Educator Guide to the Regents Examination in Algebra I (Common Core)

THE UNIVERSITY OF THE STATE OF NEW YORK

Regents of The University

Table of Contents

Common Core Regents Examinations in Mathematics

As part of the New York State Board of Regents Reform Agenda, the New York State Education Department (NYSED) has embarked on a comprehensive reform initiative to ensure that schools prepare students with the knowledge and skills they need to be college and career ready.

The New York State P 12 CCLS call for changes in what is
instructional approach. In mathematics courses, the CCLS demand that teachers focus their instruction on fewer, more central standards (http://engageny.org/resource/math-content-emphases/), thereby providing room to build core understandings and connections between mathematical concepts and skills.

Instructional Shifts and how they will be reflected in the Mathematics Assessments

The CCLS for Mathematics will require changes in instruction. There are six instructional shifts required to ensure that curriculum materials and classroom instruction are truly measuring the Standards. Educators should focus instruction on the Standards and six key shifts in mathematics http://www.engageny.org/resource/common-core-shifts. Each of the six shifts will be evident in the new assessments. The table below shows the ways that instructors can expect the mathematics assessments will differ from past assessments through the lens of the six shifts.

Common Core Shifts in Mathematics Assessments	
Shift 1: Focus	Priority standards, which are embedded in the major clusters, will be the focus of assessments. Other standards will be deemphasized.
Shift 2: Coherence	Assessments will reflect

The following chart shows the percent of test by credit from the blueprint, as well as the domains included in Algebra I for each conceptual category.

Conceptual Category	Percent of Test by Credits	Domains in Algebra I
Number & Quantity	2% - 8%	The Real Number System (N-RN) Quantities (N-Q)
Algebra	50% - 56%	Seeing Structure in Expressions (A-SSE) Arithmetic with Polynomials and Rational Expressions (A-APR) Creating Equations (A-CED) Reasoning with Equations and Inequalities (A-REI)
Functions	32% - 38%	Interpreting Functions (F-IF) Building Functions (F-BF) Linear, Quadratic, and Exponential Models (F-LE)
Statistics & Probability	5% - 10%	Interpreting categorical and quantitative data (S-ID)

Content Emphases

Within each domain, the Algebra I CCLS are divided into *Major Clusters*, *Supporting Clusters*, and *Additional Clusters*. **The Algebra I Regents Exam will mirror the organization of the standards: Major Clusters will account for a majority (58% - 73%) of the credits on the test, while Supporting Clusters (18% - 30%) and Additional Clusters (5% - 17%) will together constitute less than half of the possible credits.** Although clusters will be assessed more than once depending on the cluster emphases, the knowledge and skills necessary, or the context, will be distinctly different for each question. This will ensure that students have the opportunity to earn credit on every question regardless of how they performed on earlier questions even those aligned to the same cluster.

The chart on the following page illustrates the different clusters for instructional emphasis; additionally, the chart shows the standards that are shared by Algebra I and Algebra II. Assessment limits for shared standards are necessary to provide information on how a shared standard is assessed differently for each course. For more information about assessment limits for shared standards please refer to PARCC Model Content Framework for Algebra I.

The Algebra I Standards Clarifications offer further specific information regarding some of the standards for the course: http://www.engageny.org/resource/regents-exams-mathematics-algebra-i-standards-clarifications.

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Constructed-Response Questions

Constructed-response questions will require students to show a deep understanding of mathematical procedures, concepts, and applications

Mathematics Tools for the Regents Examination in Algebra I (Common Core)

Calculators and Straightedges (rulers)

A graphing calculator and straightedge (ruler) **must** be available to all students taking the Regents Examination in Algebra I (Common Core). No students may use calculators that are capable of symbol manipulation or that can communicate with other calculators through infrared sensors, nor may students use operating manuals, instruction or formula cards, or other information concerning the operation of calculators during the test. For more information regarding calculators see Directions for Administering Regents Examinations, at

Reference Sheet

A detachable reference sheet will be included at the end of the Regents Examination in Algebra I (Common Core) booklet.

Common Core High School Math Reference Sheet
(Algebra I, Geometry, Algebra II)

1 inch = 2.54 centimeters	1 kilometer = 0.62 mile	1 cup = 8 fluid ounces
1 meter = 39.37 inches	1 pound = 16 ounces	1 pint = 2 cups
1 mile = 5280 feet	1 pound = 0.454 kilograms	1 quart = 2 pints
1 mile = 1760 yards	1 kilogram = 2.2 pounds	1 gallon = 4 quarts
1 mile = 1.609 kilometers	1 ton = 2000 pounds	1 gallon = 3.785 liters
		1 liter = 0.264 gallon
		1 liter = 1000 cubic centimeters

Triangle	$A \quad \frac{1}{2}bh$	Pythagorean Theorem	$a^2 \quad b^2 \quad c^2$
Parallelogram	$A \quad bh$	Quadratic Formula	$x \quad \frac{b \quad \sqrt{b^2 \quad 4ac}}{2a}$
Circle	$A \quad r^2$	Arithmetic Sequence	$a_n \quad a_1 \quad (n \quad 1)d$
Circle	$C \quad \pi d$ or $C \quad 2\pi r$	Geometric Sequence	$a_n \quad a_1 r^{n \quad 1}$
General Prisms	$V \quad Bh$	Geometric Series	$S_n \quad \frac{a_1 \quad a_1 r^n}{1 \quad r}$ where $r \quad 1$
Cylinder	$V \quad r^2 h$	Radians	1 radian = $\frac{180}{\pi}$ degrees
Sphere	$V \quad \frac{4}{3} \quad r^3$	Degrees	1 degree = $\frac{\pi}{180}$ radians
Cone	$V \quad \frac{1}{3} \quad r^2 h$	Exponential Growth/Decay	$A \quad A_0 e^{k(t \quad t_o)} \quad B_0$
Pyramid	$V \quad \frac{1}{3}Bh$		