

Columbia High School

Curriculum Information Evening

Frank DiDonato—Mathematics Department Chair

Tuesday, February 14, 2017

- I. Graphing Calculators (Texas Instruments: TI-83 or TI-84 families)
- II. Common Core Curriculum
- III. Courses Offered at Columbia High School (see reverse side)
- IV. Pre-requisites
- V. Qualifying Exam for Honors placement
- VI. Grade 8 Common Core Mathematics Test and Algebra I (Common Core) Regents Examination (see attachments)
- VII. Academic Intervention Services (AIS)
- VIII. Extra Support
- IX. Extra-Curricular Activities
- X. Questions



Important Dates:

New York State 8th Grade Math Assessment at Howard L. Goff Middle School—
Tuesday, May 2, 2017,
Wednesday, May 3, 2017, and
Thursday, May 4, 2017

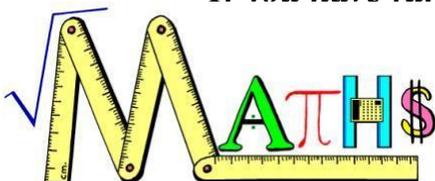
Qualifying Exam for Geometry Honors placement at Howard L. Goff Middle School—

Tuesday, May 23, 2017

Algebra 1 (Common Core) Regents Examination at Columbia High School—
Tuesday, June 13, 2017

If you have further questions or concerns, you may contact me at:

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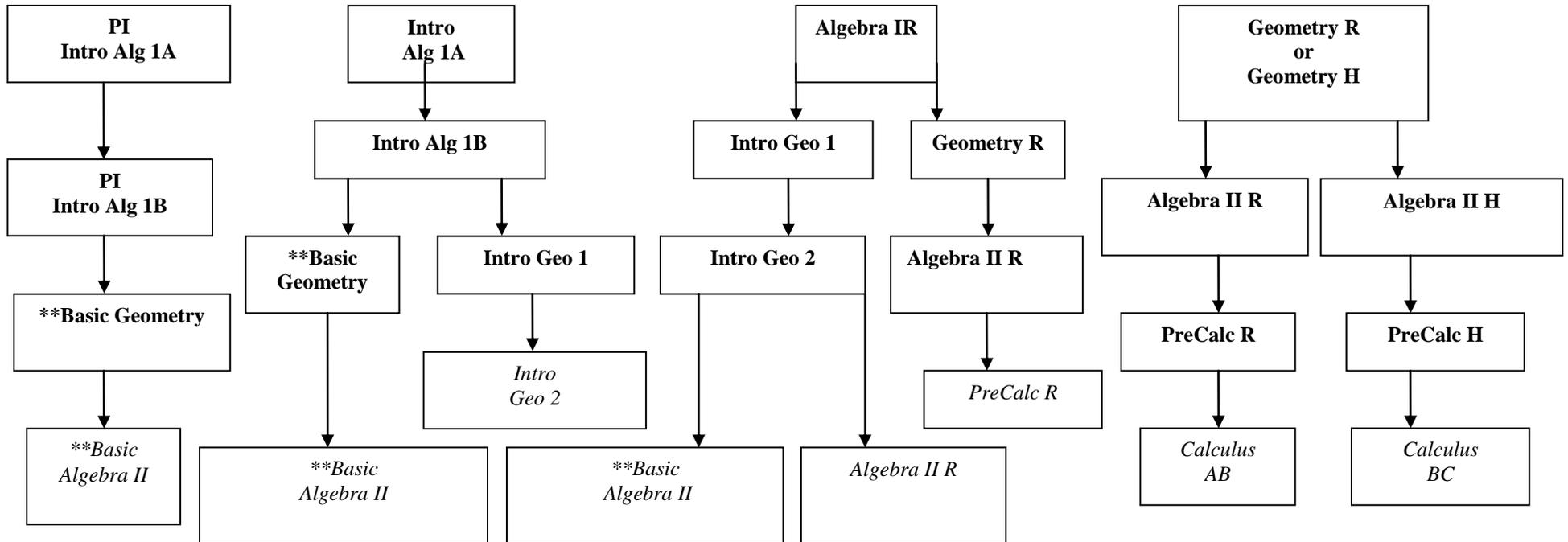
MATHEMATICS

First block represents courses for students entering 9th grade

Courses in BOLD are required for graduation credits

Courses in italics are 3rd and/or 4th year electives

The chart below represents possible pathways for students to complete courses in mathematics. Other pathways are possible.



** Courses denoted as “basic” do not lead to a Regents exam.

Students must pass ALL 3 (Common Core) Regents exams (Algebra I, Geometry, and Algebra II) in order to obtain an Advanced Designation Regents Diploma

In addition, the Mathematics Department offers the following electives: Introduction to Probability and Statistics and Computer Programming

The 2017 Grade 8 Common Core Mathematics Test

The New York State Education Department (NYSED) is continuing with Questar Assessment Inc. as the vendor to lead the development of the future New York State Grades 3–8 Mathematics Tests. NYSED has collected significant feedback from students, parents, and New York State educators regarding ways to improve the tests.

NYSED is pleased to continue its relationship with Questar Assessment Inc. to provide the Grades 3–8 Mathematics Tests to the students of New York State. Questar Assessment Inc. is responsible for the construction of this year’s test forms and guidance materials and brings its extensive experience with assessment in New York State to the Grades 3–8 testing program.

To improve the quality of the Grades 3–8 Mathematics Tests, NYSED, together with Questar Assessment Inc., has expanded the variety of opportunities for educators to become involved in the development of the Mathematics Tests and significantly increased the number of New York State educators involved in the development of the assessments. For the 2017 Grades 3–8 Mathematics Tests, educators from throughout the State gathered in Albany and were charged with evaluating and selecting assessment questions for use on the spring 2017 tests. The reliance on New York State educators to select the best questions available ensures that the tests are rigorous and fair for all students.

NYSED has also received extensive feedback from educators from throughout the State about the inability of students to work at their own pace on the Grades 3–8 Mathematics Tests. As a result, in 2016 NYSED announced the transition to untimed testing for the Grades 3–8 Mathematics Tests. This change continues for the spring 2017 tests and provides students further opportunity to demonstrate what they know and can do by allowing them to work at their own pace. In general, this means that as long as students are productively working they will be allowed as much time as they need, within the confines of the regular school day, to complete the Mathematics Tests. Additionally, this change in policy may help alleviate the pressures that some students may experience as a result of taking an assessment they must complete during a limited amount of time.

Question Formats

The 2017 Grade 8 Common Core Mathematics Test contains multiple-choice, short-response (2-point), and extended-response (3-point) questions. For multiple-choice questions, students select the correct response from four answer choices. For short- and extended-response questions, students write an answer to an open-ended question and may be required to show their work. In some cases, they may be required to explain, in words, how they arrived at their answers.

Multiple-Choice Questions

Multiple-choice questions are designed to assess CCLS for Mathematics. Mathematics multiple-choice questions will mainly be used to assess standard algorithms and conceptual standards. Multiple-choice questions incorporate both Standards and Standards for Mathematical Practices, some in real-world applications. Many multiple-choice questions require students to complete multiple steps. Likewise, many of these questions are linked to more than one standard, drawing on the simultaneous application of multiple skills and concepts. Within answer choices, distractors will all be based on plausible missteps.

Short-Response Questions

Short-response questions are similar to past 2-point questions, requiring students to complete a task and show their work. Like multiple-choice questions, short-response questions will often require multiple steps, the application of multiple mathematics skills, and real-world applications. Many of the short-response questions will cover conceptual and application standards.

Extended-Response Questions

Extended-response questions are similar to past 3-point questions, asking students to show their work in completing two or more tasks or a more extensive problem. Extended-response questions allow students to show their understanding of mathematical procedures, conceptual understanding, and application. Extended response questions may also assess student reasoning and the ability to critique the arguments of others.

The 2017 Grade 8 Common Core Mathematics Test (continued)

Test Design

In Grade 8, students are required to apply mathematical understandings and mathematical practices gained in the classroom in order to answer three types of questions: multiple-choice, short-response, and extended response. Session 1 and Session 2 consist of multiple-choice questions. Session 3 consists of short- and extended-response questions. Students will NOT be permitted to use calculators for Session 1. For Session 2 and Session 3, students *must have the exclusive use of a scientific calculator*.

The chart below provides a description of the 2017 Grade 8 Test Design. Please note that the test design is unchanged from 2016. Embedded field test questions are included in the number of multiple-choice questions in Session 1 and Session 2 listed below. It will not be apparent to students whether a question is an embedded field test question that does not count toward their score or an operational test question that does count toward their score.

Grade 8 Test Design

Session	Number of Multiple-Choice Questions	Number of Short-Response Questions	Number of Extended-Response Questions	Total Number of Questions
1	26	0	0	26
2	25	0	0	25
3	0	6	4	10
Total	51	6	4	61

Additional Assessment Resources

Sample Questions for the Grade 8 Common Core Mathematics Tests are available at:
<http://www.engageny.org/resource/new-york-state-common-core-sample-questions>.

Algebra I (Common Core) Regents Examination

All questions on the Regents Examination in Algebra I will measure the Common Core Algebra I standards as specified in the PARCC Model Content Framework for Algebra I. The standards define what students should understand and be able to do at the high school level; the Model Content Framework describes which content is included and emphasized within the Algebra I course. Algebra I is associated with high school standards within four conceptual categories: Number and Quantity, Algebra, Functions, and Statistics and Probability. The conceptual category of Modeling is also included in Algebra I, but is best interpreted not as a collection of isolated topics but rather in relation to other standards.

Test Blueprint

Conceptual Category	Percent of Test by Credits
Number and Quantity	2% - 8%
Algebra	50% - 56%
Functions	32% - 38%
Statistics & Probability	5% - 10%

Question Formats

The Regents Examination in Algebra I (Common Core) contains multiple-choice and constructed-response questions. For multiple-choice questions, students select the correct response from four answer choices. For constructed-response questions, students are required to clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. In some cases, they may be required to explain, in words, how they arrived at their answers.

Multiple-Choice Questions

Multiple-choice questions will be used to assess procedural fluency and conceptual understanding. Multiple-choice questions measure the Standards for Mathematical Content and may incorporate Standards for Mathematical Practices and real-world applications. Some multiple-choice questions require students to complete multiple steps. Likewise, questions may measure more than one cluster, drawing on the simultaneous application of multiple skills and concepts. Within answer choices, distractors will all be based on plausible missteps.

Constructed-Response Questions

Constructed-response questions will require students to show a deep understanding of mathematical procedures, concepts, and applications. The Regents Examination in Algebra I (Common Core) contains 2-, 4-, and 6-credit constructed-response questions. 2-credit constructed-response questions require students to complete a task and show their work. Like multiple-choice questions, 2-credit constructed-response questions will often involve multiple steps, the application of multiple mathematics skills, and real-world applications. These questions may ask students to explain or justify their solutions and/or show their process of problem solving. 4-credit and 6-credit constructed-response questions require students to show their work in completing more extensive problems which may involve multiple tasks. Students will be asked to make sense of mathematical and real-world problems in order to demonstrate procedural and conceptual understanding. For 6-credit constructed-response questions, students will analyze, interpret, and/or create mathematical models of real-world situations.

Algebra I (Common Core) Regents Examination (continued)

Regents Examination in Algebra I (Common Core) Design

Test Component	Number of Questions	Credits per Question	Total Credits per Section
Part I	24 Multiple-Choice	2	48
Part II	8 Constructed-Response	2	16
Part III	4 Constructed-Response	4	16
Part IV	1 Constructed-Response	6	6
TOTAL	37	-	86

Calculators

A graphing calculator must be available to all students taking the Regents Examination in Algebra I (Common Core).

Additional Assessment Resources

Sample Questions for the Regents Examination in Algebra I (Common Core) are available at <http://www.engageny.org/resource/regents-exams-mathematics-algebra-i-sample-items>

Math Item Review Criteria and Multiple Representations are available at <http://www.engageny.org/resource/regents-exams-mathematics>