## Topics Covered

Proportional Reasoning
Unit rates, ratios, ratios of lengths/areas in like or different units, proportional relationships, constant of proportionality, computing rate, complex fractions, dimensional analysis, percents, part-whole relationships, rate as slope, simple interest, percent increase/decrease, graph of proportional relationships

Number System
Apply and extend understandings of operations with rational numbers, irrational numbers, operations with rational numbers using non-traditional algorithms, properties of rational numbers, multiple forms of rational numbers, quotients of rational numbers, distributive property, absolute value, additive inverse, interpret products and quotients of rational numbers

Expressions and Equations
Linear expressions with rational coefficients, expressions and how quantities are related, properties of operations with numbers in any form, assess reasonableness of solutions, equivalent expressions with rational numbers, variable representations, multi-step problem solving, constructing equations, constructing mathematical solutions and arguments, extending understanding of equations to inequalities

Geometry
Scale drawings, similar geometric figures, constructions of triangles, 2D figures resulting from slicing of 3D figures, geometric formulas (area, volume, perimeter, circumference, surface area), properties of angles

Statistics and Probability
Random sampling, display data, inferences, making comparative inferences, chance processes, probability models, compound events, using and interpreting data distributions, measures of variability, measures of center, understand/represent data/compound events

## Students have mastered Math 7 when they can:

- Explain and apply the mathematical topics and procedures of Math 7 with precision and fluency as they relate to real world contexts
- Gather information and persevere to solve complex and difficult problems
- Provide evidence for or against a given solution
- Construct and use mathematical models to show solutions to complex real-world problems

## Sample Problem

| Grade 7 Math (before) | Math 7 (now) |
|---|---|
| Problem 1:<br><br>Find 60% of 200<br><br>Problem 2:<br><br>$\frac{4}{15}+\frac{5}{18}=?$ | Problem 1:<br><br>60 percent of the students in 7th grade are girls. If there are 200 girls in 7th grade, how many students are there in 7th grade? How do you know your answer is reasonable?<br><br>Problem 2:<br><br>Without using the common algorithm (i.e. finding common denominators), determine if the following is true or false. Explain your reasoning.<br><br>$\frac{4}{15}+\frac{5}{18}>\frac{2}{3}$ |

## Resources

Practice Test (Smarter Balanced Assessment)
http://www.cde.ca.gov/ta/tg/sa/practicetest.asp

Sample Test Items (Smarter Balanced Assessment)
http://www.smarterbalanced.org/sample-items-and-performance-tasks/

Practice Problems
http://www.ixl.com/standards/california/math/grade-7

Practice Problems and Instruction
http://www.illustrativemathematics.org/7

Orange County Department of Education Common Core Resources
http://www.ocde.us/commoncoreca