

Mu Alpha Theta
NATIONAL HIGH SCHOOL AND TWO-YEAR COLLEGE
MATHEMATICS HONOR SOCIETY
FUQUA SCHOOL CHAPTER

Overview

Mu Alpha Theta is an organization whose purpose is to stimulate interest in mathematics by providing public recognition of superior mathematical scholarship and by promoting various mathematical activities. It is co-sponsored by the Mathematical Association of America, the National Council of Teachers of Mathematics, the Society for Industrial and Applied Mathematics, and the American Mathematical Association of Two-Year Colleges. There are over 1500 chapters in the United States and foreign countries. Colleges and major universities recognize membership in Mu Alpha Theta as an important part of the student's academic resume. Topics presented during club meetings and interest generated therein help members to gain a greater understanding and an enjoyment of mathematics.

(Mu Alpha Theta web page - <http://www.mualphatheta.org>)

Eligibility Requirements

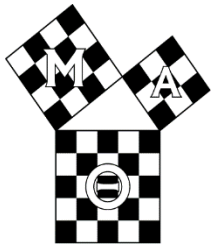
1. Is enrolled as a Fuqua School student in grade 9, 10, 11, or 12;
2. Attended Fuqua School the equivalent of one semester prior to being considered. (This requirement shall be waived for students who were members in good standing of a Mu Alpha Theta chapter in another school.);
3. Completed Algebra I, Geometry, and Algebra II and is registered to take Pre-calculus or has already completed Pre-calculus;
4. Achieved a minimum GPA of 3.3 on college preparatory mathematics classes (based on final end-of-course grades): Algebra I, Algebra II, Geometry, Pre-calculus, Calculus I, AP Calculus A;
5. Meets Fuqua School's minimum standard for overall GPA (not on academic probation);
6. Committed no serious behavior violation (level III or higher) throughout the previous academic year nor behaved in a manner that resulted in behavior probation;
7. Demonstrates ability to work with others and to conduct independent research;
8. Possesses qualities of industry, initiative, and reliability.

Application Process

1. Complete the Mu Alpha Theta Mathematics Honor Society application.
2. Work the problem on the next page, and attach your pledged solution to the application.
3. Submit application and problem to the department chairperson by the deadline.

* Submission must include a complete mathematical justification along with the answer.

* Submission may only be made by an individual and must be dated and pledged in full.



QUESTION:

Suppose you are given 12 coins, one of which is counterfeit and weights a little less than the real coins. Using a two-pan balance scale, what is the minimum number of weighing's necessary to find the counterfeit coin?

Explain your reasoning in detail. (use additional paper if necessary)

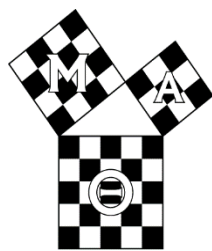
Election

Students who meet the eligibility requirements for membership and who complete all application requirements as determined by the Mu Alpha Theta Admissions Committee will be inducted as full members of the school chapter.

Membership Retention

To retain membership, the student must maintain a minimum 3.3 GPA in all mathematics classes and continue to meet all eligibility requirements for behavior.

(see below for application)



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STUDENT APPLICATION FOR MEMBERSHIP

NAME: _____ GRADE LEVEL: _____

DATE: _____

Are you enrolled at Fuqua School this semester as a ninth, tenth, eleventh or twelfth grade student? _____

Were you in attendance as a full-time student at Fuqua School during the entire spring semester of last year? _____

Do you meet the eligibility requirements for Mu Alpha Theta as outlined in the Fuqua School handbook? _____

For each of the following college preparatory mathematics courses offered at Fuqua School, complete this table. Semester completed should include "Fall" or "Spring" as well as year.

COURSE	SEMESTER	FINAL GRADE	INSTRUCTOR
ALGEBRA ONE			
GEOMETRY			
ALGEBRA TWO			

Have you ever been a MathCounts competitor? _____

Have you ever taken the AMC-10 (American Mathematics Contest)? _____

Have you ever taken the AMC-12? _____

Have you ever competed in the TRIG-STAR contest? _____