Are You Ready for the 2014 Seventh Grade New York State Math Test?

(sixth grade May-June topics and seventh grade September-April topics combined)

Expressions and Equations (30% - 40% of test)

☐ Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients

☐ Understand that rewriting an expression in different forms can shed light on the problem and how the quantities in it are related

☐ Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) using tools strategically

☐ Apply properties of operations to calculate with numbers in any form

☐ Convert between forms as appropriate

☐ Assess the reasonableness of answers using mental computation and estimation strategies

☐ Use variables to represent quantities in a real-world or mathematical problem

☐ Construct simple equations and inequalities to solve problems

☐ Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$ and solve equations of these forms

☐ Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach

☐ Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$

☐ Graph the solution set of an inequality and interpret it in the context of the problem

Ratios and Proportional Relationships (20% - 30% of test)

☐ Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units

☐ Recognize and represent proportional relationships between quantities

☐ Use proportional relationships to solve multi-step ratio and percent problems

The Number System (15% - 25% of test)

☐ Apply and extend understanding of addition/subtraction to add/subtract rational numbers

☐ Represent addition and subtraction on a horizontal or vertical number line diagram

☐ Apply and extend understanding of multiplication and division and of fractions to multiply and divide rational numbers

☐ Solve real-world and mathematical problems involving the four operations with rational numbers

Geometry (5% - 15% of test)

☐ Solve problems involving scale drawings of geometric figures, such as computing actual lengths and areas from a scale drawing

☐ Reproducing a scale drawing at a different scale

☐ Know the formulas for the area and circumference of a circle and solve problems

☐ Give an informal derivation of the relationship between the circumference and area of a circle

Statistics and Probability (10% - 20% of test)

☐ Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers

☐ Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape

☐ Recognize that a measure of center summarizes all values with a single number, while a measure of variation describes how the values vary with a single number

☐ Display numerical data on a number line, including dot plots, histograms, and box plots

☐ Report the number of observations in a numerical data set

☐ Describe the attribute under investigation, including how it was measured and units of measurement

☐ Give measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern or outliers

☐ Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered

☐ Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population; understand that random sampling tends to produce representative samples and support valid inferences

☐ Use data from a random sample to draw inferences about a population with an unknown characteristic of interest; generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions

☐ Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measure the difference between the centers by expressing it as a multiple of a measure of variability

☐ Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations

☐ Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring; larger numbers indicate greater likelihood

☐ Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability

☐ Develop a probability model and use it to find probabilities of events; compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy

☐ Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations

The 2014 Seventh Grade New York State Math Test will be given over three days: April 30th, May 1st, and May 2nd.

Day One	**Day Two**	**Day Three**
28 Multiple Choice 80 minutes	27 Multiple Choice 80 minutes	6 short response 4 extended response 90 minutes
protractor and ruler reference sheet ***no calculator***	protractor and ruler reference sheet calculator	protractor and ruler reference sheet calculator