, Andrew Hatch, Brenton Bryant,
Title: L'Hopital's Rule
Don't you just hate those pesky problems with indeterminate forms? If so, then come on out and expand your knowledge of the infamous "L'Hopital's Rule." Learn something useful for the rest of your life, and have a good time in the process.

Tuesday, May 16, Room 309a (with Jon Bloom)

1:00-1:20pm

Group Members: Jenny Brine, Kindra Mason, Andrew Pusar
Title: Integration By Parts
Learning Integration by Parts is a thrilling and fun experience that takes integration and the product rule to the next level. Some even say it is more fun then eating lots of candy and donuts. But hey, come Tuesday to decide for yourself and see what these rumors are all about!

1:25-1:45pm

Group Members: Katie Koh, Doris Hernandez, Roxanne Bras
Title: Integration By Parts
One very handy tool for integration is the technique known as integration by parts. This technique stems from the Product Rule, which is employed to find derivatives. The best applications of integration by parts are to help solve for integrands that consist of the product of diverse functions and to solve for difficult functions. Our lesson seeks to introduce students to the formula for integration by parts and to improve their mastery of the concept by exposing them to problems and their solution as well as letting them solve problems on their own.

1:50-2:10pm

Group Members: Austin McLeod, Brittany Martin, Mike Coskren,
Title: Applications of Integration: Probability
Life is predicated by chance and probability. Using the Fundamental Theorem of Calculus, we can explore exactly how to determine the probability of an occurrence. Come learn how to apply Calculus to real life situations, such as determining the probability that a student between 17 and 19 years old is enrolled in Harvard's Mathematics Xb course, for example.

2:20-2:40pm

Group Members: Sam Chamberlain, Elliot Lauzen, Kevin McCracken,
Title: Methods of Integration: Trigonometric Substitution
The method of integration known as "Trigonometric Substitution" connects several important calculus concepts to create a valuable tool for defining any anti-derivative. Trigonometric substitution mixes the recognition of trig. identities, equation alteration, and the Fundamental Theorem of Calculus. Trigonometric is very complicated and we recommend that you attend our session so that you will learn the patented "8 Step Chise Method" to learn how to solve any trig integral in the world.

2:45-3:05pm

Group Members: Suzanne Cominski, Mike Giammanco, Nick Souder,
Title: Infinite Series : Comparison Test
Sometimes the exact sum of a geometric series is hard to find. However, there are tests that can help us determine the general behavior of a series without explicitly finding its sum. Come and learn how to use the Comparison Test to see if a series is convergent or divergent.

3:10-3:30pm

Group Members: Dana Bregman, Isaac Martinez, Barrett Young,
Title: Frisbees, Donuts and Shells!
What do pastries, Frisbees and beach creatures all have to do with math? Find out as we explore the exciting world of integration to find the volume of rotating solids!