

BROOKLINE PUBLIC SCHOOLS

Grades 7/8 Mathematics Challenge Option

Purpose and Philosophy

The Mathematics Challenge Option in grades 7/8 is a form of differentiation that provides high-level challenge to students within math classes. As a system-wide program, teachers collaboratively create, share, critique, and implement the program so that there is consistency and alignment of the program across Brookline schools.

The purpose of the Mathematics Challenge Option in grades 7/8 is to provide the necessary math curriculum, instruction and assessment at a level of rigor and depth that pushes students beyond their current levels of understanding, raising the expectations for students and their achievement.

The goal of the Mathematics Challenge Option in grades 7/8 is to improve student achievement in math as evidenced by increased numbers of students successfully taking BHS math courses above the standard level (honors and advanced), increased participation rates on AP tests and the average AP test scores, and improvement on standardized tests (e.g. MCAS, SAT/ACT).

Important Information

The Mathematics Challenge Option is *open* to every student at the *beginning of each quarter* with a two week trial period. During this two-week trial period, students can add/withdraw from the Mathematics Challenge Option. A student may not add beyond the two-week trial period but may withdraw at any time with teacher and parent(s) consent.

- ❖ The Mathematics Challenge Option will be rigorous and demanding with a greater depth of content and skill development.
- ❖ While some unique topics will be explored, most Math Challenge Option work will stem from content being examined by all students in the course. Students are expected to *delve deeper* into the topics.
- ❖ The intent of Math Challenge Option work is not to have students do extra work, but *more challenging work*. However, some assignments may be so challenging that they will require additional time, energy and perseverance on the students' part in order to produce work that is of high academic quality.
- ❖ Students who are interested in participating in the Mathematics Challenge Option must write a *letter of reflection and intention* expressing their interest in and commitment to participation (see page 3 of this document).
- ❖ Students who successfully complete *all* Mathematics Challenge Option work will receive an *acknowledgment of their efforts* on their report card each quarter.
- ❖ Student not enrolled in the Mathematics Challenge Option in a given quarter may undertake any of the assignments.

Note: Please Return the Mathematics Challenge Option Student Contract and Signatures of Agreement to your Teacher

7/8 Grades Mathematics Challenge Option Student Contract

Criteria/Expectations (*What am I expected to do? What I am agreeing to do as a participant in the Mathematics Challenge Option*):

- a) I understand that I will work both independently and/or in small collaborative groups on assignments and that I must demonstrate appropriate behavior, a positive attitude and exemplary work habits in order to be successful with the Mathematics Challenge Option.
- b) I agree that I will fully engage in problems that are more complex and require more abstract thinking. I understand that this will require creative, innovative and flexible problem solving strategies and the application of past and new knowledge.
- c) I agree to persevere in all of my Mathematics Challenge Option work and I understand that this may require extra time on my part. If I need help, I will take the initiative to seek appropriate support and utilize available resources.
- d) I agree to write an in-class *letter of reflection and intention* to my teacher expressing my interest in and commitment to participation in the Mathematics Challenge Option.
- e) I understand that I can enroll in or withdraw from the Mathematics Challenge Option with each marking period. I will let my teacher and my parents know if I decide to withdraw from the Mathematics Challenge Option.
- f) I understand that I will have to demonstrate my depth of understanding of the Mathematics Challenge Option content through common district-wide assessments throughout the quarter as well as common end-of-year assessments.

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Letter of Reflection and Intention

7/8 Mathematics students who would like to officially enroll in the Mathematics Challenge Option must write a *Letter of Reflection and Intention* to your teacher in class during the first week of school.

Directions: On the answer sheets that your teacher distributes, you will: (1) answer the questions below in your *Letter of Reflection and Intention*, (2) write a *Goals Statement* and (3) complete the *Habits of Mind Student Rating*.

Answer the following questions: (*What do you know about yourself as a student? What do you want to learn about yourself as a student? What's your commitment to this work?*)

- 1) In your schooling so far, describe how you have pushed yourself academically particularly in mathematics.
- 2) Describe an area of strength and an area for improvement for you in mathematics.
- 3) Explain why do you think the Mathematics Challenge Option is the right choice for you?

Write Goals Statement

Identify and describe two to three goals you hope to achieve this year in the Mathematics Challenge Option. Possible goal ideas might include: study habits, *Habits of Mind*, showing process for work, becoming more independent, etc. *Note:* These goals will be reviewed with your teacher to discuss your progress over the year.

Rate your *Habits of Mind* (*Note:* Your teacher will provide you with the rating scale to complete in class).

Habits of Mind (HOM) are the characteristics that intelligent thinkers use when confronted with problems where solutions to them are not immediately known. HOM are intellectual behaviors (perseverance, curiosity, deliberativeness, flexibility, creativity) that we draw upon when we are faced with challenges. Please know that you will further develop these Habits of Mind through your Mathematics Challenge Option work.

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Mathematics Challenge Option Signatures of Agreement

School: _____

Teacher: _____

Date/QTR: _____

Note: Please return the *Signatures of Agreement* by Monday, September 27th.

Student: I understand the criteria for the Mathematics Challenge Option. I am aware of the expectations and commitment necessary to be successful in the Mathematics Challenge Option work. Also, I am aware that if I decide not to continue with the Mathematics Challenge Option, I may withdraw at any time. I will notify my teacher and parent if I decide to withdraw. My grade will not be affected by that decision, but I will no longer receive the Mathematics Challenge Option recognition on my report card.

Student Signature: _____ **Date:** _____

Parent/Guardian: I understand the criteria for the Mathematics Challenge Option. I am aware of the expectations and commitment necessary for my child to be successful in the Mathematics Challenge Option. Also, I am aware that if my child decides not to continue with the Mathematics Challenge Option, he or she may withdraw at any time. My child's grade will not be affected by that decision, but he or she will no longer receive the Mathematics Challenge Option recognition on his or her report card.

Parent/Guardian Signature: _____ **Date:** _____

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