

Torrance Unified School District Frequently Asked Questions about Middle School Math Pathway

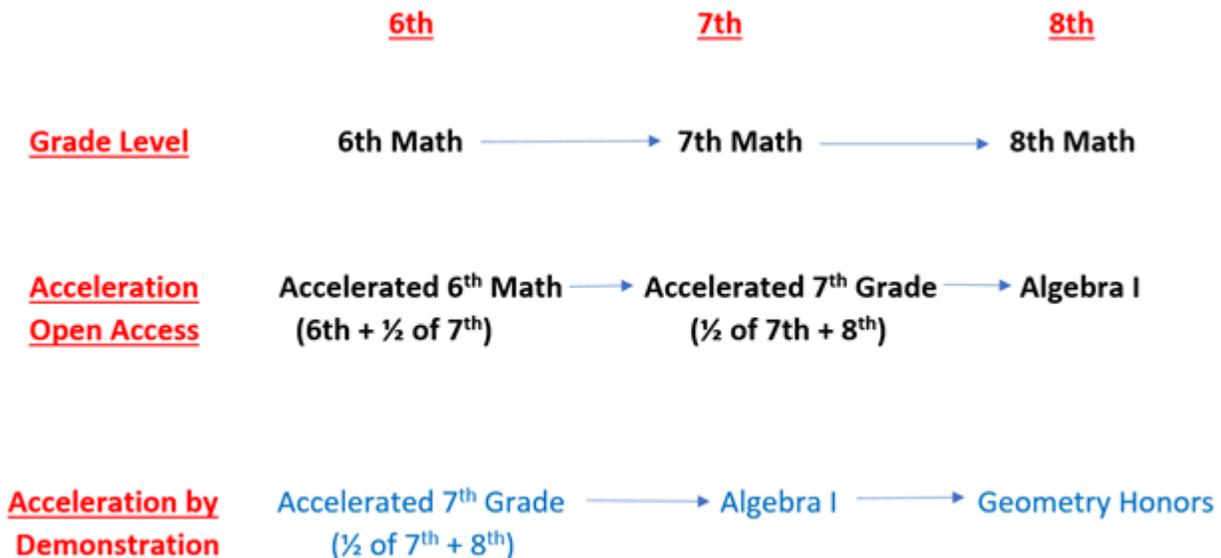


Dear Families,

The purpose of this document is to provide information about our middle school math program, and to inform you of our math course pathways. We believe appropriately placing students is an important decision and we want our families to be well informed regarding your child's math options. We take placement into mathematics courses very seriously because our students' future math skills depend on it, and they deserve this attention. Please be assured that we base the recommendations for your child's placement on a broad range of information and data relevant to our students' future success. Further questions should be directed to your student's current math teacher.

1. How were the new middle school math pathways developed?

A group of secondary math teachers and administrators (Math Leadership Committee) met several times during the school year 2016-2017 to analyze the current pathways. The Math Leadership Committee then carefully designed the new math pathways for middle schools and these recommendations were presented to all middle school math teachers for feedback. After gathering input from stakeholders, the new math pathways for TUSD were presented to and approved by the Board of Education in April 2017. The development of the new math pathways was handled with care to ensure that students master and fully understand all important topics in the mathematics curriculum, and that the continuity of the mathematics learning progression is not disrupted.



2. What are the three pathways in middle school math?

- **Grade Level** - Most students will follow the Grade Level pathway which includes grade level content, and may result in Pre-Calculus being taken during the senior year. It should be understood that this is a very appropriately rigorous math progression recommended by the Common Core State Standards (CCSS), which, with successful completion, students will be qualified for high education options beyond high school.
- **Acceleration by Open Access** - This pathway compacts three years of middle school math into two years and allows students to begin Algebra I in 8th grade rather than 9th grade. This pathway may lead to AP Calculus or AP Statistics as a senior in high school. As parents, you have the right to enroll your student into accelerated math courses. However, your child's teacher will be able to provide information about your student's progress and performance in math so that you, as parents, can make an informed decision about whether this pathway is appropriate for your child.
- **Acceleration by Demonstration** - A very few students may follow this pathway. This pathway is designed for students who have been identified as highly capable in mathematics, with abilities far beyond their grade level. Students must demonstrate their advanced mathematics knowledge through an assessment in order to qualify for this pathway.

3. How rigorous are the Mathematics Common Core State Standards?

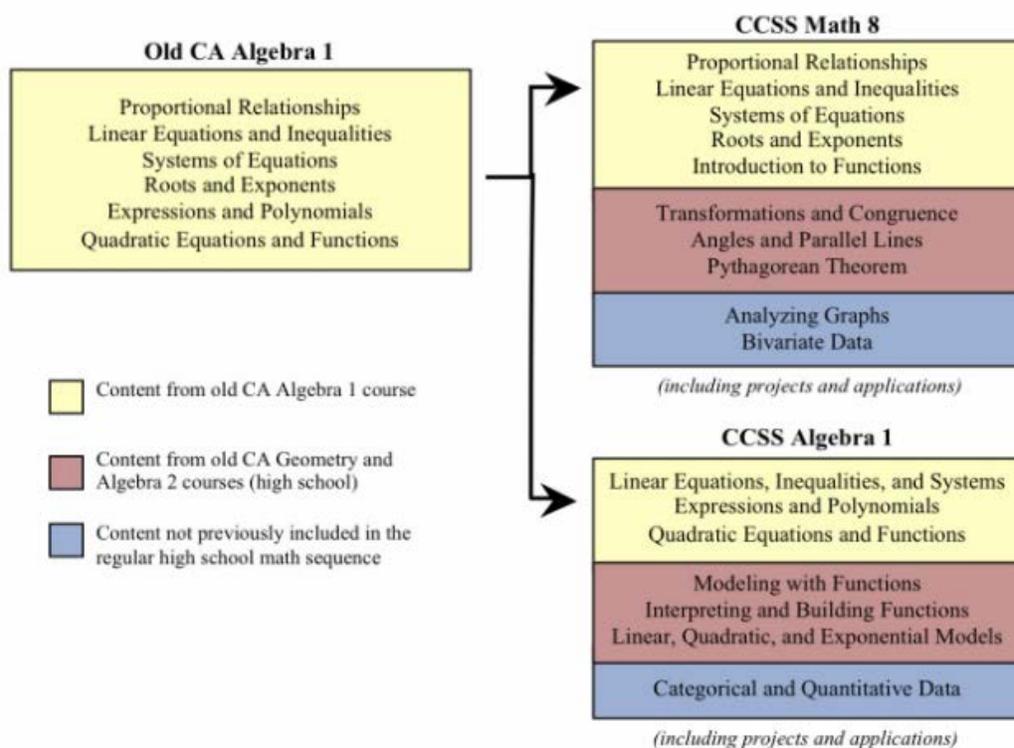
The Common Core State Standards for Mathematics (CCSS-M) call for greater focus and coherence in mathematics education. Rigorous mathematics refers to a deep understanding of mathematical concepts. To help students meet the standards, TUSD teachers are committed to pursue, with equal intensity, three aspects of rigor: conceptual understanding, procedural skill and fluency, and application.

The CCSS-M grade-eight standards are significantly more rigorous than the Algebra I course that many students took in eighth grade.

The CCSS-M grade eight course addresses the foundations of algebra by including content that was previously part of the Algebra I course (before CCSS) - such as a more in-depth study of linear relationships and equations, a more formal treatment of functions, and the exploration of irrational numbers. For example, by the end of the CCSS-M for grade eight, students will have applied graphical and algebraic methods to analyze and solve systems of linear equations with two variables. The CCSS-M for grade eight also includes geometry standards that relate graphing to algebra in a way that was not explored previously. Additionally, the statistics presented in the CCSS-M for grade eight are more sophisticated than those previously included in middle school and connect linear relations with the representation of bivariate data.

The CCSS-M Algebra I builds on the CCSS-M grade-eight math. Therefore, it is more advanced than the previous courses.

Because many of the topics included in the former Algebra I course are in the CCSS-M for grade eight, the CCSS-M Algebra I course contains more advanced topics and in-depth work with linear functions and exponential functions and relationships, and goes beyond the previous high school standards for statistics.



3. What are the guidelines for math placement and course sequences?

Placing students in a course pathway for which they are not adequately prepared can have negative consequences. Premature placement of students into an accelerated pathway should be avoided at all costs. “Learning the mathematics prescribed by CCSS-M requires that all students, including those most accomplished in mathematics, rise to the challenge by spending the time to learn each topic with diligence and dedication. Skimming over existing materials in order to rush ahead to more advanced topics will no longer be considered good practice” (Wu, 2012). Every step is a preparation for the next one. Learning it properly requires thorough grounding at each step, and skimming over any topics will only weaken one’s ability to tackle more complex material down the road” (Wu, 2012).

When accelerated pathways are considered, it is recommended that three years of material be compacted into two years, rather than compacting two years into one. The rationale is that

mathematical concepts are likely to be omitted when two years of material are squeezed into one. Moreover, the compacted courses should not sacrifice attention to the Standards for Mathematical Practice. Mathematics is by nature hierarchical. Before a student is placed on an accelerated pathway, serious efforts must be made to consider solid evidence of the student's conceptual understanding, knowledge of procedural skills, fluency, and ability to apply mathematics.

4. How are students placed in Accelerated courses?

Maintaining motivation and engagement in accelerated mathematics is essential for some students who excel in mathematics and consequently in school. Slowing down instruction or restricting access to accelerated sequences may discourage and disengage some students from their progress in math. Students who are capable of moving more quickly deserve thoughtful attention, both to ensure that they are challenged and that they master the full range of mathematical content skills - without omitting critical concepts and topics. Care must be taken to ensure that students fully understand all important topics in the mathematics curriculum, and that the continuity of the mathematics learning progression is not disrupted.

- **Acceleration by Open Access**

Placement recommendations for accelerated courses will be made based upon the California Assessment of Student Performance and Progress (CAASPP), TUSD math performance assessments, and teacher recommendation. The decision to accelerate is best made when both school and family are involved, using solid, objective evidence of student learning to ensure success. If you do not agree with your child's math course placement recommendation, please contact the principal of the middle school your child is attending.

- **Acceleration by Demonstration**

Students must demonstrate knowledge and abilities far beyond their grade level to have the opportunity to be placed in this pathway. Those students who meet the placement recommendations for accelerated courses will be given an additional assessment in June to determine eligibility for placement in the Acceleration by Demonstration pathway. However, students can be assessed at any time to determine the best math placement for him or her. The student's current math teacher would be the best starting point to determine if such a move would be advisable or not.

5. Will there be any options for my child to accelerate in high school?

Yes, there will be other options for accelerating math in high school. Some students may not have the necessary preparation to enter an Accelerated Pathway but may still develop an interest in taking advanced mathematics, such as AP Calculus or AP Statistics in their senior year. For students who study the eighth-grade standards in grade eight, there are pathways that will lead them to advanced

mathematics courses in high school. Those students who are interested in acceleration options in high school are advised to speak directly to their high school counselors or teachers.