

# Calculus Project

Overview

# Closing Thoughts

- Be thorough
- Be neat
- Be creative
- Be on time
- Be worthy of the grade you want
- You DON'T have to spend a bunch of \$\$\$ on supplies to have a quality project.

Details are on Handout  
READ it!!!

# Comic Samples

# Lincoln's Log



Substitute Teacher Shortage of  
1855

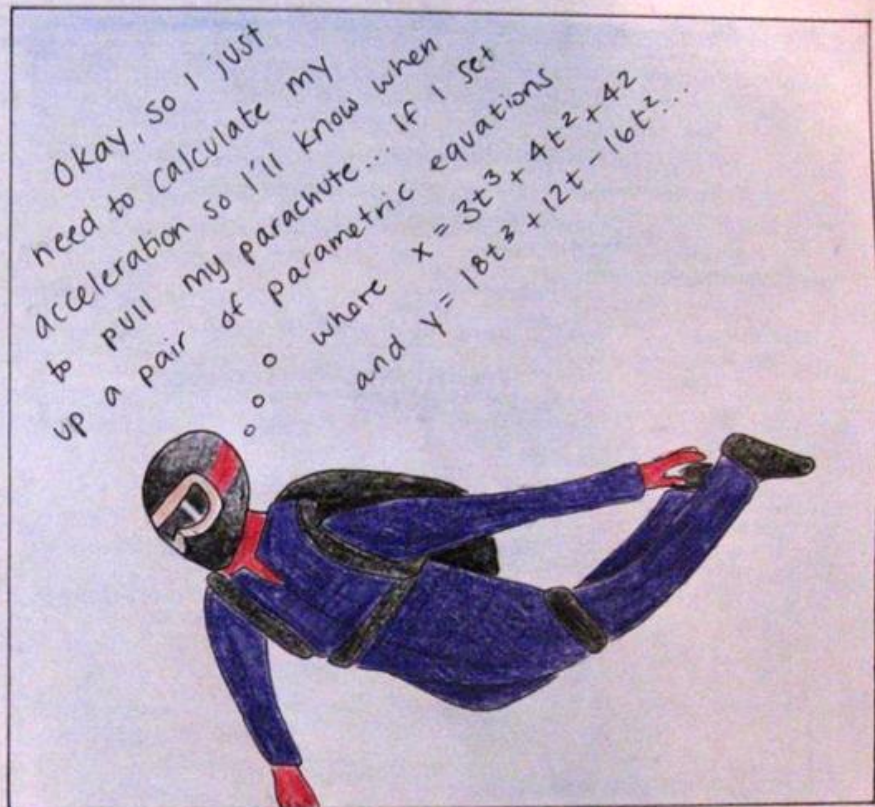
NATURAL LOG CABIN

Laura Nashimoto  
Claire Kilmer  
Alyssa Bank



I'll take the first derivative of them for a velocity of  $x' = 9t^2 + 8t$  and  $y' = 54t^2 + 12 - 32t$ ... Then, the second derivative of that for the acceleration would be  $x'' = 18t + 8$  and  $y'' = 108t - 32$ .

So, with all that figured out, I should pull my parachute when  $t = \dots$





# What not to do



No calculus reflected  
Poor effort  
Not funny

Have you seen  
that movie Sines?



No! But I heard its full of  
Calculus!

\*Gasp\*





"Wanna see my tan lines?"

Cute  
But text  
not legible

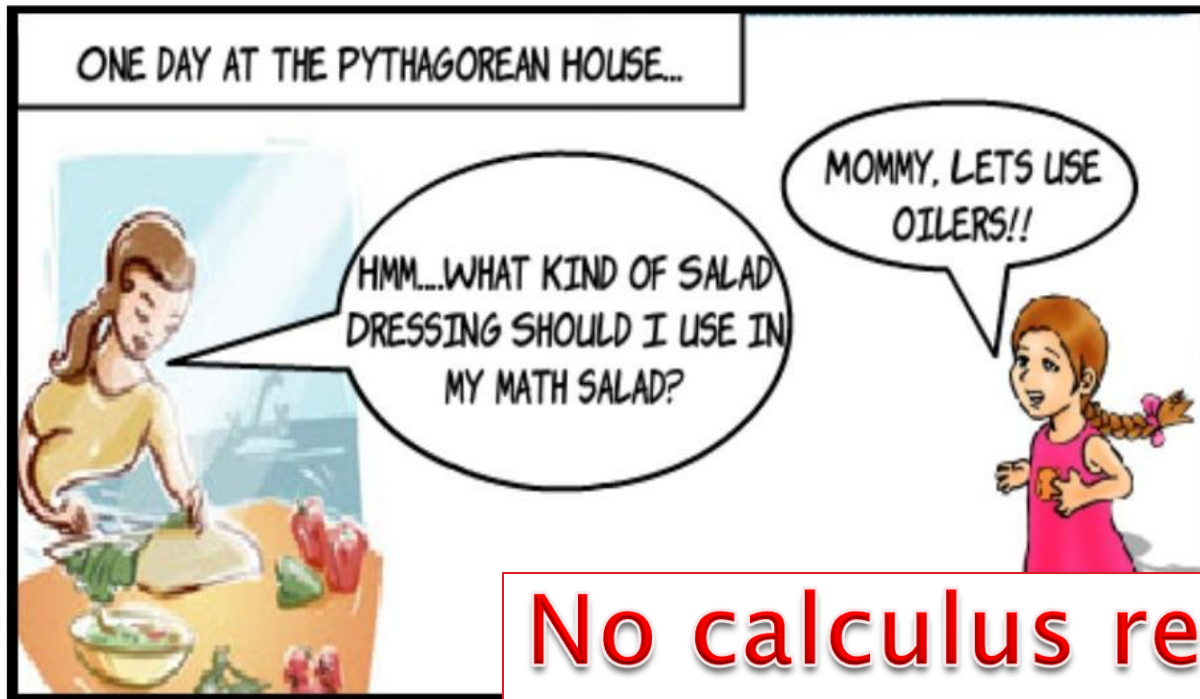


"This isn't what I expected."

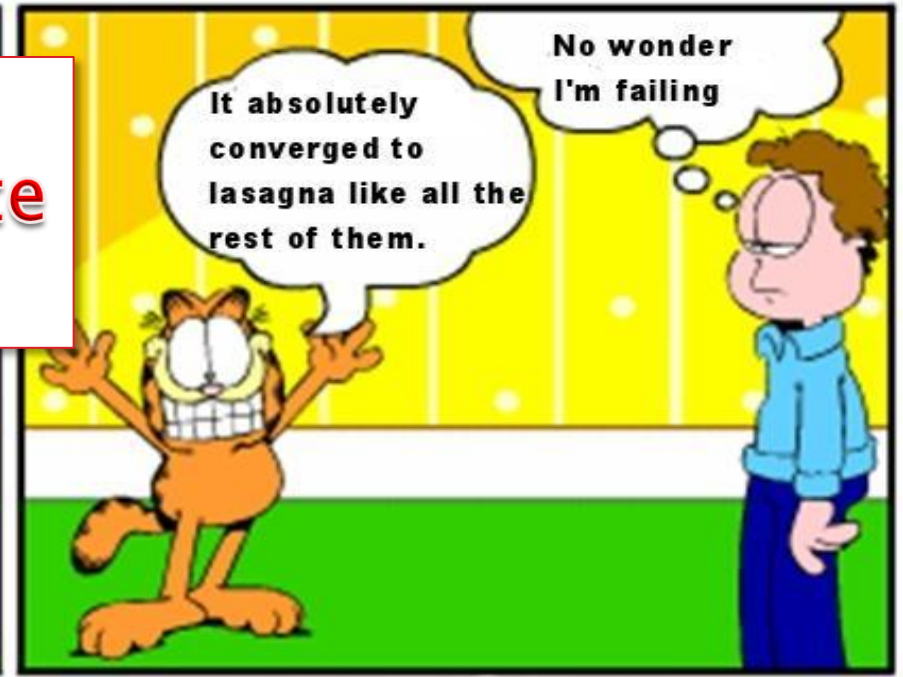


Calculus?  
Or Precalculus

# Aryabhata & Eulers



**No calculus reflected  
Just a play on words**



**Clever**  
**Doesn't really incorporate**  
**A calculus topic**

# Art Samples



Taylor Series written over and over!  
NICE but was on flimsy board so did  
not hold up.





Very effective

Clearly indicates the topic of rotated solid without the use of equations ON the art.



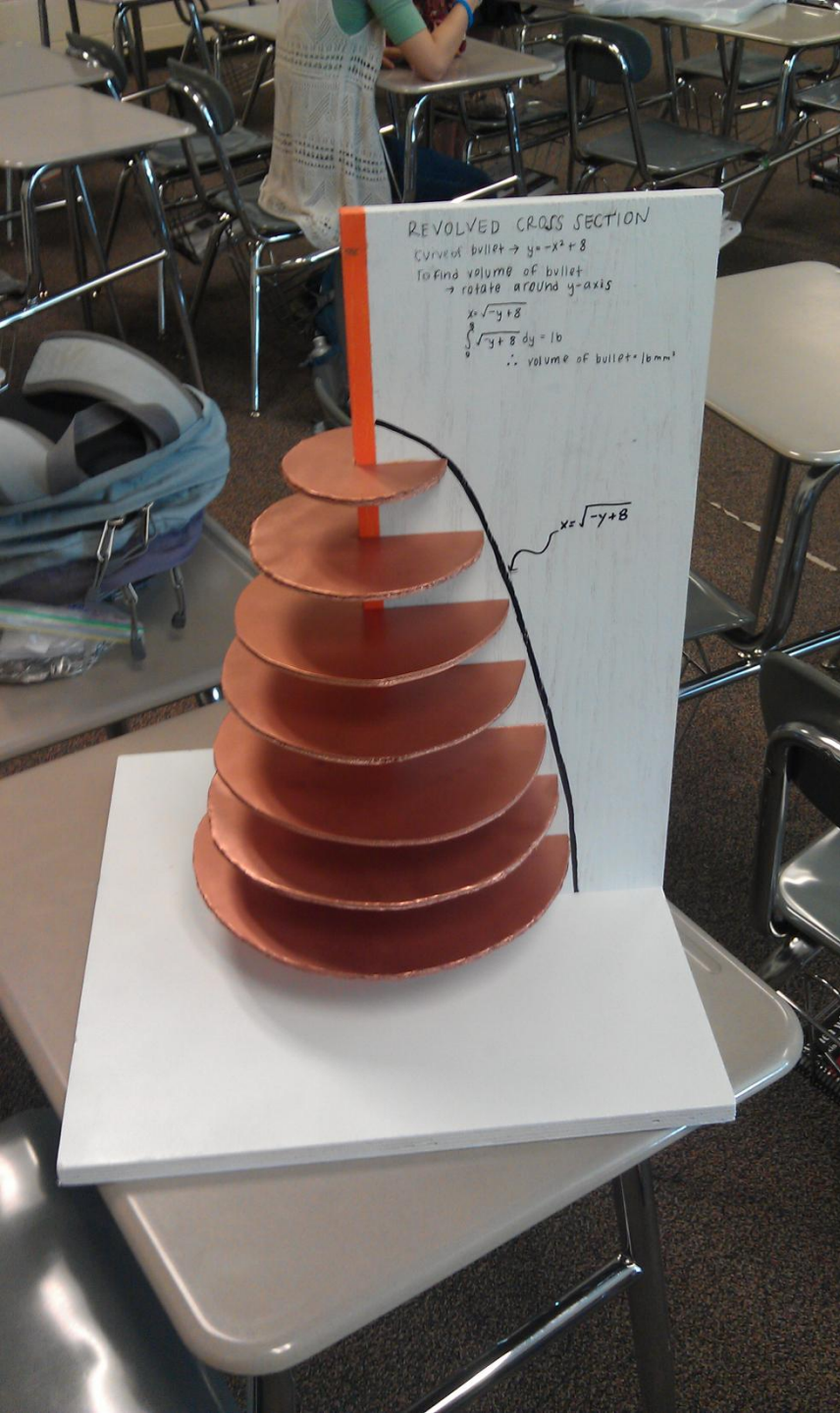
Very effective

Use of symmetry to  
find area bounded by  
polar curve

With a math hint:

Integration symbol





### REVOLVED CROSS SECTION

Curved bullet  $\rightarrow y = -x^2 + 8$

To find volume of bullet  
 $\rightarrow$  rotate around y-axis

$$x = \sqrt{-y+8}$$

$$\int_0^8 \sqrt{-y+8} dy = 16$$

$\therefore$  volume of bullet =  $16\pi \text{ m}^3$

$$x = \sqrt{-y+8}$$

Good job

Would have been  
PERFECT if . . . .

The math equations  
had been left off but  
addressed in the  
writeup.



Nice idea

But a bit science  
project like

And without the math  
equations a viewer  
does not really know  
what is being  
demonstated.

# What not to do



**Good idea**  
**Flimsy construction**



**Poor construction  
Did not clearly communicate**

**No food projects!**





**Good idea  
Middle School Like**

**BE ORIGINAL!!!**

**DON'T JUST COPY FROM THE INTERNET!**

You would be violating the honor code





# Caution

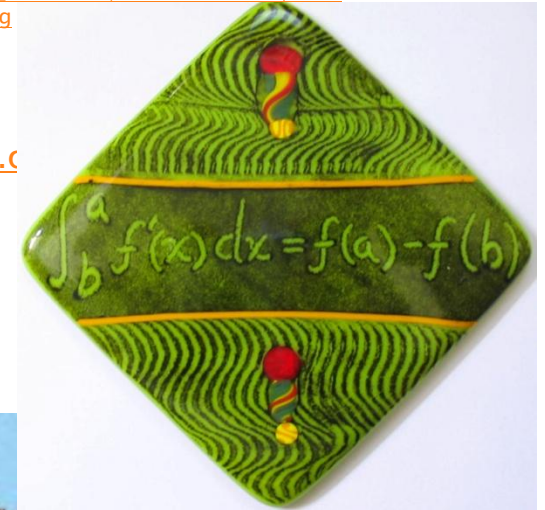


Don't forget the denominator!

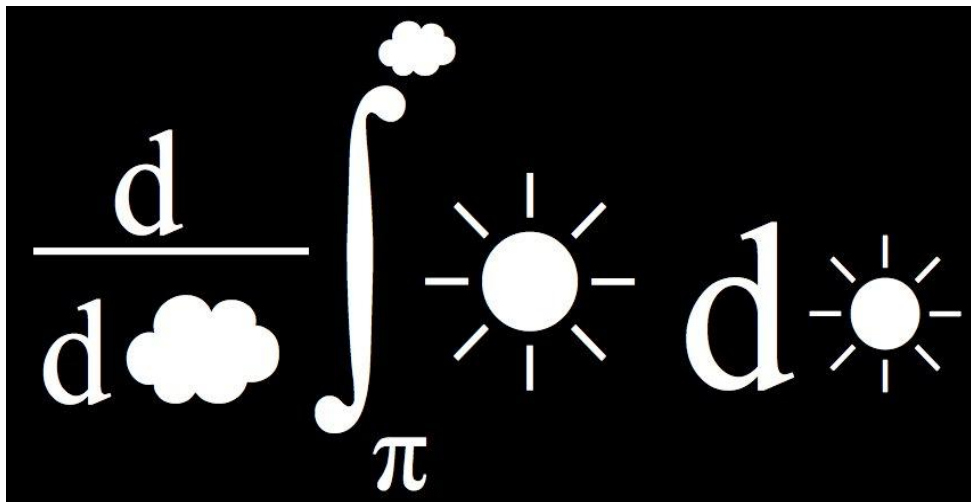
$$h'(x) = \frac{g(x) \cdot f'(x) - f(x) \cdot g'(x)}{(g(x))^2}$$

[http://2.bp.blogspot.com/\\_6ZFbuBhvFHK/Rw\\_dHRT7Y8I/AAAAAAAAAAxw/xXF-hcfz4/s400/calculus%2Bphobe%2Bvideo2.jpg](http://2.bp.blogspot.com/_6ZFbuBhvFHK/Rw_dHRT7Y8I/AAAAAAAAAAxw/xXF-hcfz4/s400/calculus%2Bphobe%2Bvideo2.jpg)

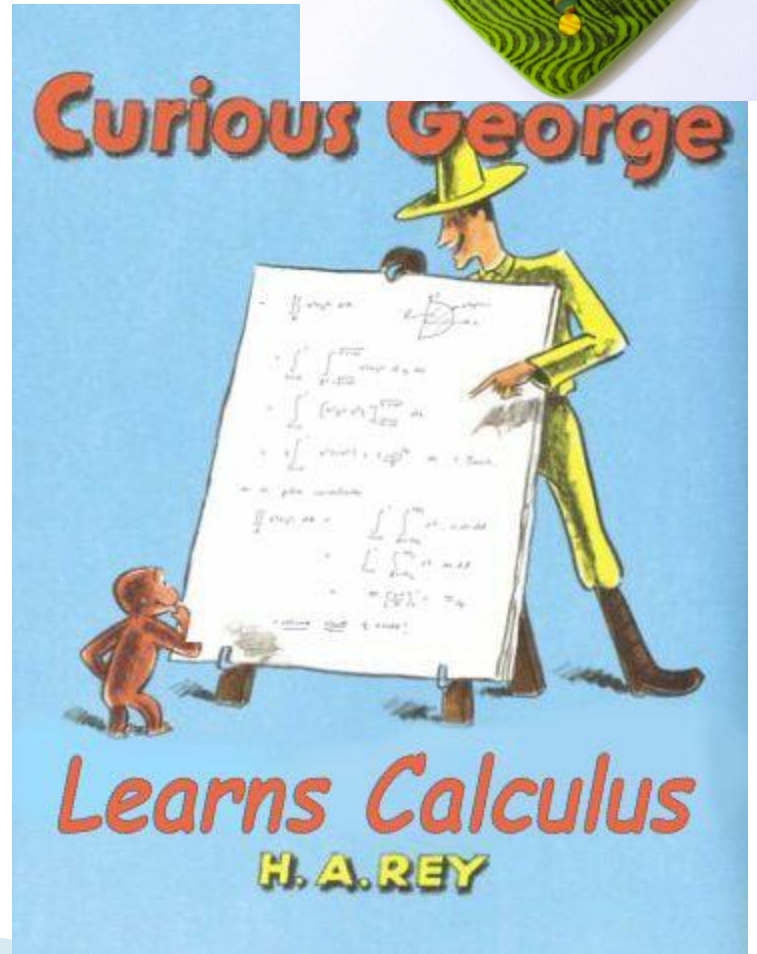
[http://www.lostartoriginals.com/Classes/FT\\_Calculus.jpg](http://www.lostartoriginals.com/Classes/FT_Calculus.jpg)



## The Quotient Rule



<http://blogs.edweek.org/edweek/eduwonkette/upload/2008/07/DefeatTheSunwithCalculus-full.jpg>



<http://www.math.buffalo.edu/~sww/classes/curiousgeorge-calculus.jpg>