Ninth Grade First Semester Math Curriculum Guide

First Nine Weeks

Module 1 Relationships Between Quantities & Reasoning w/Equations

N-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems

- Choose and interpret units consistently in formulas

Choose and interpret the scale and the origin in graphs and data displays
N-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling (i.e., use units appropriate to the problem being solved)

N-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities

A-SSE.A.1 Interpret *expressions* that represent a quantity in terms of its context
A-SSE.A.2 Use the structure of an *expression* to identify ways to rewrite it

A-APR.A.1 Add, subtract, and multiply *polynomials*
Understand that *polynomials*, like the integers, are closed under addition, subtraction, and multiplication
A-CED.A.1 Create *equations* and *inequalities* in one *variable* and use them to solve problems

A-CED.A.2 Create *equations* in two or more *variables* to represent relationships between quantities Graph equations, in two *variables*, on a *coordinate plane*

A-CED.A.3 Represent and interpret constraints by *equations* or *inequalities*, and by *systems of equations* and/or *inequalities* Interpret solutions as viable or nonviable options in a modeling and/or real-world context
A-CED.A.4 Rearrange *literal equations* using the properties of equality
A-REI.A.1 Assuming that *equations* have a solution, construct a solution and justify the reasoning used

A-REI.B.3 Solve linear equations, inequalities and *absolute value equations* in one *variable*, including *equations* with *coefficients* represented by letters

A-REI.C.5 Solve *systems of equations* in two variables using substitution and elimination. Understand that the solution to a system of equations will be the same when using substitution and elimination

Second Nine Weeks

Module 2 Descriptive Statistics

S-ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots)
S-ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets
S-ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers)

S-ID.B.5 Summarize categorical data for two categories in two-way frequency tables

Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies).
Recognize possible associations and trends in the data
S-ID.B.6 Represent data on two quantitative variables on a *scatter plot*, and describe how the variables are related

S-ID.C.7 Interpret the *slope* (*rate of change*) and the *intercept* (constant term) of a linear model in the context of the data
S-ID.C.8 Compute (using technology) and interpret the *correlation coefficient* of a linear fit
S-ID.C.9 Distinguish between *correlation* and *causation*