

The Derivative Song [sung to the tune of “Happy Birthday to You”]

One prime two plus two prime one
One prime two plus two prime one
I just did the Product Rule,
That means I am cool!

The Quotient Rule I need to know
Low d high less high d low
Draw a line then there below
Put the square of the low

Chain Rule Song [sung to the tune of “America the Beautiful”]

The Chain Rule is not hard to do
We need to sub a “u”
The “u” is just the inside of
Composite “f of u”
We’ll multiply f prime of u
Times du/dx , hence
 D_x of f of g of x is
Found with diligence

Riemann Sums [sung to the tune of “Jingle Bells”]

Riemann Sums, Riemann Sums
Counting areas
Of rectangles whose widths get small
We need to count them all
Riemann Sums, Riemann Sums
Counting areas
Of rectangles whose widths get small
We need to count them all

We learn to integrate
It’s really lots of fun
It’s easier to find
Than those old Riemann Sums
We learn to sub a “u”
When things get sort of hard
Beware of those division bars
And watch for radicals [repeat the refrain]

Calculus Class [sung to the tune of “Silent Night”]

Calculus class, Calculus class

Teacher’s cruel

Hate the Chain Rule

Find the prime of f of g

It’s supposed to fill us with glee

Times dx of the outside

By dx of the inside

Derivatives, Derivatives [sung to the tune of “O Christmas Tree”]

Derivatives, derivatives

They help us find the rate of change

Derivatives, derivatives

They’re not that hard, they’re in our range

The product rule is so much fun

It’s one prime two plus two prime one

Derivatives, derivatives

They help us find the rate of change

The Function Song [sung to the tune of “The Dreidel Song”]

I have a little function

Whose behavior I must find

I know that I can do this

I have to find f prime

Chorus

Oh, functions, functions, functions

Where do they take a rest?

Functions, functions, functions

My teacher is a pest! [Alternate line: My teacher is the best!]

Where are those pesky “ cv ’s”

Remember “undefined”

Where are all the extrema

Can’t use a number line! [back to chorus]

Cross Section Song [sung to “My Bonnie Lies Over the Ocean”]

My volume is built on a region

The shape of each slice is the same

$A(x)$ is a cross section area

We’ll use to integrate

Disk Song [sung to “The Wheels on the Bus”]
The region on the graph goes round and round
Round and round
Round and round
The region on the graph goes round and round
Each slice is a circle

Diff E-Q* [sung to “Can’t Help Falling in Love”]
Diff EQs
Are such fun to solve
We could start drawing a nice slope field
Diff EQs
Need just four steps
If we could just remember those four steps

First we separate
Then we integrate
Now we solve for C
Then we just – we solve for y

Diff EQs
Are such fun to solve
Just remember to do those four small steps
Just remember to do those four small steps

* Written for that Elvis fan, Benjy W-P [class of 2008]

Captain of the U-Sub** [sung to “Yellow Submarine”]
Calc AB is where I’m at
Trying to learn to add a “C”
Integration’s not that hard
If you captain a submarine
So I learned about “u-sub”
Got to find u and du
Can’t forget about that “C”
When you captain a submarine

We are all the captains of u-sub
The captains of u-sub, the captains of u-sub
We are all the captains of u-sub
The captains of u-sub, the captains of u-sub!

**My students usually find u-substitution if not difficult, then tedious. I try to get them enthused about it by telling them that they need to become a captain of a u-sub[marine]! One year, my students got me a captain’s hat, which I still wear when we study u-substitution.

Oh, Calculus! [Sung to “The Lion Sleeps Tonight”]

Refrain [tutti]:

Oh Calculus, oh Calculus [repeat 7 more times]

Soloist(s):

In my Calc class in Room 2-2-2

There are so many rules

In my Calc class in Room 2-2-2

My teacher is so cruel

Refrain [see above]

Soloist(s):

Limits haunt me

They seem so scary

Why won't they go away?

Limits haunt me

They seem so scary

Why won't they go away?

Refrain [see above]

Soloist(s):

Product, quotient

Implicit, chain rule

We find those rates of change

Product, quotient

Implicit, chain rule

We find those rates of change

Refrain [see above]

Soloist(s):

Integration

With FTC is

Really not so bad

Integration

With FTC is

Really not so bad

Refrain [see above and fade out]

Our Theme Song for FHS AP Calculus AB [sung to “Down by the Riverside”

I'm going to pick up my pencil and learn to show my work
Find lots of limits and prove continuity
I'm going to pick up my pencil
Where are those asymptotes?
Find those asymptotes!

Refrain

*I'm going to study Calculus
Study Calculus
Study Calculus
I'm going to study Calculus
Study Calculus
Study Calculus*

I'm going to pick up my pencil and find dy/dx
Let's differentiate and learn to integrate
I'm going to pick up my pencil
And learn to sub a “u”
Learn to sub a “u”

Go to Refrain

I'm going to pick up my pencil and learn to justify
Can't use a number line
We'll need some words sublime
I'm going to pick up my pencil
And got to find f'
Got to find f'

Go to Refrain

I'm going to pick up my pencil and learn to analyze
Where f is concave up, that means it's like a cup
I'm going to pick up my pencil
Where f is concave down, that means it's like a from

Go to Refrain

I'm going to pick up my pencil and solve that diff e-q
At first we separate, then we must integrate
I'm going to pick up my pencil, then find our c and y
Find our c and y

Go to Refrain