

KS Grade Level **FOCUS** for Ninth and Tenth Grades



Standards should provide *focus*, *coherence*, and *rigor*. This document shows educators the concepts and topics that should be the *focus* for their grade level. By emphasizing some clusters of mathematics over others, the *coherence* between grades will assist students in building key ideas and essential concepts that are revisited at more depth in later grades.

Though some standards have a greater emphasis than others, they cannot be ignored. These standards should support the major areas of focus for each grade level and provide a foundation for future topics.

To assist with curriculum mapping and the curriculum adoption process, a set of Grade Level Focus worksheets <http://bit.ly/GLF-Worksheet> have been produced for districts and schools to use.

Major, Supporting, and Additional Clusters for Ninth and Tenth Grades

Mathematics is best when focusing at the cluster level instead of at the standard level. This structure provides better coherence and connectivity. The major work of the grade level should focus on the major clusters. The supporting and additional clusters should support the major clusters and provide foundational ideas for future mathematics.

▶ Major Clusters

◆ Supporting Clusters

● Additional Clusters

Clusters comprised entirely of standards classified as “**all**” standards are included in this focus document. These standards should be taught throughout every high school math course, and often represent over-arching themes or key features of the mathematical concept. These standards should be taught in conjunction with the appropriate grade level standards.

The Real Number System **N.RN**

N.RN.A ● Use properties of rational numbers and irrational numbers.

Quantities **N.Q**

N.Q.A **all** Reason quantitatively and use units to solve problems.

Seeing Structure in Expressions **A.SSE**

A.SSE.A **all** Interpret the structure of expressions.

A.SSE.B ▶ Write expressions in equivalent forms to solve problems.

Arithmetic with Polynomials and Rational Expressions **A.APR**

A.APR.A ◆ Perform arithmetic operations on polynomials.

A.APR.B ● Use polynomial identities to solve problems.

Creating Equations **A.CED**

A.CED.A **all** Create equations that describe numbers or relationships.

Reasoning with Equations and Inequalities A.REI

- A.REI.A **all** Understand solving equations as a process of reasoning and explain the reasoning.
- A.REI.B **▶** Solve equations and inequalities in one variable.
- A.REI.C **▶** Solve systems of equations.
- A.REI.D **▶** Represent and solve equations and inequalities graphically.

Interpreting Functions F.IF

- F.IF.A **●** Understand the concept of a function and use function notation.
- F.IF.B **◆** Interpret functions that arise in applications in terms of the context.
- F.IF.C **▶** Analyze functions using different representations.

Building Functions F.BF

- F.BF.A **◆** Build a function that models a relationship between two quantities.
- F.BF.B **●** Build new functions from existing functions.

Congruence G.CO

- G.CO.A **▶** Experiment with transformations in the plane.
- G.CO.B **◆** Understand congruence in terms of rigid motions.
- G.CO.C **▶** Construct arguments about geometric theorems using rigid transformations and/or logic.
- G.CO.D **●** Make geometric constructions.

Similarity, Right Triangles, and Trigonometry G.SRT

- G.SRT.A **●** Understand similarity in terms of similarity transformations.
- G.SRT.B **◆** Construct arguments about theorems involving similarity.
- G.SRT.C **◆** Define trigonometric ratios and solve problems involving right triangles.

Circles G.C

- G.C.A **●** Understand and apply theorems about circles.

Expressing Geometric Properties with Equations G.GPE

- G.GPE.A **●** Translate between the geometric description and the equation for a conic section.
- G.GPE.B **▶** Use coordinates to prove simple geometric theorems algebraically.

Modeling with Geometry G.MG

- G.MG.A **▶** Apply geometric concepts in modeling situations.

Interpreting Categorical and Quantitative Data S.ID

- S.ID.A **▶** Summarize, represent, and interpret data on a single count or measurement variable.
- S.ID.B **◆** Summarize, represent, and interpret data on two categorical and quantitative variables.
- S.ID.C **▶** Interpret linear models.