**Calculus AP Project Choice A—Number of Students—1 per project**

**Who Invented Calculus?**

You will need to investigate the history of calculus. Historical evidence concludes that modern calculus seems to have its origins in either Sir Isaac Newton's or Willhelm Gottgried Leibniz's hands. Or perhaps the answer is slightly more complicated.

# Your Task

**You are going to need to produce a clear 5-7 paragraph editorial on who should be given the most kudos for inventing calculus. Who came up with the “main points of discovery?” Why do you conclude that?**

You can use **anything** (credible) you find on the web. This WebQuest will be harder than it looks, because of two things. One, there is a lot of information out there. Like, too much. And you’re going to have to sort through all that, and then piece together all the relevant bits. Sifting and synthesizing will be the name of the game. Two, you may not really understand what calculus is. One of my hopes is that this quest will show you more about what calculus is.

One thing I need you to do in order to keep yourselves organized is to

* **make a list of pros and cons for Newton and Leibniz, to organize your thoughts and findings.**

Yes, as a serious journalist you are going to have to do some serious work. You’re going to have to search through webpages. It might help to keep your eyes peeled for the names **Newton** and **Leibniz** (obviously).

Here are a few points of advice:

* An editorial is an opinion. But it is one based on a lot of (credible) supporting evidence.
* Cite your sources for each fact come across! I’d make note of each webpage you visit, so you have them somewhere in case something goes horribly, horribly wrong.

Here are some questions to think about when organizing your search:

* What is calculus, really? This will be useful in setting the stage.
* Although Newton and Leibniz are credited with the discovery of calculus, there were many other mathematicians who contributed to its development. Find three mathematicians from three different centuries that made contributions.
* Newton wrote letters to Leibniz. State one interesting thing he said. This might be useful in terms of finding supporting evidence for one position or the other.
* When did Leibniz send a letter to Newton concerning the use of differentials?
* What did you find to be the most interesting or surprising fact about the rise of calculus? Why is it interesting to you? If it is interesting to you, it might very well be interesting to your readers! You might want to start that out as your lead.
* What was the very first step in the rise of calculus? Does that make a difference in who gets the most credit?
* On a timeline of the rise of calculus, what do you think was the most important fact?

**The Editorial**

Your newspaper wants the editorial to be about five to seven, clear, substantive, typed paragraphs long (at least 2 pages, probably more like 3 pages double spaced, 12 pt standard font). It should focus on who should get the most kudos for inventing calculus — Newton or Leibniz. In order to publish, your editor needs cited, supporting evidence. You may co-write your editorial with one other reporter in your block.

Your editor also wants the first paragraph to introduce the reader to the dispute. So you ought to include a description of (a) what is calculus and (b) the dispute in the first paragraph. (It’s a newspaper, so you don’t want to get *too* technical. But for simplicity’s sake, let’s assume it’s a science-based newspaper, so you can assume your audience has taken Pre-Calculus.) You will then make your arguments in the second paragraph.

**Your editor also wants all your notes.** So if you cut and pasted and typed quotations and thoughts in a word document, or handwrote a pro-con list, your editor wants you to turn that in too. And if you worked with another reporter, you can turn in the work you did collectively together — just be sure it has your names on it.

**THE CAVEAT:** Your editor is a seasoned historian, as well as someone versed in mathematics. She recognizes good writing and bad writing. Part of being a reporter on this newspaper (translation: student in this class) is learning how to clearly communicate your argument to someone else. So don’t think that your editor is going to throw these away without reading them. Be prepared to share your work with your peers.

Here are things I will be looking for.

* Does your introduction answer what calculus is? Does it clearly lay out the Newton-Leibniz debate?
* Do you have clearly articulated, strong, supporting evidence for your thesis?
* Are all your sources clearly cited? (Use [easybib.com](http://easybib.com/) if you don't know how to do proper citations) Are you getting your information from a variety (translation: at least 5) sources? You shouldn’t paraphrase or quote without citing your source. For the purposes of this assignment, it is better to err on the side of overciting than underciting.
* Do you have a comprehensive “pro-con” list and additional comprehensive research notes?

*Notice the common theme: the word clearly!*

**What do I hand in?**

* Cover page
* Editorial
* Citations
* ALL notes
* pros and cons list
* visuals (if interested in the bonus marks)

**AP Calculus Project Evaluation**

**Due Date: June 6**

**The Editorial**

In your editorial you need to:

* explain what calculus is.
* explain what the dispute over the invention of calculus.
* give your opinion.
* support your position with data.

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**Writing Style**

Your editorial will be checked for:

* spelling
* grammar
* flow

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**Class Time**

Your attendance is mandatory. You will also be evaluated on:

* punctuality
* productivity
* preparedness (bring all necessary supplies)

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**Details**

Make sure your project has the following details:

* cover page
* typed editorial, 12 point font size
* editorial is 5 – 7 paragraphs
* proper citations
* notes submitted
* pros/cons list

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**TOTAL **

**Bonus**

You can receive **up to 5 bonus marks**  for doing any of the following:

* Create a poster with visuals (paper or virtual).
* Use presentation software to make a presentation of your position.
* Make a video to accompany your editorial.

You will not automatically receive bonus marks if you choose to do one of the three activities listed here. It needs to be done **well** in order to receive the bonus marks.