THE WASHINGTON STATE BOARD OF EDUCATION

Accountability | World-Class Math and Science Standards | Meaningful Diploma/CORE 24

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PROPOSED REVISION TO MATH RULE

SUMMARY OF POLICY ISSUES /STATE BOARD OF EDUCATION (SBE) STRATEGIC PLAN GOALS

Improving math achievement is consistent with the SBE's goals to improve student achievement overall, and to ensure Washington's students get the math foundation they need to succeed in post-secondary education, gainful employment, and citizenship.

BACKGROUND

In 2007, the Washington State Legislature directed the Board to increase the high school math graduation requirements from two to three credits (equivalent to three years of high school level math) and to determine the content of the three credits. After considering extensive public comment, the Board adopted a new math rule (WAC 180-51-066) in July 2008, effective for students in the graduating class of 2013.

Since the adoption of the rule, an issue has emerged that is not addressed in the current rule language, and never came up in the considerable public comment this rule generated. The issue pertains to students in the graduating class of 2013 who are presently in eighth grade, and may have successfully completed one or even two high school mathematics courses, most likely Algebra I and/or Geometry, or Integrated Mathematics I and/or II.[1] The law[2] permits students who have completed high school courses before attending high school to elect whether or not to record the high school credit on their transcript. However, the new math rule requires students to earn credit in Algebra I and Geometry (or Integrated Mathematics I and II).

As a result, counselors have asked the Board to clarify what math courses students need to take when they enter high school. This clarification is needed quickly because students are facing registration for ninth grade classes beginning in September 2009.

Why students may not record the credit. Students and parents may choose not to record the credit for a variety of reasons. For instance, some may be concerned about the earned grade. Others may feel that the student needs more time to grasp the

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[1] The Board's December 2008 Transcript Study of almost 15,000 2008 graduates indicated that 26% of the students had earned high school math credit prior to ninth grade.
[2] RCW 28A.230.090 states that "If requested by the student and his or her family, a student who has completed high school courses before attending high school shall be given high school credit…"

concepts thoroughly. The district's approach to the decision making process may also affect the choice. Schools vary in the approaches they take; for example:

- Some districts may require students to decide at the beginning of the math course whether or not they intend to record the course/grade on their high school transcript.
- Some districts may allow students to decide at the end of the math course (after they know what grade they have earned) whether or not they want the course/grade recorded on their transcript.
- Some districts hold the line—once the decision is made, no changes are allowed.
- Some districts discourage students from recording the credit because it becomes part of the permanent record, and students may not earn a grade that they want on their record. Instead, they allow students to add the credit at a later date (i.e. at the extreme, a senior who wants to recapture a credit).
- Some districts may not ask the students/parents for a decision–they just count the math course for high school credit. When the student is a junior, they have a "junior review". At this time, the student has the opportunity to choose to remove or keep the credits on the transcript. (This is a flawed policy because technically, nothing can be removed from the transcript once it has been officially recorded.)

While these practices may evolve as districts become more aware of the rule changes in the math graduation credit requirements, they are affecting this year's eighth grade (class of 2013) students.

POLICY CONSIDERATION

After consultation with legal counsel and OSPI staff, SBE staff recommends that the math rule be changed to permit students who have successfully completed math classes prior to ninth grade to elect one of two options:
   1) Repeat the course(s) already taken in order to earn credit, *or*
   2) Move on to the next level of math.

See the flow charts on the next pages for a graphic depiction as to how these two options would work.

Under the current version of the rule, the <u>only</u> option for the student is to repeat the course(s), because the rule states that students must earn credit in the designated courses. In some cases, that may be the most educationally sound decision for a student who may have barely passed the first attempt and/or has only a weak understanding of the concepts. For this reason, staff recommends that this pathway continue to be an option for students.

However, for some students, it may be more educationally appropriate to move to the next level of math. The Board will need to consider which policy guideline will determine the courses a student must take for credit. Staff has prepared two revisions of the rule to reflect each policy guideline. Section iv (in bold) is the revised section.

Rule Revision I ("Progressive Sequence"). The current rule requires students to earn at least two credits in a progressive sequence (Algebra I and Geometry; Integrated Mathematics I and II). Is it important to mirror that policy in this revision? The draft language for Rule Revision I assumes that two credits in a progressive sequence is the defining policy guideline.

However, if two credits in a progressive sequence is <u>not</u> the defining policy guideline, then the Board should consider the following question.

Rule Revision II ("Education and Career Goal Sequence"). If the first high school credit that a student earns is in Algebra II[3] (because the student took Algebra I and Geometry prior to ninth grade), does it matter to the Board what courses the student takes next? Or would it be sufficient to say that the student may elect two additional credits of math that are consistent with the educational and career goals of the student? The draft language for Rule Revision II reflects this policy guideline.

Difference between the two versions. The difference in the two versions really boils down to the second earned credit of math for students whose first earned credit is Algebra II, and it will affect only a very small proportion of students, most of whom are likely to continue to take higher levels of math. Put simply and in practical terms, does a student who has earned his or her first math credit toward graduation in Algebra II need to earn a second credit in:
1. Pre-calculus, trigonometry, discrete mathematics, statistics? (courses that would typically be designated as a progressive sequence).
2. Any math course that meets their educational and career goals?
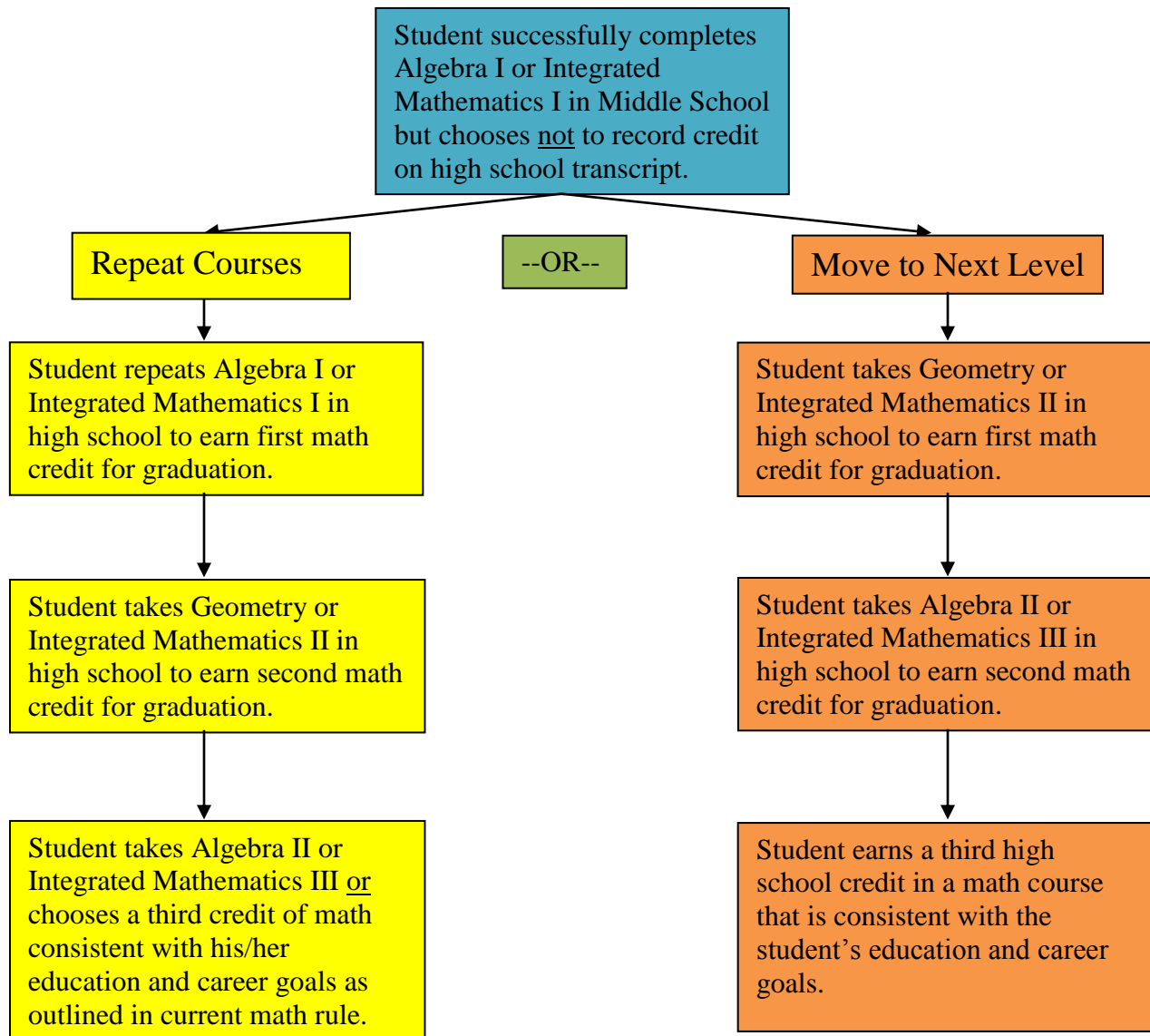
EXPECTED ACTION

The Board will be asked after the presentation to give staff direction about any revisions needed to the draft language before the rule is filed with the Code Reviser in preparation for a public hearing in July 2009.
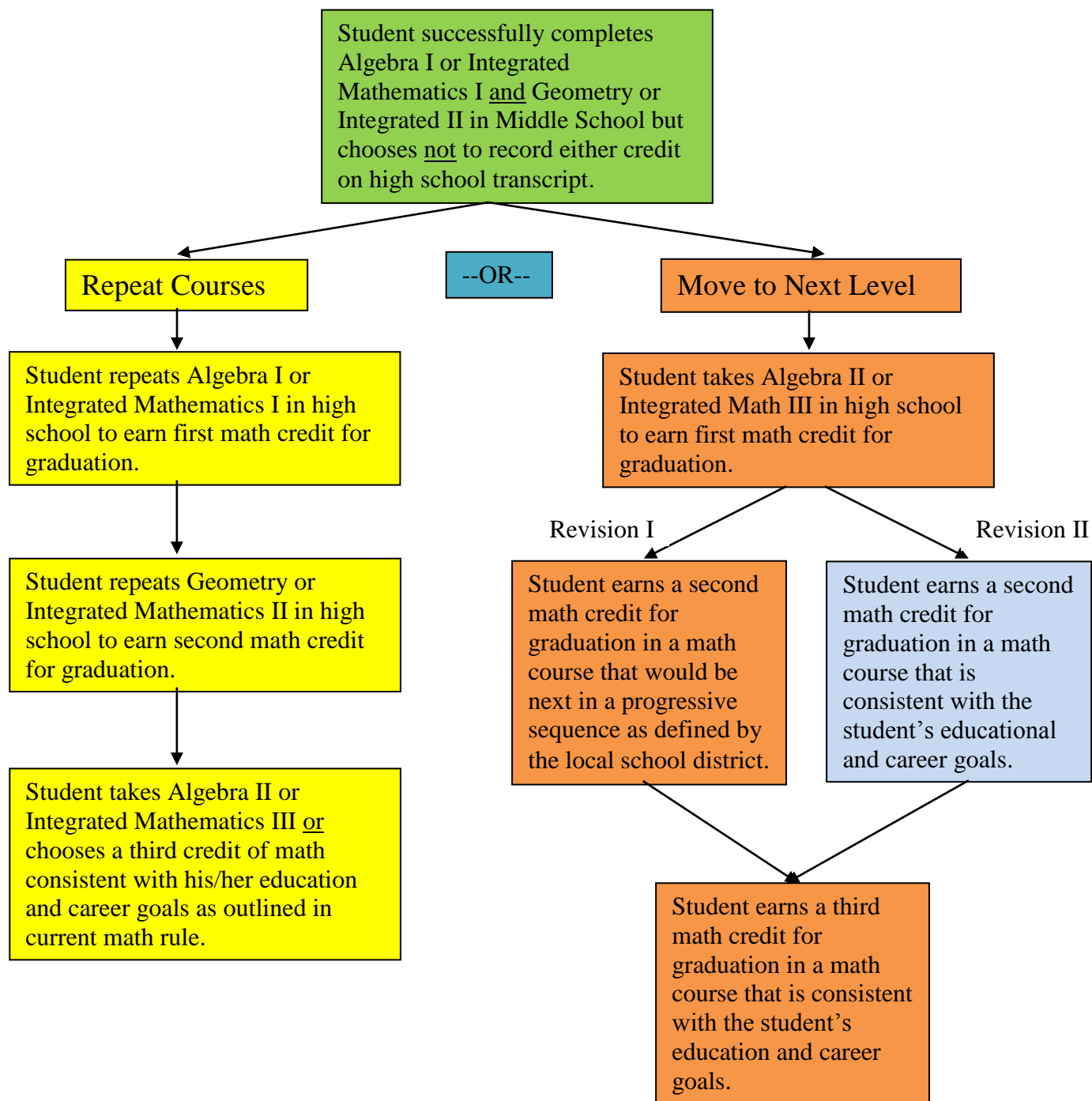
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[3] Or, Integrated Mathematics III, because the student has already successfully completed Integrated Mathematics I and II

Math Options for Students Who Complete ONE High School-level Math Course Prior to High School but Choose <u>Not</u> to Record the Credit

Student successfully completes Algebra I or Integrated Mathematics I in Middle School but chooses <u>not</u> to record credit on high school transcript.

Repeat Courses

--OR--

Move to Next Level

Student repeats Algebra I or Integrated Mathematics I in high school to earn first math credit for graduation.

Student takes Geometry or Integrated Mathematics II in high school to earn first math credit for graduation.

Student takes Geometry or Integrated Mathematics II in high school to earn second math credit for graduation.

Student takes Algebra II or Integrated Mathematics III in high school to earn second math credit for graduation.

Student takes Algebra II or Integrated Mathematics III <u>or</u> chooses a third credit of math consistent with his/her education and career goals as outlined in current math rule.

Student earns a third high school credit in a math course that is consistent with the student's education and career goals.

This graphic is consistent with the language of Rule Revision I.

Math Options for Students Who Complete TWO High School-level Math Courses Prior to High School but Choose Not to Record the Credits

Student successfully completes Algebra I or Integrated Mathematics I and Geometry or Integrated II in Middle School but chooses not to record either credit on high school transcript.

Repeat Courses

--OR--

Move to Next Level

Student repeats Algebra I or Integrated Mathematics I in high school to earn first math credit for graduation.

Student takes Algebra II or Integrated Math III in high school to earn first math credit for graduation.

Revision I

Revision II

Student repeats Geometry or Integrated Mathematics II in high school to earn second math credit for graduation.

Student earns a second math credit for graduation in a math course that would be next in a progressive sequence as defined by the local school district.

Student earns a second math credit for graduation in a math course that is consistent with the student's educational and career goals.

Student takes Algebra II or Integrated Mathematics III or chooses a third credit of math consistent with his/her education and career goals as outlined in current math rule.

Student earns a third math credit for graduation in a math course that is consistent with the student's education and career goals.

Proposed Revision I to Math Rule (WAC 180-51-066)

WAC 180-51-066
Minimum requirements for high school graduation — Students entering the ninth grade on or after July 1, 2009.
(Only the mathematics section of the rule is duplicated here. The proposed revision is section iv, in **bold**. This version assumes that the defining policy guideline is to assure that students earn credits in two courses in a progressive sequence.)

(b) Three **mathematics** credits that align with the high school mathematics standards as developed and revised by the office of superintendent of public instruction and satisfy the requirements set forth below:

(i) Unless otherwise provided for in (b)(iii) or (iv) of this subsection, the three mathematics credits required under this section must include mathematics courses taken in the following progressive sequence:

(A) Algebra I, geometry, and algebra II; or

(B) Integrated mathematics I, integrated mathematics II, and integrated mathematics III; or

(C) Any combination of three mathematics courses set forth in (b)(i)(A) and (B) of this subsection.

(ii) A student may elect to pursue a third credit of mathematics, other than algebra II or integrated mathematics III if all of the following requirements are met:

(A) The student has completed, for credit, mathematics courses in:

(I) Algebra I and geometry; or

(II) Integrated mathematics I and integrated mathematics II; or

(III) Any combination of two mathematics courses set forth in (b)(ii)(A)(I) and (II) of this subsection;

(B) The student's elective choice is based on a career oriented program of study identified in the student's high school and beyond plan that is currently being pursued by the student;

(C) The student's parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection than algebra II or integrated mathematics III because it will better serve the student's education and career goals;

(D) A meeting is held with the student, the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable), and a high school representative for the purpose of discussing the student's high school and beyond plan and advising the student of the requirements for credit bearing two and four year college level mathematics courses; and

(E) The school has the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) sign a form acknowledging that the meeting with a high school representative has occurred, the information as required was discussed; and the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection given the student's education and career goals.

(iii) Equivalent career and technical education (CTE) mathematics courses meeting the requirements set forth in RCW 28A.230.097 can be taken for credit instead of any of the mathematics courses set forth in (b)(i)(A) or (B) or (ii)(A)(I) or (II) of this subsection if the CTE mathematics courses are recorded on the student's transcript using the equivalent academic high school department designation and course title.

(iv) A student who has taken and successfully completed prior to ninth grade algebra I or integrated mathematics I, geometry or integrated mathematics II, algebra II or integrated mathematics III, or any combination of courses taken in a progressive sequence as provided in (1)(b)(i)(C)), but does not request high school credit for such course(s) as provided in RCW 28A.230.090, may either:

a) **Repeat the course(s) for credit in high school; or**

b) **Complete three credits of mathematics as follows:**

(1) **A student that has taken and successfully completed algebra I or integrated mathematics I shall:**

(a) **Earn the first high school credit in geometry or integrated mathematics II;**

(b) **Earn a second high school credit in algebra II or integrated mathematics III; and**

(c) **Earn a third high school credit in a math course that is consistent with the student's education and career goals.**

(2) **A student that has taken and successfully completed algebra I or integrated mathematics II, and geometry or integrated mathematics II, shall:**

(a) Earn the first high school credit in Algebra II or Integrated mathematics III;

(b) Earn a second high school credit in a math course that would be next in a progressive sequence as defined by the local school district; and

(c) Earn a third high school credit in a math course that is consistent with the student's education and career goals.

Proposed Revision II to Math Rule (WAC 180-51-066)

WAC 180-51-066
Minimum requirements for high school graduation — Students entering the ninth grade on or after July 1, 2009.
(Only the mathematics section of the rule is duplicated here. The proposed revision is section iv, in **bold**. This version assumes that the defining policy guideline is to assure that students who have earned credit in Algebra II or Integrated Mathematics III continue to earn their additional math credits toward graduation in courses of equal or greater rigor.)

(b) Three **mathematics** credits that align with the high school mathematics standards as developed and revised by the office of superintendent of public instruction and satisfy the requirements set forth below:

(i) Unless otherwise provided for in (b)(iii) or (iv) of this subsection, the three mathematics credits required under this section must include mathematics courses taken in the following progressive sequence:

(A) Algebra I, geometry, and algebra II; or

(B) Integrated mathematics I, integrated mathematics II, and integrated mathematics III; or

(C) Any combination of three mathematics courses set forth in (b)(i)(A) and (B) of this subsection.

(ii) A student may elect to pursue a third credit of mathematics, other than algebra II or integrated mathematics III if all of the following requirements are met:

(A) The student has completed, for credit, mathematics courses in:

(I) Algebra I and geometry; or

(II) Integrated mathematics I and integrated mathematics II; or

(III) Any combination of two mathematics courses set forth in (b)(ii)(A)(I) and (II) of this subsection;

(B) The student's elective choice is based on a career oriented program of study identified in the student's high school and beyond plan that is currently being pursued by the student;

(C) The student's parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection than algebra II or integrated mathematics III because it will better serve the student's education and career goals;

(D) A meeting is held with the student, the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable), and a high school representative for the purpose of discussing the student's high school and beyond plan and advising the student of the requirements for credit bearing two and four year college level mathematics courses; and

(E) The school has the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) sign a form acknowledging that the meeting with a high school representative has occurred, the information as required was discussed; and the parent(s)/guardian(s) (or designee for the student if a parent or guardian is unavailable) agree that the third credit of mathematics elected is a more appropriate course selection given the student's education and career goals.

(iii) Equivalent career and technical education (CTE) mathematics courses meeting the requirements set forth in RCW 28A.230.097 can be taken for credit instead of any of the mathematics courses set forth in (b)(i)(A) or (B) or (ii)(A)(I) or (II) of this subsection if the CTE mathematics courses are recorded on the student's transcript using the equivalent academic high school department designation and course title.

(iv) A student who has taken and successfully completed prior to ninth grade algebra I or integrated mathematics I, geometry or integrated mathematics II, algebra II or integrated mathematics III, or any combination of courses taken in a progressive sequence as provided in (1)(b)(i)(C)), but does not request high school credit for such course(s) as provided in RCW 28A.230.090, may either:

   a) Repeat the course(s) for credit in high school; or

   b) Complete three credits of mathematics as follows:

      (1) A student that has taken and successfully completed algebra I or integrated mathematics I shall:

a) Earn the first high school credit in geometry or integrated mathematics II;

b) Earn a second high school credit in algebra II or integrated mathematics III; and

c) Earn a third high school credit in a math course that is consistent with the student's education and career goals.

(2) A student that has taken and successfully completed algebra I or integrated mathematics II, and geometry or integrated mathematics II, shall:

a) Earn the first high school credit in Algebra II or Integrated mathematics III; and

b) Earn the second and third credits in mathematics courses that are consistent with the educational and career goals of the student.