

PAUSD Grade 9 Math Placement Plan Policy & Protocols

[\(Senate Bill 359\)](#)

Overview of PAUSD Math

Courses have been developed that meet the California Common Core State Standards in Mathematics (CCSS-M) for every student throughout the District. PAUSD offers three types of high school math coursework through flexible lanes of challenge: coursework that is *at* grade level, coursework that is both *accelerated and advanced*, and coursework that is *far beyond usual expectations* for honors-level students.

Overall, the PAUSD math program aims to help students succeed at their own pace while meeting graduation requirements, state standards, and minimum admission requirements for California State University (CSU) and University of California (UC). PAUSD provides a range of math courses (all of which fulfill graduation requirements, state standards, and CSU/UC requirements) to ensure that students are enrolled in a suitably challenging math course in which they can learn effectively. Parents/guardians and math teachers or guidance counselors will offer insights and advice to assist students in selecting the appropriate courses for high school.

Most students in PAUSD take either Algebra 1 or Geometry in Grade 8. The Mathematics Placement Act of 2015 (SB359) was enacted to enable all students, especially historically underrepresented students, to reach calculus or advanced placement statistics by Grade 12. Consistent with this goal, both math pathways lead to calculus or advanced placement statistics by Grade 11 or 12. Before the start of the Grade 9 academic year, teachers and guidance personnel will advise pupils and parents on the importance of accurate mathematics course placement and its impact on future college eligibility so pupils may take the proper course in the mathematics course sequence. Students who achieve a passing grade of at least a “C” or better or are testing at proficient or advanced proficiency on state assessments will not repeat 8th-grade mathematics coursework and will advance to the next course in the recommended mathematics course sequence.

High School Math Is a Choice Program

The high school math program is a ***choice program***. It is important for students and their parents/guardians, with the advice of teachers and guidance personnel, to choose their math course lane based on finding the appropriate balance of challenge and success in the student’s day. Students should also be aware of the impact of the transcript grade in the college application process. It is recommended that students choose the most rigorous course of study available in which they can earn an A or a B *on their own*.

The workload and pace of the A-lane (advanced courses) are more demanding than the grade-level/college-prep courses. The workload and pace of the H-lane (honors courses) are more demanding than the A-lane courses. In deference to students' natural growth, PAUSD offers these flexible *lanes* rather than rigid *tracks* of math. If a student wishes to move to more advanced or deeper coursework, the student may need to complete summer work. If a student wishes to move to less challenging or more basic coursework, the student can most likely move at the end of a semester without any additional work.

Math Placement Protocols

Before entering high school, teachers or guidance personnel shall meet with students and parents to advise them on the importance of accurate mathematics course placement and its impact on future college eligibility so students may take each course in the mathematics course sequence leading to calculus by Grade 12. To ensure accurate Grade 9 mathematics course placement, students, parents/guardians, and school personnel will consider:

- Success in their current math course; test scores and overall grade
- Ability to work and persevere independently
- Readiness for the next level course as measured by the critical levels met in end-of year-assessments
- MDTP results
- California Assessment of Student Performance and Progress (CAASPP) assessment results
- Formative and summative assessments
- Time commitments for academic and extracurricular activities; work-life balance

Students who achieve a passing grade of at least a “C” or better or are testing at proficient or advanced proficiency on state assessments will not repeat 8th-grade mathematics coursework and will advance to the next course in the recommended mathematics course sequence.

Grade 9 Placement Checkpoints (California Senate Bill 359)

During the first month of high school, all Grade 9 math students are assessed for proper placement. Instructors formatively assess students by administering the appropriate CCSS-aligned test for the initially assigned math course (Mathematics Diagnostic Testing Project/MDTP). For students who score proficient or higher on a readiness assessment (as determined by the test provider), staff will administer the next higher-level readiness assessment to determine the appropriate math placement. The placement testing will continue until the student reaches the highest level of readiness.

For students enrolled in Algebra, this may involve moving into Geometry or Geometry Honors. Students enrolled in Geometry might move into Geometry Honors. All students must take a geometry course to meet graduation requirements and University of California minimum admission requirements. For students in Algebra 2/Trigonometry A and Algebra 2/Trigonometry H, possible course changes include Algebra 2/Trigonometry H, Introduction to Analysis and Calculus, or Analysis H.

If after the placement checkpoint, a placement change appears to be appropriate, teachers and/or the Math Instructional Leader will once again meet with the student and their parents/guardians to finalize proper placement.

Changing Math Placement

Math Placement Appeal

Students and their parents/guardians who feel they are not appropriately placed should meet with their teacher and counselor to determine if a schedule correction is needed ([BP 6152.1](#)). Within 10 school days of an initial placement decision, or a placement decision upon reevaluation, a student and parent/guardian may appeal the decision to the Superintendent or designee. The criteria used to help determine placement may include:

- Grade in previous course
- MDTP readiness assessment
- Grades on in-class assessments taken during the current school year
- CAASPP scores, if available
- Recommendation of teacher or counselor who has personnel knowledge of the students academic ability
- Other assessment results, as appropriate and available

Challenge by Examination

PAUSD Board Policy ([BP 6155](#)) allows high school students to challenge courses by examination. This examination is aligned to state-adopted content standards in mathematics taught in the course being challenged. If a student successfully challenges a course, a grade based on exam results and five units per semester covered by exam, will be added to the transcript with a note indicating that the requirement was met by examination.

Off-Campus Courses (non-PAUSD)

Rising Grade 9 students may take a geometry course during the summer between eighth and ninth grade through a pre-approved third-party provider ([Sample of Approved Outside Institutions for Non-District Courses](#)). It is important for students to receive prior approval before taking the course to make sure that it qualifies as a course for PAUSD and fits in with the student's academic plans. [Please note that an off-campus geometry course may not fully prepare students for the highest lane of Algebra 2 (Algebra 2/Trig H).]

All other specific course graduation requirements are to be taken on a PAUSD campus. Students wishing to take off-campus courses (non-PAUSD) must have prior approval. Please see the [Gunn High School](#) and [Palo Alto High School](#) websites for more detailed information regarding off-campus courses. Students who do not receive prior approval for off-campus courses will not have those courses placed on their transcript. *This may impact graduation status.* Please confer with your guidance counselor.

Grade 9 Math Courses

When reviewing the high school courses below, please note that “*Successful completion*” means a grade of C- or above. Students who earn below C- should repeat the course in order to move forward in a math pathway, and for the course to be considered for college admission.

Algebra 1

Students study the applications of linear and quadratic functions. Students learn properties of real numbers, solve linear equations and inequalities, graph linear equations, equations and inequalities with absolute value, solve systems of linear equations and inequalities, simplify exponential expressions, graph and solve quadratic equations and use factoring and the quadratic formula. Students summarize, represent, and interpret data for single count variables, and analyze scatter plots for two quantitative variables. Students learn how to simplify irrational expressions and solve equations with square roots.

- Students self-report spending an average of 1.5 hours a week outside of school on this course.
- This is a college-prep course.

Geometry

Students formalize the geometric concepts learned in middle school and expand their knowledge of Euclidean geometry. Students deepen their understanding of geometric relationships and prove them in different ways. Topics include congruence, similarity, right triangle trigonometry, transformations, area, and volume. This course includes a comprehensive review of Algebra to prepare students for Advanced Algebra and Trigonometry. Students may still access the honors level in future years (after this course). It is recommended that students begin with Geometry if they have mastered fewer than five of the seven Algebra strands, as assessed in Algebra class.

- Prerequisite(s): Successful completion of both semesters of Algebra
- Students self-report spending an average of 1.5 hours a week outside of school on this course.
- This is a college prep course.

Geometry H

This course covers the same content as Geometry but is much more rigorous. Geometry H is designed for students who have mastered at least five of seven Algebra strands, as assessed in Algebra class. Only students who are interested in rigorous problem-solving and reaching our highest math course (BC Calculus AP) should choose Geo H. Extensive proof and problem solving are themes for this class. Geo H will involve some Algebra review but not to the extent of the non-honors Geometry course.

- Prerequisite(s): Successful completion of an Algebra course

- Students self-report spending an average of 2.5 hours a week outside of school on this course.
- This is an honors course.

Algebra 2/Trigonometry A

In addition to the objectives of the Algebra 2 curriculum, students study circular trigonometry in greater depth, including trig identities, trigonometric applications, and solving trigonometric equations. Basic counting principles are introduced.

- Prerequisite(s): Successful completion of an Algebra course and a Geometry course
- Students self-report spending an average of 2 hours a week outside of school on this course.
- This is an advanced course.

Algebra 2/Trigonometry Honors

This course covers content similar to Alg2/Trig A, but with a greater emphasis on proof and problem solving. In each unit, students are expected to apply their understanding of the content to solve problems that are similar but not identical to problems solved in class. Additional content includes an in-depth study of conic sections, as well as arithmetic and geometric sequences and series, law of sines and cosines, and vectors.

- Prerequisite(s): Successful completion of an introductory Algebra course and a PAUSD Geometry course or an off-campus course previously approved by PAUSD.
- Students self-report spending an average of 2.5 hours a week outside of school on this course.
- This is an honors course.

Standard Pathway

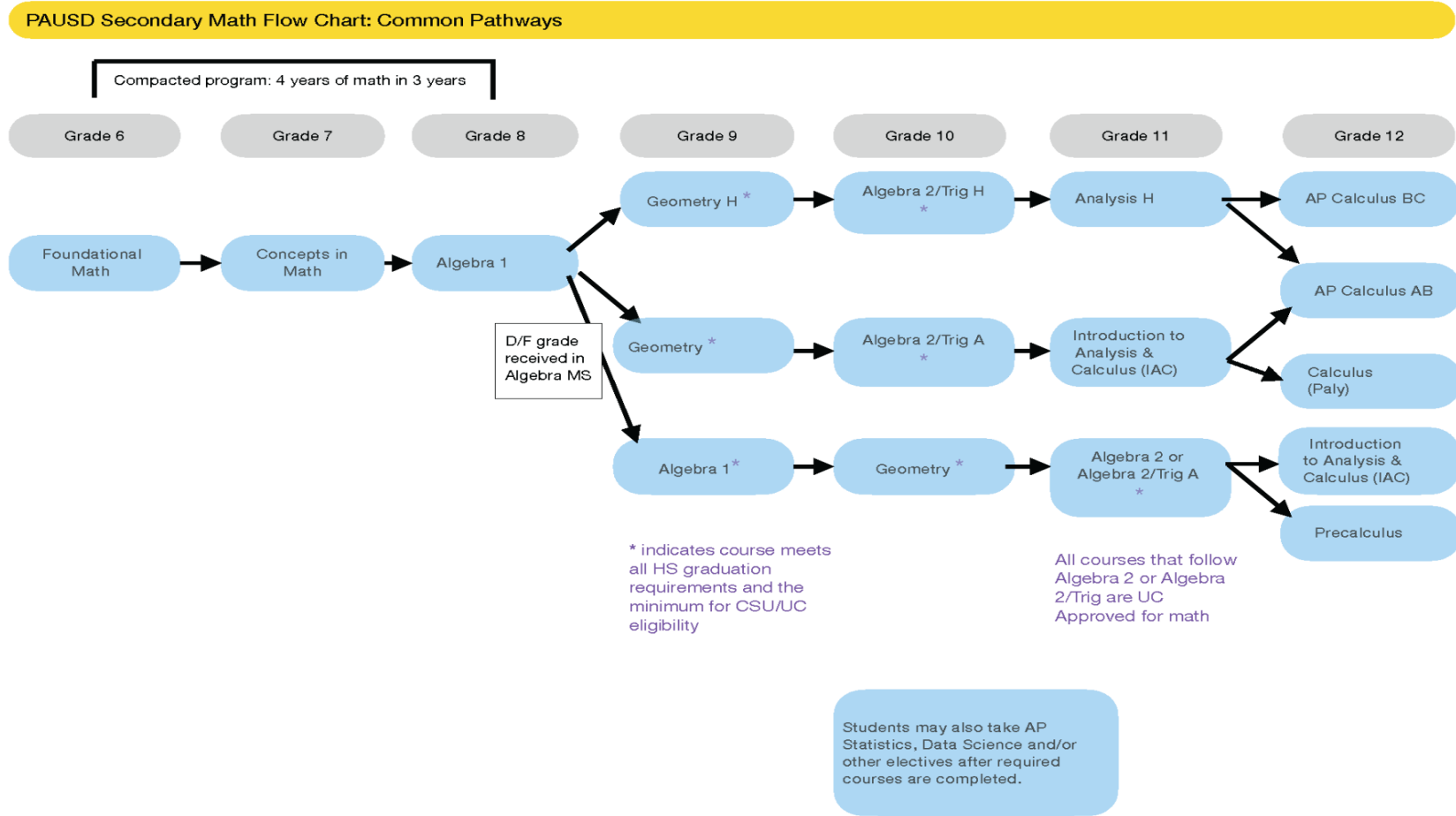
Grade 9	Grade 10	Grade 11	Grade 12
<ul style="list-style-type: none"> ● Geometry H ● Geometry ● Algebra 1 	<ul style="list-style-type: none"> ● Algebra 2/Trig H ● Algebra 2/Trig A ● Algebra 2 ● Geometry ● Statistics Applications 	<ul style="list-style-type: none"> ● Analysis H ● Intro to Analysis & Calculus (IAC) ● Precalculus ● Algebra 2 ● AP Stats ● Intro to Data Science ● Statistics Applications ● Applied Math H 	<ul style="list-style-type: none"> ● AP Calculus BC ● AP Calculus AB ● Calculus ● Precalculus ● AP Stats ● Intro to Data Science ● Statistics Applications ● Applied Math H

Acceleration Pathway

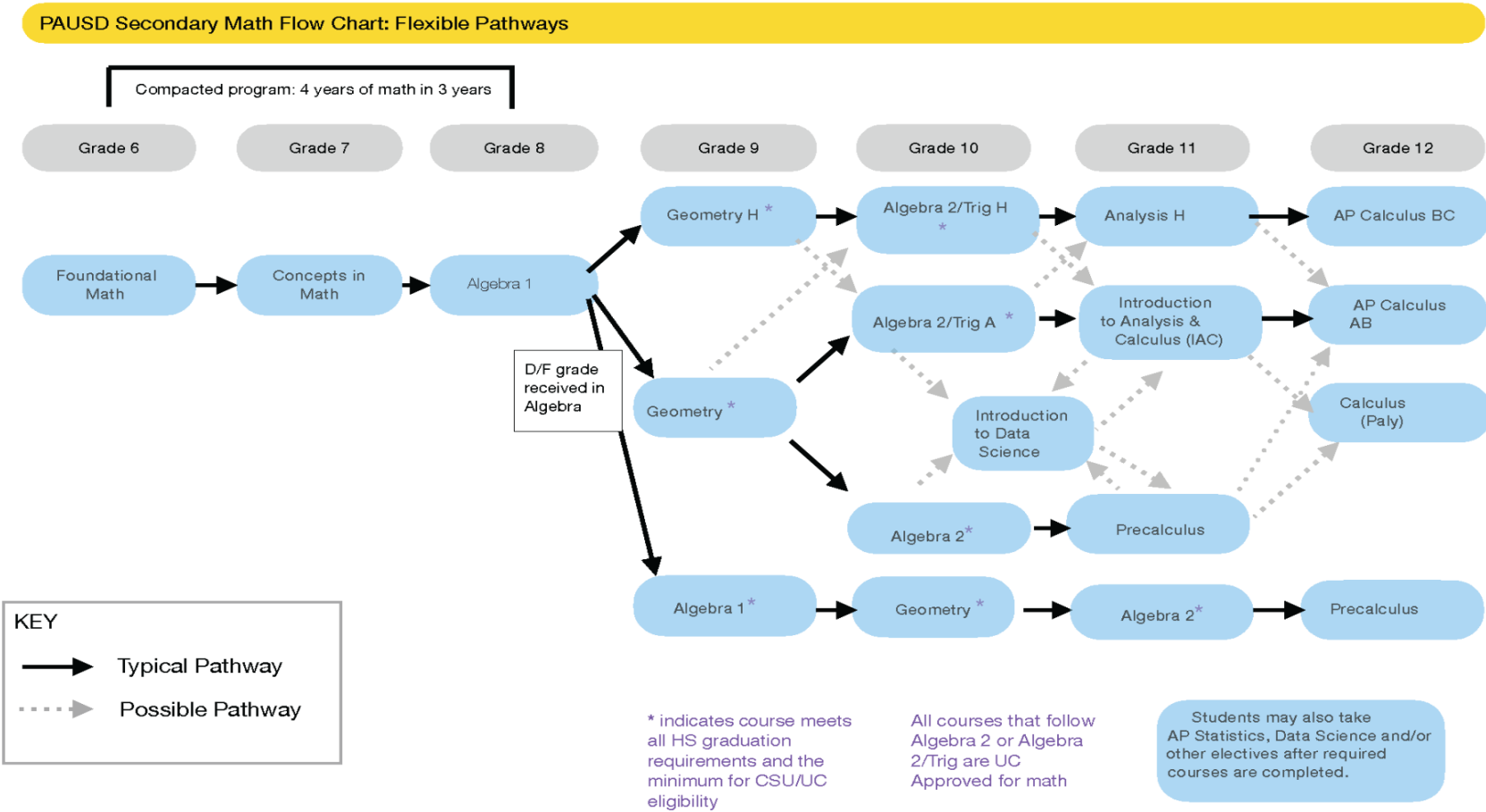
Grade 9	Grade 10	Grade 11	Grade 12
<ul style="list-style-type: none"> ● Algebra 2/Trig H ● Algebra 2/Trig A 	<ul style="list-style-type: none"> ● Analysis H ● Intro to Analysis & Calculus (IAC) 	<ul style="list-style-type: none"> ● AP Calculus BC ● AP Calculus AB ● AP Stats ● Intro to Data Science ● Applied Math H 	<ul style="list-style-type: none"> ● AP Stats ● Intro to Data Science ● Applied Math H ● Community college courses

Math Flow Charts

The three flowcharts below show the various math pathways available. The addition of an *A* or an *H* in the title of a course indicates *Advanced* course or an *Honors* course, respectively. In the first, the common pathways are depicted (without the flexibility included) so that the basic configuration of the flow is more obvious.



In the second flowchart, the most common flexible pathways are illustrated. Students wishing to move to a higher lane should check in with their teacher to determine what learning gaps they may need to address through summer work.



The third flowchart shows the path for students who participate in the middle school Math Validation Process. Common pathways show a natural, linear flow of concepts and skills from one level to another.

PAUSD Secondary Math Flow Chart: Pathways with Validation Process (End of 5th, 6th OR 7th grade)

