

Prentice Hall Mathematics, Course 1 © 2008
Correlated to:
Connecticut Mathematics Curriculum Framework Companion
(Grade 6)

Connecticut Mathematics Curriculum Framework	PAGE(S) WHERE TAUGHT (If submission is not a text, cite appropriate resource(s))
Algebraic Reasoning: Patterns And Functions	
Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies.	
How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?	
1.1 Understand and describe patterns and functional relationships	
Grade 6	
a. Identify relationships and make generalizations through the use of patterns.	SE/TE: 42, 108-112
(1) Describe, analyze and extend numeric, geometric and statistical patterns and use them to identify trends and justify predictions.	SE/TE: 42, 108-112
1.2 Represent and analyze quantitative relationships in a variety of ways.	
Grade 6	
a. Represent and analyze mathematical relationships with the help of tables, graphs, equations and inequalities.	SE/TE: 80-83, 112-114, 117-121, 123, 142-143, 265, 543-545, 558-561, 578-581, 582-584, 585, 591-593
(1) Determine the nature of changes in linear relationships using graphs, tables and equations.	SE/TE: 558-561
(2) Represent numerical and contextual situations with algebraic expressions, equations and inequalities.	SE/TE: 112-115, 117-123, 142-143, 578-581, 582-585
1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.	
Grade 6	
a. Solve real- world problems using algebraic methods.	SE/TE: 113-115, 117-121, 123, 142-143, 265, 545, 558-562, 578-581, 582-585, 591-593
(1) Use variables as placeholders, to denote a pattern, to write a formula and to represent a function or relation.	SE/TE: 112-115, 117-123, 142-143
(2) Evaluate algebraic expressions and formulas using substitution.	SE/TE: 80-83, 112-116, 426-430
b. Demonstrate how to maintain equivalence in equations.	SE/TE: 124-127, 129-133, 134-136, 137-141, 256, 543-545
(1) Model and solve one-step linear equations by maintaining equivalence.	SE/TE: 124-127, 129-133, 134-136, 137-141, 256, 543-545

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Numerical and Proportional Reasoning	
Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.	
How are quantitative relationships represented by numbers?	
2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.	
Grade 6	
a. Relate whole numbers, fractions, decimals and integers to number lines, scales, the coordinate plane and problem-solving situations.	SE/TE: 26, 29-30, 75-77, 175, 516-522, 548-551
(1) Locate, order and compare whole numbers, fractions, decimals and integers on number lines, scales and the coordinate grid.	SE/TE: 26, 29-30, 75-77, 175, 516-522, 548-551
(2) Explain orally and in writing when a situation requires an exact answer or when an estimate is sufficient.	SE/TE: 8-11, 32-33, 39, 124-126, 212-215, 266-268, 276, 445, 597
b. Express place value patterns using exponents to write powers of ten.	SE/TE: 5-6, 22-25, 636, 641
(1) Recognize place value patterns when multiplying and dividing decimals by powers of 10.	SE/TE: 5-6, 22-25, 636, 641
(2) Compare large numbers using expanded forms and powers of ten.	SE/TE: 26-30
(3) Develop, describe and use a variety of ways to estimate and calculate with large numbers and connect the strategies to powers of ten.	SE/TE: 8-11, 162-165
c. Interpret and connect fraction notation to division.	SE/TE: 198-201
(1) Use models and common factors to identify equivalent fractions and their decimal representations.	SE/TE: 198-201
(2) Determine the decimal equivalents of fractions.	SE/TE: 198-201
(3) Recognize that multiplication by a unit fraction is equivalent to dividing by the fraction's denominator.	SE/TE: 260-264
d. Compare quantities and solve problems using ratios, rates and percents.	SE/TE: 306-310, 312-324, 326-329, 336-339
(1) Estimate and find percents using benchmarks and number patterns.	SE/TE: 336-339

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(2) Convert between rates using ratios and proportions.	SE/TE: 306-310, 312-324, 326-329, 336-339
(3) Solve problems involving ratios, proportions and percents.	SE/TE: 306-310, 312-324, 326-329, 336-339
2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.	
Grade 6	
a. Solve problems using a variety of computational strategies, including the use of calculators.	SE/TE: 8-11, 31-35, 37-42, 44-47, 166-174, 212-225, 228-237, 260-264, 266-280, 306-310, 312-324, 326-329, 444-447
(1) Estimate and predict reasonable answers and recognize and explain when an estimate will be more or less than an exact answer.	SE/TE: 8-11, 212-215, 266, 269, 276, 445
(2) Use a variety of computational strategies (mental computation, paper-and-pencil and calculator) to add, subtract, multiply and divide multidigit numbers in the context of multistep word and practical problems.	SE/TE: 32-3538-42, 44-50
(3) Apply the order of operations and algebraic properties (associative, commutative, distributive, inverse operations and additive and multiplicative identities) to estimate and solve multistep problems.	SE/TE: 16-19
(4) Use factors of composite numbers, powers of ten and divisibility rules to find products and missing factors.	SE/TE: 166-169, 171-174
(5) Add, subtract and multiply fractions and decimals using a variety of computational strategies.	SE/TE: 8-11, 31-35, 37-42, 44-47, 166-174, 212-225, 228-237, 260-264, 266-280
(6) Create and solve a variety of problems involving fractions, decimals, mixed numbers, money and simple percents.	SE/TE: 8-11, 31-35, 37-42, 44-47, 166-174, 212-225, 228-237, 260-264, 266-280, 306-310, 312-324, 326-329
b. Describe when products or quotients with fractions and decimals can yield a larger or smaller result than either factor.	SE/TE: 44-47, 272-280
(1) Determine the fractional part of a set using procedures connected to models.	SE/TE: 175
(2) Represent division with decimals, fractions and mixed numbers as related to models and context.	SE/TE: 44-47, 272-280

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Geometry and Measurement	
Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.	
How do geometric relationships and measurements help us to solve problems and make sense of our world?	
3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.	
Grade 6	
a. Classify polygons according to their properties.	SE/TE: 386-390, 392-397
(1) Use the relationships of sides and angles to classify sets and subsets of polygons.	SE/TE: 386-390, 392-397
(2) Make and test conjectures about side and angle relationships and congruence.	SE/TE: 392-397
b. Examine the relationships between the measures of area of 2-dimensional objects and volumes of 3-dimensional objects.	SE/TE: 437-441, 444-466
(1) Use the rectangle as a basic shape to model and develop formulas for the area of triangles, parallelograms, trapezoids and circles.	SE/TE: 431-435
(2) Recognize the relationships among radius, diameter, circumference and area of circles.	SE/TE: 438-441, 444-447, 461
(3) Develop and use strategies to determine the volume of rectangular solids and cylinders.	SE/TE: 462-466
3.2 Use spatial reasoning, location and geometric relationships to solve problems.	
Grade 6	
a. Construct similar polygons on coordinate grids.	SE/TE: 553
(1) Explore similarity of polygons as a result of dilations (a reduction or enlargement) and their effects on their measurements.	SE/TE: 392-397
3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.	
Grade 6	
a. Solve problems involving measurement through the use of a variety of tools, techniques and strategies.	SE/TE: 288-296, 366-371, 374-377, 416-424, 426-430, 432-435, 437-447, 453-467, 472-473, 644
(1) Estimate and determine length, area, volume, mass and angle measures.	SE/TE: 288-296, 366-371, 374-377, 416-424, 426-430, 432-435, 437-447, 453-467, 472-473, 644

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(2) Select and use appropriate units, strategies and tools to measure and solve problems involving length, perimeter, area, volume, capacity, weight, mass, temperature and angles.	SE/TE: 288-296, 366-371, 374-377, 416-424, 426-430, 432-435, 437-447, 453-467, 472-473, 644
b. Use specific ratios to convert between measures of length, area, volume, mass and capacity in the customary and metric systems.	SE/TE: 292-295, 416-419, 421-424
(1) Use different ratios to convert between units of length, area and volume in the customary and metric systems.	SE/TE: 292-295
(2) Recognize and use powers of ten as conversion ratios in the metric system.	SE/TE: 416-419, 421-424
Working with Data: Probability and Statistics	
Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.	
How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?	
4.1 Collect, organize and display data using appropriate statistical and graphical methods.	
Grade 6	
a. Display and compare sets of data using various systematic or graphical representations.	SE/TE: 79, 340-344, 476-481
(1) Compare sets of data graphically using histograms, double bar graphs, back-to-back stem and leaf plots and scatter plots.	SE/TE: 79
(2) Construct circle graphs and recognize that they represent data proportionally.	SE/TE: 340-344
(3) Use systematic listing and counting strategies to solve problems.	SE/TE: 476-481
4.2 Analyze data sets to form hypotheses and make predictions.	
Grade 6	
a. Describe the shape of data sets using the measures of spread and central tendency.	SE/TE: 60-64, 66-73
(1) Describe the shape of data sets using measures of spread (range and outliers) and central tendency (mode, median and mean).	SE/TE: 60-64, 66-73
(2) Recognize that changes in a data set can affect the mode, median, mean and range.	SE/TE: 60-64

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4.3 Understand and apply basic concepts of probability.	
Grade 6	
a. Understand that probabilities are more reliable to use as predictors when there is a large number of trials.	SE/TE: 494-498
(1) Explore the relationship between the number of trials in an experiment and the predicted outcomes.	SE/TE: 494-498
(2) . Design and conduct probability experiments and make predictions about outcomes that are equally likely or not equally likely.	SE/TE: 492
b. Express probability using various numerical representations.	SE/TE: 482-486, 488-492
(1) Express probabilities as fractions, ratios, decimals and percents.	SE/TE: 482-486, 488-492