**7th/8th Quarter Project #1 Math Competitions**

For this quarter project, you will get to experience a math competition firsthand and represent Skinner North as you compete against other middle school students in Chicago or nationwide! You will have a lot of choices in this project, as well as some constraints, so you will need to follow the competition guidelines carefully in order to be eligible to compete. You will also have the opportunity to compete in more than one competition. Preparations for both competitions begin now, but extend past Quarter 1. Your final project grade will count for 15% of your Quarter 1 grade.

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| **QED: Chicago’s Youth Math Symposium** | From Math Circles of Chicago: “A Math Symposium is similar to Science Fair, except that the projects focus on math instead of science. The math projects can be extensions of classroom problems or competition problems that a student has found interesting. QED is the name of our Math Symposium. QED is an abbreviation of the Latin phrase “quod erat demonstrandum,” which is commonly used to signal the completion of a mathematical proof.”  This project is individual; however, I will announce several days where students can choose to stay after school and get feedback from me and/or your peers. |
| **Math Counts Video Challenge** | From Math Counts: “The Math Video Challenge is an innovative program that empowers students to be math teachers, video producers, actors and artists - all at the same time! Working together in teams, students will create their own videos about math problems and their associated concepts. The Math Video Challenge is designed to get students excited about math while giving them the opportunity to hone their creativity and communication skills. Students will form teams consisting of four students each to create a video that teaches the solution to one of the problems from the 2015-2016 MATHCOUNTS School Handbook, and also demonstrates the real-world application of the math concept used in the problem.”  All student teams must have exactly four members, although all four members do not necessarily have to appear in the video. Students may participate in more than one team. Teams may submit more than one video. Collaboration is key to this assignment and teams will need to work together outside of school. |
| **BOTH** | If you are interested in both competitions, you may choose to create projects for both! You can choose which project you would like to count for your Q1 project grade. |

**QED: Chicago’s Youth Math Symposium**

**Website:** <https://mathcirclesofchicago.org/qed/>

* Lists of problems to inspire you (think POM type problems, extensions from homework, etc.)
* Registration
* Check back for updates/sample projects!

**Registration Date:** November 14, 2015

**Competition Date:** Saturday, December 5

**Requirements:**

* Choose a problem from class or a competition that can be extended and investigated further from one of these three main categories:

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| Pure Mathematics | number theory, probability, and extensions of traditional algebra “word” problems |
| Applied Mathematics | any problems arising out of real world situations, including computer simulations of such situations |
| Computer Science | problems involving algorithms, computability, complexity |

* Investigate your problem and beyond – see where it takes you!
* Create a tri-fold board that showcases your problem, solution, work, explanations, diagrams, etc.
* Write a title and abstract that summarizes your project (due at the time of registration)
* **Participate in QED presentation on Saturday, December 5 at Walter Payton College Prep**

**Math Counts Video Challenge**

**Website:** <http://videochallenge.mathcounts.org/>

* Copy of 2015-2016 Math Counts School Handbook
* Video archive from past competitions
* Official rules
* Online registration
* Quick start guide

**Registration Date:** Not yet announced by Math Counts, but will likely open in September

**Competition Date:** Online voting ends on March 14, 2016

**Steps:**

* Create a team of exactly four students
* Register your team online
* Choose a problem from the current Math Counts handbook
* Brainstorm ideas and create a story board
* Write a script
* Shoot your video
* Edit your video (5 minute video or less)
* Submit your video by uploading it to the Math Counts Video Challenge competition site

After you upload your video, you will need to encourage friends and family to vote for your video. The Top 100 videos in the nation will advance for further judging.

**Grading**

Projects grades will be based on the following:

* Mathematical accuracy
* Communication of mathematical thinking and solutions
* Quality: Creativity/Professionalism
* Completeness

Rubrics will be provided before the project is due and will be reviewed in class..

**Check In’s and More Information**

Students will be expected to check in and share their progress throughout the quarter. Check-in dates for each project will be announced after the first check in.

**Check In #1: By September 21 – Choose competition and team (if participating in the Math Counts Video Challenge)**

**Check In #2: Week of Monday, October 5**

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| **QED** | **Video Challenge** |
| Conference with Ms. Ridgway:  At this time you should have committed to a problem/investigation and be able to share significant progress. I will provide feedback at this time.  \*If you are helping a team with a video, you need to check in with both your QED project and video project at this time. | Conference with Ms. Ridgway:  At this time, your team should have chosen a problem, solved it, and begun plan for filming. Your team will turn in a script and story board. I will provide feedback at this time.  \*If you are submitting multiple videos, you only need to submit one script and one story board by this check in. |

**DUE DATE: Monday, October 26**

\*You will still be able to make edits for competitions, but your projects will be graded for your Q1 project grade at this time.

After students explore the websites and decide which competition they would like to participate in for Quarter 1, they will get more detailed information outlining the specific guidelines of their competition.

Students will be given some class time to learn more about each competition, brainstorm ideas, and conference with teachers periodically. The majority of the project will be completed at home. I will announce several after-school sessions throughout the quarter for any students interested in receiving additional guidance.