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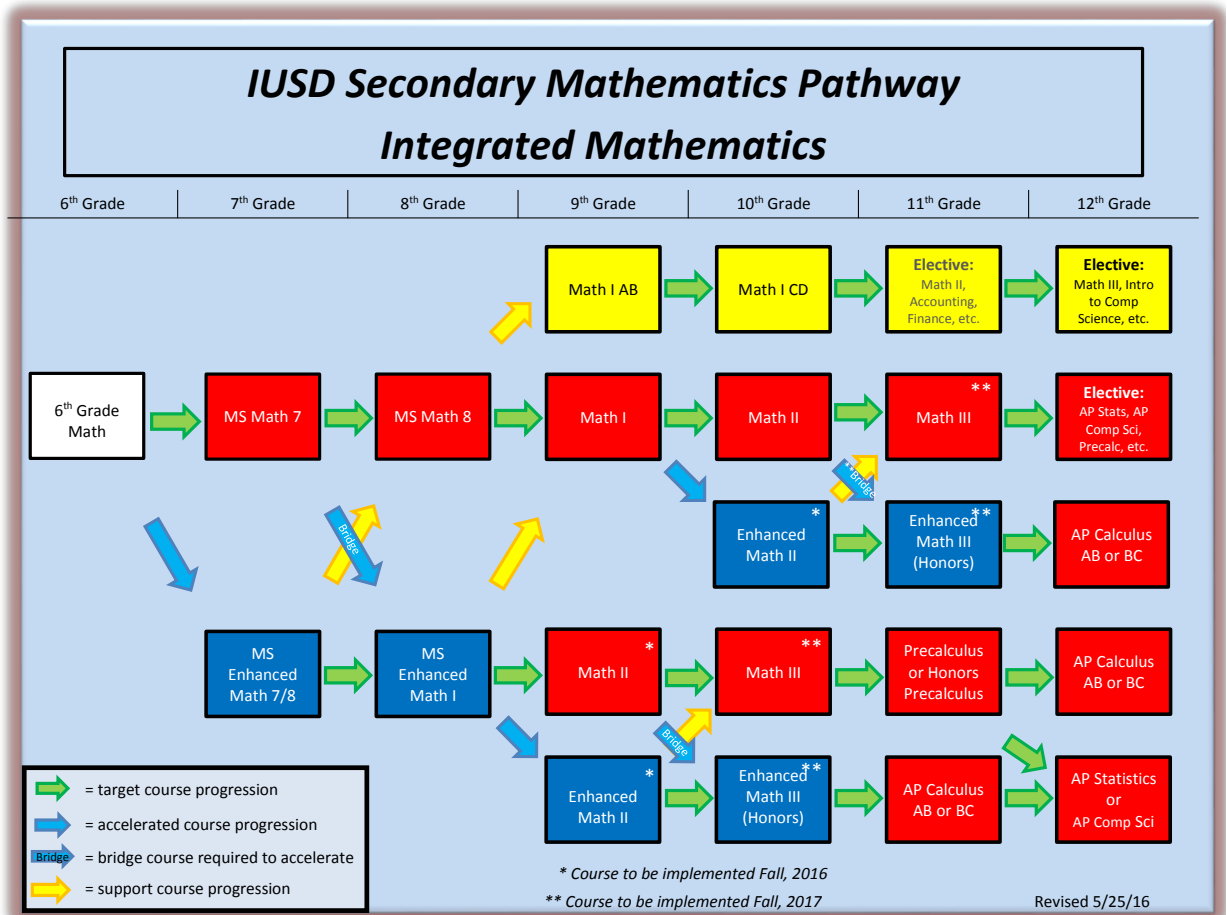
## **MATHEMATICS INSTRUCTION**

### **IUSD Secondary Math Placement**

#### **Math Pathways and Placement**

IUSD is committed to the appropriate math placement of secondary students. The IUSD Secondary Mathematics Pathway, Integrated Mathematics (figure 1) was created with input from varied stakeholder groups in 2015. The Secondary Mathematics Pathway allows for students to progress through course sequences designed to meet student learning needs as outlined by the California Common Core State Standards – Mathematics (2013) and the Mathematics Framework for California Public Schools (2015). Students progress through target, or grade level, courses, with support and accelerated course options available to students based on demonstrated learning needs. Learning needs are determined by multiple criteria (outlined below) in all secondary mathematics courses.

*Figure 1 IUSD Secondary Mathematics Pathway, Integrated Mathematics.*



### Math Acceleration

The Secondary Mathematics Pathway offers students multiple decision points for acceleration in middle and high school and provides various options for career and college readiness. As stated in the Mathematics Framework for California Public Schools:

“decisions to accelerate students into higher mathematics before ninth grade [are] based on solid evidence of student learning... 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 understanding, knowledge of procedural skills, fluency, and ability to apply mathematics. (p. 829) Care must be taken to ensure that students fully understand all important topics in the mathematics curriculum, and the continuity of the mathematics learning progression is not disrupted.” (p. 830)

In addition, the Mathematics Framework further states that “decisions to accelerate students into the Common Core State Standards for higher mathematics before ninth grade should not be rushed,” as premature accelerated placement can have negative consequences for students (p. 828)

Math acceleration in IUSD begins in seventh grade through content compaction, ensuring that all state standards are learned in a progression that provides a solid foundation for future learning. IUSD

elementary students needing enrichment in mathematics will engage in learning experiences that allow for greater depth of understanding in grade level content and application of procedural skills, fluency, and grade level concepts in problem solving.

### **Math Placement Criteria**

Math placement for secondary students is based on multiple measure criteria. The target course for students is the grade level course. The target course provides the depth and foundation that is critical for future learning and provides a path of instruction that meets high school graduation and UC entrance requirements. Students seeking further acceleration beyond the target course have multiple decision points throughout middle and high school.

The *multiple measures* used for students entering middle school or the integrated math courses in high school are:

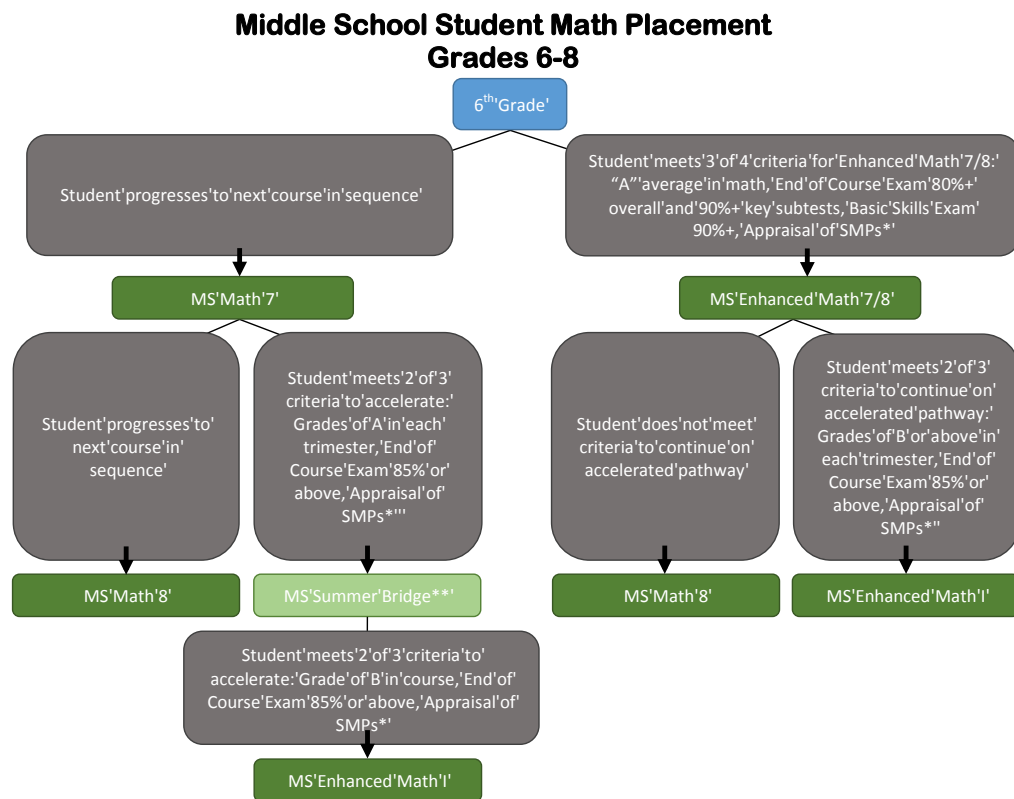
- **Final Grades in Math Coursework**
  - Grades from each marking period (trimesters in 6<sup>th</sup>-8<sup>th</sup> grades and semesters in high school) are used to more accurately reflect specific content knowledge. Grades are not averaged across marking periods.
  - Grades include minus grades, unless noted (A = 90% or above, B = 80%-89%, C = 70%-79%, D = 60%-69%, F = 59% or below)
- **End of Course Assessment**
  - The End of Course Assessment for each course is comprised of the mathematical standards for the course as outlined by the state content and practice standards.
  - The problems on the End of Course Assessment are aligned to the depth and rigor expected in the state standards and framework. They include conceptual understanding, procedural skills, and application of both in problem solving.
- **Appraisal of Standards for Mathematical Practice and Work Habits**
  - The eight Standards for Mathematical Practice (SMPs) are part of the state adopted standards in grades K-12. They detail the processes students use in learning mathematics and are a critical foundation for depth of learning mathematical content. The SMPs can be found at <http://www.cde.ca.gov/be/st/ss/documents/ccssmathstandardaug2013.pdf>
- **Basic Skills Exam** (students entering 7<sup>th</sup> grade only)
  - The Basic Skills Exam assesses students' procedural skill with addition, subtraction, multiplication, and division using whole numbers, fractions, and percentages. The operations included are from 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> grade California state standards.

### **Student Math Placement**

Students' individual mathematics course sequences in middle and high school are determined using the multiple measures for placement. Figures 2 and 3a-3c depict the criteria needed for math placement into middle school and high school integrated courses. In middle school (figure 2), MS Math 7 and MS Math 8 represent the respective target, or grade level, courses. MS Summer Bridge is a summer school

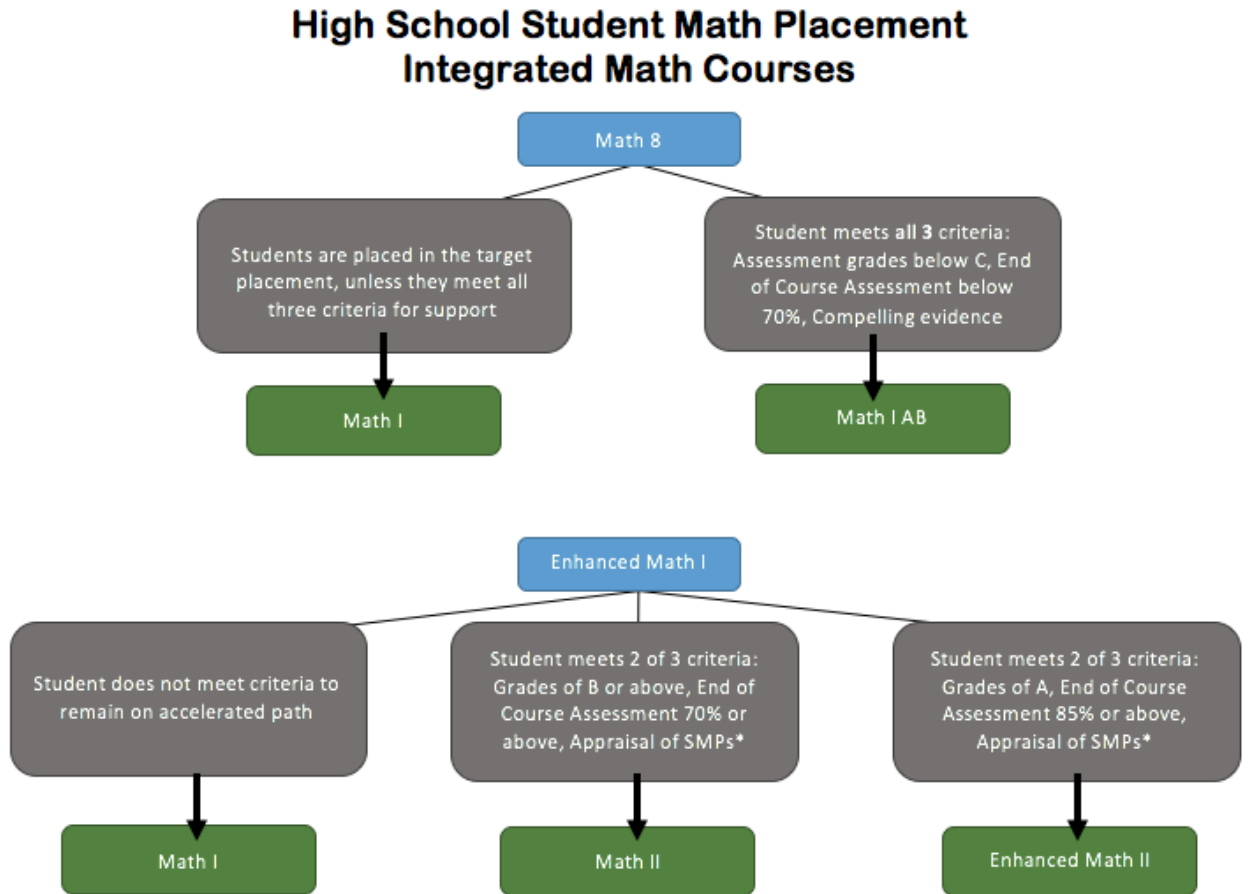
course offered to Math 7 students who meet the criteria for acceleration and choose to enroll in a rigorous, accelerated summer placement. MS Enhanced Math 7/8 and MS Enhanced Math I represent three years of math content (Math 7, Math 8, and Math I) compacted into two years of accelerated instruction. Upon successful completion of the two year accelerated middle school sequence, students have completed the target course for 9<sup>th</sup> grade as outlined by the state content standards. In high school (figures 3a, 3b, and 3c), Math I, Math II, and Math III represent target courses. Math I AB and Math I CD are support classes, each providing instruction on half of the Math I content, along with prerequisite content standards. HS Summer Bridge is a summer school course offered to Math II students who meet the criteria for acceleration and choose to enroll in a rigorous, accelerated summer placement. Enhanced Math II and Enhanced Math III represent three years of math content (Math II, Math III, and Precalculus) compacted into two years of accelerated instruction. Math placement guideline charts arranged by prerequisite course can be found in Appendix A.

Figure 2 Middle School Student Math Placement, Grades 6-8. The figures outline the criteria needed and course sequences in the transition from grades 6 and 7.

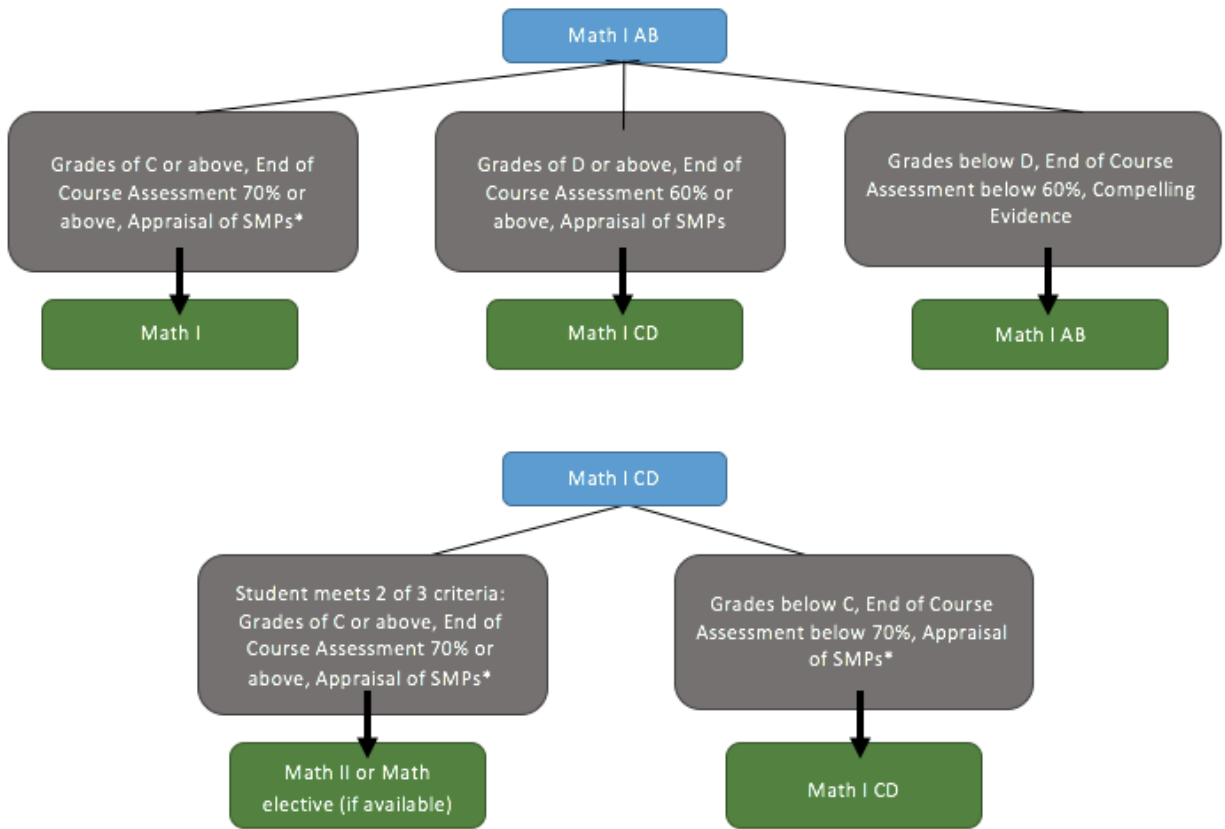


\*SMPs: Standards for Mathematical Practice  
 \*\*Course offered in the middle school summer session  
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Figures 3a, 3b, 3c High School Student Math Placement, Integrated Math Courses. The figure outlines the criteria needed and course sequences in the transition from middle school and high school integrated math courses.

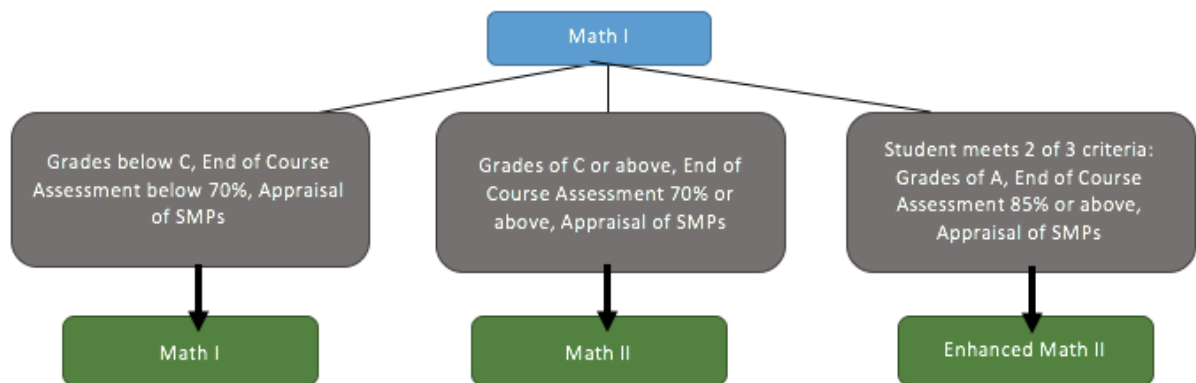


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IUSD 6/29/16



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### **Parent Recourse**

Students, parents, or teachers may request an appeal upon receiving notification of final placement. An appeal is made with the current school administrator or designee within the timeframe specified on the IUSD website.

Students and parents may provide relevant evidence, including, but not limited to, the following:

- Relevant grade history
- Enrichment or supplemental coursework
- Standardized test scores

Appeal requests will lead to either 1) approval of the request with progress monitoring measures in the accelerated courses 2) approval for additional evidence of student content knowledge to determine final

placement, or 3) denial of request for accelerated placement at this time.

### **Annual Analysis of Aggregate Data**

Aggregate student math placement data will be analyzed and presented to the IUSD School Board annually. The aggregate data will be used to ensure there is no disproportionate impact on mathematics placement based on student race, ethnicity, gender, or socioeconomic background.

### **One-Month Checkpoint**

The math placement of all 9th grade students will be reviewed within the first month of school to determine student learning strengths and needs. Data from an external assessment and standardized tests, if available, will be used to reevaluate individual student progress, prerequisite content knowledge, and appropriateness of placement.

- Students enrolled in Math I AB will have a checkpoint within the first week of school.
  - At the first-week checkpoint, students enrolled in Math I AB will take an assessment of prerequisite math content standards. Students demonstrating mastery of prerequisite standards will have their placement reevaluated to determine if Math I AB or Math I is most appropriate.
- Students enrolled in grade level and accelerated courses will have a checkpoint within the first month of school. In addition to assessment data, student progress in the course will also be considered.
  - At the one-month checkpoint, students demonstrating substantial mastery of their current course content may choose to take the End of Course Assessment to verify mastery.



**Appendix A**

Placement Guidelines for <b>6<sup>th</sup> Grade Students</b>		
	<b>Target Placement for all 7<sup>th</sup> Grade Students</b> Math 7	Accelerated Placement Enhanced Math 7/8 <b>(must meet 3 of 4 criteria)</b>
Grade	Grades below A	Grades of A
End of Course Assessment	Below 80% overall and/or below 90% on key subtests	80% or above and 90% or above on 3 key subtests
Basic Skills Exam	Below 90%	90% or above
Appraisal of SMPs	No	Yes

Placement Guidelines for Students Enrolled in <b>Math 7</b>		
	<b>Target Placement for all 8<sup>th</sup> Grade Students</b> Math 8	Accelerated Placement *MS Bridge Course <b>(must meet 2 of 3 criteria)</b>
Grade	All students placed in Math 8, unless they meet criteria for acceleration	Grades of A
End of Course Assessment		85% or above
Appraisal of SMPs		Yes

\*MS Bridge Course is offered in the IUSD middle school summer school

Placement Guidelines for Students Enrolled in <b>Enhanced Math 7/8</b>		
	<b>Target Placement</b> Math 8	Accelerated Placement Enhanced Math I <b>(must meet 2 of 3 criteria)</b>
Grade	Student does not	Grades of B or above

End of Course Assessment	meet criteria to continue on accelerated pathway	85% or above
Appraisal of SMPs		Yes

Placement Guidelines for Students Enrolled in <b>MS Summer Bridge Course</b>		
	<b>Target Placement</b> Math 8	Accelerated Placement Enhanced Math I <b>(must meet 2 of 3 criteria)</b>
Grade	All students placed in Math 8, unless they meet the criteria for acceleration	Grades of B or above
End of Course Assessment		85% or above
Appraisal of SMPs		Yes

Placement Guidelines for Students Enrolled in <b>Math 8</b>		
	<b>Target Placement for all 9<sup>th</sup> Grade Students</b> Math I	Support Placement Math I AB (2-year Math I) <b>must meet all criteria</b>
Grade	All students placed in Math I, unless they meet <b>all three</b> criteria →	Assessment grades below C
End of Course Assessment		Below 70%
Appraisal of SMPs		Must have compelling evidence based on the Math I ABCD Placement Appendix

Placement Guidelines for Students Enrolled in <b>MS Enhanced Math I</b>			
	Math I	<b>Target Placement</b> Math II <b>(must meet 2 of 3 criteria)</b>	Accelerated Placement Enhanced Math II <b>(must meet 2 of 3 criteria)</b>
Grade	Student does not meet	Grades of B or above	Grades of A
End of		70% or above	85% or above

Course Assessment	criteria to remain on accelerated path		
Appraisal of SMPs		Demonstrates readiness for Math II	Demonstrates readiness for Enhanced Math II

Placement Guidelines for Students Enrolled in <b>Math I AB</b>			
	<b>Target Placement</b> Math I	<b>Target Placement</b> Math I CD	Support Placement Math I AB
Grade	Grades of C or above	Grades of D or above	Grades below D
End of Course Assessment	70% or above	60% or above	Below 60%
Appraisal of SMPs	Demonstrates readiness for College Prep Math I	Demonstrates readiness for Math I CD	Demonstrates need to repeat Math I AB

Placement Guidelines for Students Enrolled in <b>Math I CD</b>		
	<b>Target Placement</b> Math II	Support Placement Math I CD
Grade	Grades of C or above	Grades below C
End of Course Assessment	70% or above	Below 70%
Appraisal of SMPs	Demonstrates readiness for Math II	Demonstrates need to repeat Math I CD

Placement Guidelines for Students Enrolled in <b>Math I</b>			
	Math I	<b>Target Placement</b> Math II	Accelerated Placement Enhanced Math II <b>(must meet 2 of 3 criteria)</b>
Grade	Grades below C	Grades of C or above	Grades of A
End of Course Assessment	Below 70%	70% or above	85% or above
Teacher Appraisal	Demonstrates need to repeat Math I	Demonstrates readiness for Math II	Demonstrates readiness for Enhanced Math II

#### Works Cited

*Mathematics Framework for California Public Schools* (2015). Retrieved on June 24, 2016 from California Department of Education website  
<http://www.cde.ca.gov/ci/ma/cf/documents/mathfw-appendixd.pdf>

*California Common Core State Standards Mathematics* (2013). Retrieved on June 24, 2016 from California Department of Education website  
<http://www.cde.ca.gov/be/st/ss/documents/ccsmathstandardaug2013.pdf>

Policy Adopted: July 12, 2016