CONIC SECTIONS PROJECT

Mr. Young – Honors Precalculus

*YOUR GROUP WILL BE INTRODUCING AND PRESENTING A CONIC SECTION. YOUR JOB IS TO MAKE A MULTIMEDIA PRESENTATION COVERING THE IMPORTANT FEATURES OF YOUR CONIC SECTION AND A REAL WORLD APPLICATION OF YOUR CONIC SECTION. A STUDENT LEARNING ABOUT THIS CONIC SECTION SHOULD BE ABLE TO VIEW YOUR PROJECT AND UNDERSTAND HOW TO GRAPH YOUR CONIC SECTION, WHAT DEFINES YOUR CONIC SECTION, AND IT SHOULD INCLUDE A REAL LIFE EXAMPLE OF HOW THIS CONIC SECTION IS USED.*

**OPTIONS FOR A MULTIMEDIA PROJECT.**

-**PowerPoint Presentation** (or something like a PowerPoint like PREZI (www.prezi.com) a very cool way to present information).

-**Poster:**  Make a poster showing what your conic section is, how to graph it and a practical use of your conic section.

-**Video**  (similar to a khan academy/educational youtube video etc.). You could literally tape yourself showing an example of your conic section and going over the important parts of a conic sections. Or… get creative-any way that you think will engage your viewer to learn about the particular conic section. Conic Sections Rap…? Find a real world conic section and tape yourself going over the important features.

-**Website** (weebly, wordpress etc. are some nice easy ones for making a free website).

- **A mix of multimedia** (video, PowerPoint, website) or any other way you want to present to material.

**DIRECTIONS: (see rubric on the back as well)**

Whatever you decide to do as you project. Your project should be able to teach a student learning about the particular conic section, all the important details about your conic section.

EXAMPLE:

For example if your conic section was an ellipse: what exactly is an ellipse? What are the important features of an ellipse (foci, vertices, major/minor axis, latus rectum, etc)? How do you graph an ellipse? Show an example of how ellipses are used in real life or reflective properties (if any).

One way to present this all at once would be to look at a real world example (like an elliptical dome) of an ellipse as your one problem to teach about ellipses. Then go over the important parts of the elliptical dome (vertices, foci, major axis, etc.). Then you could go on to explain the reflective property of the elliptical dome as a whispering gallery where the sound from one focus all reflects back to the other focus. You could do this in a 1-2 minute video!!

**NOTE:** I will post your final projects on my website so that when you are studying for the final, you will be able to use these as a reference.

**IMPORTANT NOTE:** Your project should be your own, however, you may certainly use problems/images from textbooks, math websites, etc. to help you with your project. ([www.kutasoftware.com](http://www.kutasoftware.com)) has some nice, simple conic section problems for example. Also, feel free to put links to other websites, videos, if you feel it would be helpful to your viewer . JUST BE SURE TO CREDIT YOUR SOURCES AT THE END OF YOUR PROJECT SOMEWHERE (does NOT need to be very formal).

GRADING RUBRIC

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| ***The Basics***  *Title, authors, sources referenced at the end (if any).* | *5%* |
| ***Accurate/Clear Completion of Problems:***  *Your project should have the following elements:*   1. *A description of your conic section is and what defines it (all the important parts)* 2. *How to graph your conic section centered on the origin* 3. *A real life application of your conic section (think of the reflective properties).* | *30%* |
| ***Clear and Informative Explanations:***  *“If you can’t explain it simply, you don’t understand it well enough.” Albert Einstein.*  *Your project is very clear to a viewer who is just learning about this conic section. The project clearly and concisely explains what your conic section is, what defines it and how to graph it. The viewer should have a solid understanding of your conic section after watching/viewing your presentation.*  *Remember that viewers can only take in so much information so be clear and concise but thorough (a tough feat to accomplish).* | *30%* |
| ***CREATIVIVITY/EXECUTION***  *The project is thorough, well thought-out and executed in a professional manner. The project is clear and easy-to-follow and is presented in a creative, yet well-defined manner. Have fun with this. This project should be fun!*  *Students all over the country could USE your project to help them understand conic sections and their applications or just to enjoy the video that you create!* | *35%* |