Grade 3

M3.A Numbers and Operations

M3.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.
   M3.A.1.1 Apply place-value concepts and notation to counting, ordering, grouping and equivalency.
   M3.A.1.1.1 Match the word name with the appropriate whole number (up through 9,999).
      M0302 - Knowing Word Names for Numbers Less Than 100
      M0303 - Knowing Word Names for Numbers Less Than Ten
   M3.A.1.3 Compare two whole numbers using greater than (>), less than (<) or equal to (≡) (up through 9,999).
      M0318 - Knowing Larger and Smaller Numbers Less Than 20
      M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
      M0521 - Ordering Numbers Less Than 1,000
   M3.A.1.4 Order a set of whole numbers from least to greatest or greatest to least.
      M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
   M3.A.1.5 Match a symbolic representation of numbers to an appropriate whole number.
      M0302 - Knowing Word Names for Numbers Less Than 100
      M0303 - Knowing Word Names for Numbers Less Than Ten

M3.A.1.2 Use fractions to represent quantities as part of a whole.
   M3.A.1.2.1 Match the fraction to the appropriate drawing or part of a set.
      M0325 - Identifying 1/2, 1/3, or 1/4 of a Region
      M0527 - Identifying Fractional Portions of Shapes and Groups

M3.A.1.3 Count, compare and make change using a collection of coins and one-dollar bills.
   M3.A.1.3.1 Count a collection of bills and coins less than $5.00 (penny, nickel, dime, quarter, dollar).
      M03122 - Identifying a Set of Coins with a Value Less Than Twenty-Five Cents
      M05125 - Counting Coins
      M05126 - Counting Coins and Bills
   M3.A.1.3.2 Compare total values of combinations of coins less than $5.00 (penny, nickel, dime, quarter, dollar).
      M03122 - Identifying a Set of Coins with a Value Less Than Twenty-Five Cents
      M05125 - Counting Coins
      M05126 - Counting Coins and Bills
   M3.A.1.3.3 Make change for an amount up to $5.00 with no more than $2.00 change given (penny, nickel, dime, quarter, dollar)
      M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without

M3.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
   M3.A.2.1 Understand various meanings of operations and the relationship between them.
      M3.A.2.1.1 Understand the relationship between operations or arrays.
      Represent multiplication as repeated addition.
M0551 - Understanding the Meaning of Multiplication
M0553A - Learning the Multiplication Tables from 0 to 3
M0553B - Learning the Multiplication Tables from 4 to 6
M0553C - Learning the Multiplication Tables from 7 to 9

Demonstrate the inverse relationship between addition and subtraction using fact families.
M0342 - Understanding the Meaning of Subtraction
M0352 - Determining the Total Number of Objects in Equal Sets
M0553A - Learning the Multiplication Tables from 0 to 3
M0553B - Learning the Multiplication Tables from 4 to 6
M0553S - Using the Basic Multiplication Facts (Drill & Practice)
M0556 - Understanding the Meaning of Division

M3.A.3 Compute accurately and fluently and make reasonable estimates.

M3.A.3.1 Solve problems using addition, subtraction and multiplication (straight computation and word problems).

M3.A.3.1.1 Solve single- and double-digit addition and subtraction problems with regrouping in vertical and horizontal form.
M0323B - Learning the Basic Addition Facts - Part B
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XB - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M03XC - Adding Two Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M03108 - Problems Involving Addition of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03109 - Problems Involving Subtraction of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M03110 - Solving Word Problems Involving Addition and Subtraction
M05110 - Solving Word Problems Involving Multiplication and Division

M3.A.3.1.2 Solve problems involving multiplication through the 9’s tables through 9 x 5.
M0352 - Determining the Total Number of Objects in Equal Sets
M0553A - Learning the Multiplication Tables from 0 to 3
M0553B - Learning the Multiplication Tables from 4 to 6
M0553S - Using the Basic Multiplication Facts (Drill & Practice)
M0556 - Understanding the Meaning of Division

M3.A.3.2 Use estimation skills to arrive at conclusions.

M3.A.3.2.1 Estimate sums and differences; round 2-digit numbers to nearest 10, 3-digit numbers to nearest 100, before computing.
M0513 - Rounding Whole Numbers to the Nearest Ten
M3.A.3.2.2 Round whole numbers to the nearest ten, hundred or thousand (no higher than 9000).
M0513 - Rounding Whole Numbers to the Nearest Ten

M3.B Measurement
M3.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.
M3.B.1.1 Determine or calculate time and elapsed time.
M3.B.1.1.1 Tell time (analog) to the minute.
M0383 - Telling Time on the Hour and Half-Hour
M0587 - Telling Time in Minutes After and Minutes Before the Hour
M3.B.1.2 Use the attributes of length, area, volume and weight of objects.
M3.B.1.2.1 Select an appropriate unit and/or tool for the attribute being measured.
M0584 - Using Linear Measurements
M3.B.2 Apply appropriate techniques, tools and formulas to determine measurements.
M3.B.2.1 Determine the measurement of objects with non-standard and standard units.
M3.B.2.1.1 Use a ruler (provided) to measure to the nearest 1/2 inch or centimeter.
M0584 - Using Linear Measurements
M0588 - Measuring Objects in Centimeters and Inches
M3.B.2.2 Estimate measurements of familiar objects.
M3.B.2.2.1 Match the object with its approximate measurement (all measurements given must be of the same system).
M0584 - Using Linear Measurements
M0588 - Measuring Objects in Centimeters and Inches

M3.C Geometry
M3.C.1 Analyze characteristics, properties of two-/three- dimensional shapes; demonstrate understanding of relationships.
M3.C.1.1 Identify and/or describe two- and three-dimensional objects.
M3.C.1.1.1 Name/identify/describe shapes in two dimensions (circle, square, rectangle, triangle, pentaon, hexaon, octaon).
M0398 - Identifying a Circle, Square, Rectangle, and Triangle

M3.D Algebraic Concepts
M3.D.1 Demonstrate an understanding of patterns, relations and functions.
M3.D.1.1 Recognize, describe, or extend a variety of patterns.
M3.D.1.1.1 Extend or find a missing element in a pattern of numbers or shapes.
M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0556 - Understanding the Meaning of Division
M3.D.1.1.2 Identify/describe the rule for a pattern shown.
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0556 - Understanding the Meaning of Division

M3.D.1.2 Demonstrate simple function rules.
M3.D.1.2.1 Determine the missing element in a function table.

M3.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.
M3.D.2.1 Create/model expressions, equations and inequalities to match a problem situation.
M3.D.2.1.1 Create or match a story to a given combination of symbols (+, -, x, <, >, =) and numbers.

M3.D.2.1.2 Choose the number sentence that matches a given story (one operation, + or - only).

M3.D.2.2 Determine the missing number or symbol in a number sentence.
M3.D.2.2.1 Find a missing number that makes a number sentence true.

M3.D.2.2.2 Identify the missing symbol (+, -, =, <, >) that makes a number sentence true.
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Sequence Listing
Sequence: PA Anchors 05 Math

M3.E Data Analysis and Probability
M3.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.
   M3.E.1.1 Answer questions based on data shown on tables, charts, bar graphs or pictographs.
      M3.E.1.1.1 Analyze data shown on tables, charts, bar graphs or pictographs.
      M05145 - Interpreting Bar Graphs and Pictographs
      M05145 - Interpreting Bar Graphs and Pictographs
      M3.E.1.2 Organize or display data using tables, charts, bar graphs or pictographs.
      M3.E.1.2.1 Graph data or complete a graph given the data (bar graph or pictograph - grid is provided).
      M05145 - Interpreting Bar Graphs and Pictographs

Grade 4
M4.A Numbers and Operations
M4.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.
   M4.A.1.1 Use models and/or words to represent quantities as decimals, fractions and mixed numbers.
      M4.A.1.1.1 Match/construct drawings, diagrams, models to correct decimal, fraction, mixed number-no simplification necessary.
      M0325 - Identifying 1/2, 1/3, or 1/4 of a Region
      M0527 - Identifying Fractional Portions of Shapes and Groups
      M4.A.1.1.3 Write whole numbers in expanded, standard and/or word form through 6 digits.
      M0302 - Knowing Word Names for Numbers Less Than 100
      M0303 - Knowing Word Names for Numbers Less Than Ten

M4.A.1.2 Compare quantities and magnitudes of numbers.
   M4.A.1.2.2 Compare and/or order whole numbers through 6 digits and amounts of money to $100.
      M0318 - Knowing Larger and Smaller Numbers Less Than 20
      M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
      M0521 - Ordering Numbers Less Than 1,000

M4.A.1.3 Develop and/or apply number theory concepts to represent numbers in various ways.
   M4.A.1.3.1 Find/identify/list factors of a given number through 10.
      M0551 - Understanding the Meaning of Multiplication
   M4.A.1.3.2 Find/identify/list multiples of a number, where the multiples do not exceed 100.
      M0551 - Understanding the Meaning of Multiplication

M4.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
M4.A.2.1 Use operations to solve problems (may include word problems).
M4.A.2.1.1 Solve problems involving all operations with whole numbers, and/or explain the solution.
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0335 - Adding One-Digit Numbers
M0336 - Adding Three One-Digit Numbers
M0337 - Adding Two Two-Digit Numbers Without Regrouping
M0338 - Adding a One-Digit Number to a Two-Digit Number Without Regrouping
M0343 - Learning the Basic Subtraction Facts
M0345 - Subtracting a One-Digit Number from a Two-Digit Number Without Regrouping
M0346 - Subtracting Two Two-Digit Numbers Without Regrouping
M034A - Adding One-Digit and Two-Digit Numbers Without Regrouping
M034B - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums Without Regrouping
M034C - Subtracting Two Two-Digit Numbers Without Regrouping
M036 - Subtracting Two-Digit Numbers Without Regrouping
M039 - Adding Three Two-Digit Numbers Without Regrouping
M040 - Adding Three-Digit Numbers Without Regrouping
M041 - Adding Four-Digit Numbers Without Regrouping
M042 - Adding One-, Two-, or Three-Digit Numbers Without Regrouping
M043 - Adding One-, Two-, Three-, or Four-Digit Numbers Without Regrouping
M047 - Subtracting Three- or Four-Digit Numbers Without Regrouping
M048 - Subtracting Two-Digit Numbers Without Regrouping
M049 - Subtracting Three-Digit Numbers Without Regrouping
M049B - Subtracting Three-Digit Numbers Without Regrouping Across a Middle Zero
M050 - Subtracting Four-Digit Numbers Without Regrouping
M051 - Understanding the Meaning of Multiplication
M053A - Learning the Multiplication Tables from 0 to 3
M053B - Learning the Multiplication Tables from 4 to 6
M053C - Learning the Multiplication Tables from 7 to 9
M05S - Using the Basic Multiplication Facts (Drill & Practice)
M054A - Multiplying by a One-Digit Number Without Regrouping - Part A
M054B - Multiplying by a One-Digit Number Without Regrouping - Part B
M0554C - Multiplying by a One-Digit Number With Regrouping - Part C
M0556 - Understanding the Meaning of Division
M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
M0558S - Using the Basic Division Facts (Drill & Practice)
M0559 - Using the Basic Facts to Solve Division Problems With Remainders
M0560 - Dividing a Two-Digit Number by a One-Digit Number With Remainders
M0561 - Dividing a Three-Digit Number by a One-Digit Number With Remainders
M05110 - Solving Word Problems Involving Addition and Subtraction
M05112 - Solving Word Problems Involving Multiplication and Division
M0513 - Rounding Whole Numbers to the Nearest Ten
M4.A.2.1.2 Solve problems involving addition, subtraction, multiplication with decimals through tenths or money to the cent.
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M4.A.3 Compute accurately and fluently and make reasonable estimates.
  M4.A.3.1 Apply rounding and/or estimation strategies to solve problems.
    M4.A.3.1.1 Round whole numbers to the nearest ten, hundred, thousand, ten-thousand or hundred-thousand.
    M0513 - Rounding Whole Numbers to the Nearest Ten
    M4.A.3.1.3 Estimate the answer to addition, subtraction and multiplication problems using whole numbers through 6 digits.
    M0513 - Rounding Whole Numbers to the Nearest Ten
M4.A.3.2 Compute using fractions or decimals (written vertically or horizontally - straight computation only).
  M4.A.3.2.2 Solve addition or subtraction problems with fractions with like denominators.
    M0563 - Adding Proper Fractions With Like Denominators
    M0564 - Subtracting Proper Fractions With Like Denominators
M4.B Measurement
  M4.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.
    M4.B.1.1 Determine time and/or calculate elapsed time.
      M4.B.1.1.1 Match/construct analog time (a picture of a clock), to the same time written in digital.
      M0383 - Telling Time on the Hour and Half-Hour
      M0587 - Telling Time in Minutes After and Minutes Before the Hour
    M4.B.1.2 Identify time (analog or digital) as the amount of minutes before and/or after the hour.
      M0587 - Telling Time in Minutes After and Minutes Before the Hour
  M4.B.1.2 Convert linear measurements within the same system.
    M4.B.1.2.1 Convert linear measurements within the same system to the unit immediately above or below the given unit.
      Metric using mm, cm, m, km
      M0584 - Using Linear Measurements
Customary using in, ft, yd
M0584 - Using Linear Measurements
M4.B.2 Apply appropriate techniques, tools and formulas to determine measurements.
M4.B.2.1 Select and/or use appropriate tools and/or attributes for measuring quantities.
M4.B.2.1.1 Use or read a ruler (provided) to measure to the nearest 1/4 inch or millimeter.
M0584 - Using Linear Measurements
M0588 - Measuring Objects in Centimeters and Inches
M4.B.2.2 Estimate measurements of figures.
M4.B.2.2.1 Make reasonable estimates of weights, lengths and capacities of familiar objects.
M0584 - Using Linear Measurements
M0588 - Measuring Objects in Centimeters and Inches
M4.C Geometry
M4.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
M4.C.1.1 Identify/describe the basic properties of geometric figures in two or three dimensions.
M4.C.1.1.1 Identify/classify/compare two-dimensional figures.
M0398 - Identifying a Circle, Square, Rectangle, and Triangle
M4.D Algebraic Concepts
M4.D.1 Demonstrate an understanding of patterns, relations and functions.
M4.D.1.1 Recognize, describe, extend and/or replicate a variety of patterns.
M4.D.1.1.1 Extend or find a missing element in a numerical or geometric pattern.
M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0556 - Understanding the Meaning of Division
M4.D.1.1.2 Identify/describe the rule for a numerical or geometric pattern shown.
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0556 - Understanding the Meaning of Division
M4.D.1.1.3 Create or replicate a numerical or geometric pattern showing 3 repetitions.
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0556 - Understanding the Meaning of Division

M4.D.1.2 Apply simple function rules.
M4.D.1.2.1 Determine the missing elements in a function table given the rule.
   M0323B - Learning the Basic Addition Facts - Part B
   M0343 - Learning the Basic Subtraction Facts
   M0551 - Understanding the Meaning of Multiplication
M4.D.1.2.2 Determine the rule for a function given a completed table.
   M0323B - Learning the Basic Addition Facts - Part B
   M0343 - Learning the Basic Subtraction Facts
   M0551 - Understanding the Meaning of Multiplication

M4.D.2 Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables, and graphs.
M4.D.2.1 Use numbers and symbols to model the concepts of expressions and/or equations.
   M4.D.2.1.1 Correlate story situations with expressions or equations (may use numbers and one operation +, - or x; no variables).
   M0322 - Learning the Meaning of Addition
   M0323A - Learning the Basic Addition Facts - Part A
   M0323B - Learning the Basic Addition Facts - Part B
   M0342 - Understanding the Meaning of Subtraction
   M0343 - Learning the Basic Subtraction Facts
   M0551 - Understanding the Meaning of Multiplication
M4.D.2.2 Determine the missing number or symbol in a number sentence.
   M4.D.2.2.1 Solve for a missing number in an equation (using estimation, guess & check, etc.).
   M0342 - Understanding the Meaning of Subtraction
   M0323B - Learning the Basic Addition Facts - Part B
   M0343 - Learning the Basic Subtraction Facts
   M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
   M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
M4.D.2.2.2 Identify the missing symbol (+, -, x, ÷, =, <, >) that makes a number sentence true (single digit x or ÷ only).
   M0322 - Learning the Meaning of Addition
   M0342 - Understanding the Meaning of Subtraction
   M0521 - Ordering Numbers Less Than 1,000
   M0551 - Understanding the Meaning of Multiplication
   M0556 - Understanding the Meaning of Division

M4.E Data Analysis and Probability
M4.E.1 Formulate questions that can be addressed with data and/or collect, organize, display and analyze data.
  M4.E.1.1 Interpret data shown on tables, charts, line graphs, bar graphs or pictographs.
    M4.E.1.1.1 Describe, interpret, answer questions based on data shown in tables, charts, bar graphs, line graphs, pictographs.
    M05145 - Interpreting Bar Graphs and Pictographs
M4.E.1.2 Organize or display data using tables, bar graphs, line graphs or pictographs.
  M4.E.1.2.1 Graph data or complete a graph given the data (bar graph, line graph or pictograph – grid is provided).
    M05145 - Interpreting Bar Graphs and Pictographs

Grade 5
M5.A Numbers and Operations
  M5.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.
    M5.A.1.2 Demonstrate understanding of place value of whole numbers and decimals.
      M5.A.1.2.1 Read and write decimal numbers through the thousandths.
        M0810 - Reading and Writing Decimals
      M5.A.1.2.2 Identify the number with its place value (from millions to thousandths).
        M0521 - Ordering Numbers Less Than 1,000
        M0810 - Reading and Writing Decimals
        M0823 - Ordering Numbers Less Than 10,000
    M5.A.1.3 Compare quantities or magnitudes of numbers.
      M5.A.1.3.1 Compare whole numbers through 9 digits using words or symbols.
        M0318 - Knowing Larger and Smaller Numbers Less Than 20
        M0521 - Ordering Numbers Less Than 1,000
        M0823 - Ordering Numbers Less Than 10,000
      M5.A.1.4 Use simple applications of negative numbers (number line, counting, temperature).
        M5.A.1.4.2 Identify negative numbers on a thermometer (°C or °F).
          M0891 - Reading Fahrenheit and Celsius Thermometers
    M5.A.1.5 Use or develop models to represent fractions and/or mixed numbers.
      M5.A.1.5.1 Use or develop regions and/or sets to model fractions and mixed numbers to hundredths.
        M0325 - Identifying 1/2, 1/3, or 1/4 of a Region
        M0527 - Identifying Fractional Portions of Shapes and Groups
    M5.A.1.6 Apply number theory concepts (i.e., primes, factors, multiples, composites).
      M5.A.1.6.2 List/identify factors and/or multiples of a given number less than or equal to 50.
        M0551 - Understanding the Meaning of Multiplication
        M0553A - Learning the Multiplication Tables from 0 to 3
        M0553B - Learning the Multiplication Tables from 4 to 6
        M0553C - Learning the Multiplication Tables from 7 to 9
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators

M5.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
M5.A.2.1 Solve problems involving decimals, fractions and/or whole numbers (straight computation or word problems).
M5.A.2.1.1 Solve problems involving addition, subtraction, multiplication and division of whole numbers and decimals.

M0335 - Adding One-Digit Numbers
M0336 - Adding Three One-Digit Numbers
M0337 - Adding Two Two-Digit Numbers With No Regrouping
M0338 - Adding a One-Digit Number to a Two-Digit Number With No Regrouping
M0345 - Subtracting a One-Digit Number from a Two-Digit Number Without Regrouping
M0346 - Subtracting Two Two-Digit Numbers Without Regrouping
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XB - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M03XC - Adding Two Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M03108 - Problems Involving Addition of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03109 - Problems Involving Subtraction of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M0539 - Adding Three Two-Digit Numbers With Regrouping
M0540 - Adding Three-Digit Numbers With Regrouping
M0541 - Adding Four-Digit Numbers With Regrouping
M0542 - Adding One-, Two-, or Three-Digit Numbers With Regrouping
M0543 - Adding One-, Two-, Three-, or Four-Digit Numbers With Regrouping
M0547 - Subtracting Three- or Four-Digit Numbers Without Regrouping
M0548 - Subtracting Two-Digit Numbers Without Regrouping
M0549A - Subtracting Three-Digit Numbers Without Regrouping
M0549B - Subtracting Three-Digit Numbers With Regrouping Across a Middle Zero
M0550 - Subtracting Four-Digit Numbers Without Regrouping
M0554A - Multiplying by a One-Digit Number Without Regrouping - Part A
M0554B - Multiplying by a One-Digit Number Without Regrouping - Part B
M0554C - Multiplying by a One-Digit Number With Regrouping - Part C
M0560 - Dividing a Two-Digit Number by a One-Digit Number With Remainders
M0561 - Dividing a Three-Digit Number by a One-Digit Number With Remainders
M05110 - Solving Word Problems Involving Addition and Subtraction
M05112 - Solving Word Problems Involving Multiplication and Division
M0851 - Subtracting Five-Digit Numbers With Regrouping
M0855 - Multiplying by a Two-Digit Number With Regrouping
M0862 - Dividing a Three- or Four-Digit Number by a Two-Digit Number With Remainders
M0873 - Adding Decimals
M0874 - Subtracting Decimals
M0875 - Multiplying a Whole Number by a Decimal
M0876 - Multiplying a Decimal by a Decimal
M0877 - Dividing a Decimal by a Whole Number
M08113 - Solving Word Problems Involving Addition and Subtraction
M08114 - Solving Word Problems Involving Multiplication and Division
M5.A.2.1.2 Solve problems involving addition and subtraction of fractions.
   M0563 - Adding Proper Fractions With Like Denominators
   M0564 - Subtracting Proper Fractions With Like Denominators
   M0865 - Adding Proper Fractions With Unlike Denominators
   M0866 - Subtracting Proper Fractions With Unlike Denominators
M5.A.2.1.3 Choose the correct operation(s) to solve a problem (no more than 2 operations).
   M05110 - Solving Word Problems Involving Addition and Subtraction
   M05112 - Solving Word Problems Involving Multiplication and Division
   M08113 - Solving Word Problems Involving Addition and Subtraction
   M08114 - Solving Word Problems Involving Multiplication and Division
   M08115 - Matching Word Problems With Number Sentences
   M08116 - Solving Two-Step Word Problems
M5.A.3 Compute accurately and fluently and make reasonable estimates.
   M5.A.3.1 Apply estimation strategies to a variety of problems.
      M5.A.3.1.1 Round whole numbers through millions and decimals through hundredths.
         M0513 - Rounding Whole Numbers to the Nearest Ten
         M0814 - Rounding Whole Numbers to the Nearest Ten, Hundred, and Thousand
         M0815 - Rounding Decimals to the Nearest Whole Number
      M5.A.3.1.2 Use estimation to solve problems involving whole numbers and/or decimals.
         M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
         M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
   M5.A.3.2 Compute accurately without the use of a calculator (straight computation or 1 operation word problems).
   M5.A.3.2.1 Use addition, subtraction, multiplication and division to compute accurately without a calculator.
      M0335 - Adding One-Digit Numbers
      M0336 - Adding Three One-Digit Numbers
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Sequence Listing
Sequence: PA Anchors 05 Math

M0337 - Adding Two Two-Digit Numbers With No Regrouping
M0338 - Adding a One-Digit Number to a Two-Digit Number With No Regrouping
M0345 - Subtracting a One-Digit Number from a Two-Digit Number Without Regrouping
M0346 - Subtracting Two Two-Digit Numbers Without Regrouping
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XB - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M03XC - Adding Two Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M03108 - Problems Involving Addition of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M0539 - Adding Three Two-Digit Numbers With Regrouping
M0540 - Adding Three-Digit Numbers With Regrouping
M0541 - Adding Four-Digit Numbers With Regrouping
M0542 - Adding One-, Two-, or Three-Digit Numbers With Regrouping
M0543 - Adding One-, Two-, Three-, or Four-Digit Numbers With Regrouping
M0547 - Subtracting Three- or Four-Digit Numbers Without Regrouping
M0548 - Subtracting Two-Digit Numbers With Regrouping
M0549A - Subtracting Three-Digit Numbers With Regrouping
M0549B - Subtracting Three-Digit Numbers With Regrouping Across a Middle Zero
M0550 - Subtracting Four-Digit Numbers With Regrouping
M0554A - Multiplying by a One-Digit Number Without Regrouping - Part A
M0554B - Multiplying by a One-Digit Number With Regrouping - Part B
M0554C - Multiplying by a One-Digit Number With Regrouping - Part C
M0560 - Dividing a Two-Digit Number by a One-Digit Number Without Remainders
M0561 - Dividing a Three-Digit Number by a One-Digit Number Without Remainders
M0563 - Adding Proper Fractions With Like Denominators
M0564 - Subtracting Proper Fractions With Like Denominators
M05110 - Solving Word Problems Involving Addition and Subtraction
M05112 - Solving Word Problems Involving Multiplication and Division
M0851 - Subtracting Five-Digit Numbers With Regrouping
M0855 - Multiplying by a Two-Digit Number With Regrouping
M0862 - Dividing a Three- or Four-Digit Number by a Two-Digit Number With Remainders
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators
M0867A - Multiplying Proper Fractions  
M0867B - Multiplying Proper Fractions by Whole Numbers  
M0868 - Dividing Proper Fractions  
M0873 - Adding Decimals  
M0874 - Subtracting Decimals  
M0875 - Multiplying a Whole Number by a Decimal  
M0876 - Multiplying a Decimal by a Decimal  
M0877 - Dividing a Decimal by a Whole Number  
M08113 - Solving Word Problems Involving Addition and Subtraction  
M08114 - Solving Word Problems Involving Multiplication and Division  

M5.B Measurement  
M5.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.  
M5.B.1.1 Select appropriate units (customary or metric) to measure specific attributes of objects.  
M5.B.1.1.1 Select the appropriate unit for measuring weight (mass), capacity, length, perimeter and area.  
M0584 - Using Linear Measurements  
M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles  
M08137 - Solving Linear Measurement Problems  
M08138 - Solving Measurement Problems Involving Capacity  
M08139 - Solving Measurement Problems Involving Weight  
M5.B.1.2 Solve problems using simple conversions and/or add and subtract measurements.  
M5.B.1.2.1 Convert using linear measurements, capacity, and weight (mass) within the same system.  
Metric using mm, cm, m and km; mL and L; q and kg  
M0584 - Using Linear Measurements  
M0885 - Using the Metric System - Part A  
M0893 - Converting Units of Length Within the Metric System  
M08138 - Solving Measurement Problems Involving Capacity  
M08139 - Solving Measurement Problems Involving Weight  
Customary using cup, pint, quart, gallon; in, ft, yd; oz, lb  
M0584 - Using Linear Measurements  
M0885 - Using the Metric System - Part A  
M08138 - Solving Measurement Problems Involving Capacity  
M08139 - Solving Measurement Problems Involving Weight  
M08140 - Converting Customary Measures  
M5.B.1.2.2 Add or subtract linear measurements, or units of time, without having to regroup with subtraction.  
M08135 - Determining Elapsed Time
M08137 - Solving Linear Measurement Problems
M5.B.1.3 Estimate and/or compare the perimeters or areas of 2 figures without computation.
   M5.B.1.3.1 Estimate which polygon (shown) has a greater perimeter or area (do not mix perimeter with area).
M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles
M5.B.2 Apply appropriate techniques, tools and formulas to determine measurements.
   M5.B.2.1 Use appropriate tools to determine measurements.
      M5.B.2.1.1 Use a ruler to measure to the nearest 1/8 inch or millimeter.
   M0588 - Measuring Objects in Centimeters and Inches
   M5.B.2.2 Solve problems involving length, time, weight, mass, capacity, temperature, perimeter, area and/or money.
      M5.B.2.2.1 Find the perimeter or area of a square or rectangle (same system of measurement – whole numbers only).
M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles
   M5.B.2.2.2 Solve problems involving weight, time, temperature, length, capacity, mass (limited to 3 digits) or money.
   M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
   M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
   M0584 - Using Linear Measurements
   M0585 - Naming the Months of the Year in Consecutive Order
   M0586 - Using a Calendar to State the Date
   M0587 - Telling Time in Minutes After and Minutes Before the Hour
   M0588 - Measuring Objects in Centimeters and Inches
   M05125 - Counting Coins
   M05126 - Counting Coins and Bills
   M0812 - Reading and Writing Money Values
   M0885 - Using the Metric System - Part A
   M0891 - Reading Fahrenheit and Celsius Thermometers
   M0893 - Converting Units of Length Within the Metric System
   M08127 - Making Change From Five Dollars or Less
   M08128 - Making Change from Twenty Dollars or Less
   M08129 - Comparing Unit Prices
   M08135 - Determining Elapsed Time
   M08137 - Solving Linear Measurement Problems
   M08138 - Solving Measurement Problems Involving Capacity
   M08139 - Solving Measurement Problems Involving Weight

M5.C Geometry
   M5.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
      M5.C.1.1 Define and/or use basic properties of quadrilaterals, triangles, circles, pyramids, cubes, and/or prisms.
M5.C.1.1.2 Identify/classify/compare triangles and quadrilaterals according to sides and angles.
M0398 - Identifying a Circle, Square, Rectangle, and Triangle
M5.C.3 Locate points or describe relationships using the coordinate plane.
M5.C.3.1 Identify, plot, or match points given an ordered pair.
M5.C.3.1.1 Locate, plot, identify points in Quadrant I, on the x and y axes of a grid (intervals of 1 - up to 20 by 20 grid).
M08147 - Locating Position on a Map

M5.D Algebraic Concepts
M5.D.1 Demonstrate an understanding of patterns, relations and functions.
M5.D.1.1 Create or extend patterns.
M5.D.1.1.1 Extend or find a missing element in a numerical or simple geometric pattern (pattern must show 3 repetitions).
M0319 - Identifying the Number That Comes Before, After, and Between Numbers Less Than 100
M5.D.1.2 Analyze patterns.
M5.D.1.2.1 Form a rule based on a given pattern, or illustrate a pattern based on a given rule.
M0322 - Learning the Meaning of Addition
M0323A - Learning the Basic Addition Facts - Part A
M0323B - Learning the Basic Addition Facts - Part B
M0342 - Understanding the Meaning of Subtraction
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
M5.D.2.1.2 Choose the operation needed to solve for the variable in a one-step equation.
M0556 - Understanding the Meaning of Division
M5.D.2.1.3 Match a realistic situation to an equation, expression, inequality, table or graph.
M0323B - Learning the Basic Addition Facts - Part B
M0342 - Understanding the Meaning of Subtraction
M0551 - Understanding the Meaning of Multiplication
M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1

M5.E Data Analysis and Probability
M5.E.1 Formulate or answer questions that can be addressed with data; organize, display, interpret or analyze data.
M5.E.1.1 Organize, display, interpret data using pictographs, tallies, tables, charts, line/bar/circle graphs, Venn diagrams.
M5.E.1.1.1 Display and/or interpret data shown in tallies, tables, charts, pictographs, bar graphs, line graphs, circle graphs.
M05145 - Interpreting Bar Graphs and Pictographs
M08145 - Graphing and Interpreting Data
M08146 - Interpreting Bar Graphs and Pictographs
M08150 - Constructing and Using a Frequency Distribution

M5.E.2 Select and/or use appropriate statistical methods to analyze data.
M5.E.2.1 Describe data sets using mean, median, mode and/or range.
M5.E.2.1.1 Determine the mean/average, median, and range of data.
M08145 - Graphing and Interpreting Data
M5.E.2.1.2 Identify the mode in a set of data (up to 10 numbers).
M08145 - Graphing and Interpreting Data

Grade 6
M6.A Numbers and Operations
M6.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers, and number systems.
M6.A.1.1 Express numbers in equivalent forms.
M6.A.1.1.1 Represent common percents as fractions and/or decimals - common percents are 1%, 10%, 25%, 50%, 75%, 100%.
M0811 - Understanding Percents
M6.A.1.1.2 Convert between fractions and decimals and differentiate between a terminating decimal and a repeating decimal.
M0810 - Reading and Writing Decimals
M6.A.1.2 Compare quantities and/or magnitudes of numbers.
M6.A.1.2.2 Compare and/or order whole numbers, mixed numbers, fractions or decimals.
M0521 - Ordering Numbers Less Than 1,000
M0823 - Ordering Numbers Less Than 10,000
M6.A.1.3 Use or develop models to represent percents.
M6.A.1.3.1 Select, use or develop regions and/or sets (e.g., circle graph, hundred-blocks) to model percents to 100%.
M0811 - Understanding Percents
M6.A.1.4 Apply number theory concepts (i.e., factors, multiples).
M6.A.1.4.1 Find the Greatest Common Factor (GCF) of two numbers (through 50).
M0828B - Finding Lowest-Term Equivalent Fractions
M6.A.1.4.2 Find the Least Common Multiple (LCM) of two numbers (through 50).
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators
M6.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
M6.A.2.2 Use ratios to solve problems involving rates.
M6.A.2.2.1 Calculate unit rates and unit prices (terminating decimals to the hundredth place only).
M08129 - Comparing Unit Prices
M6.A.2.2.2 Select the ‘better deal’ by finding and comparing the unit prices (terminating decimals to the hundredth place only).
M08129 - Comparing Unit Prices
M6.A.3 Compute accurately and fluently and make reasonable estimates.
M6.A.3.1 Apply estimation strategies to a variety of problems.
M6.A.3.1.1 Use estimation to solve problems involving whole numbers and decimals (up to 2-digit divisors and 4 operations).
M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
M6.A.3.2 Solve problems with and without use of a calculator.
M6.A.3.2.1 Solve problems involving operations with whole numbers, decimals, and fractions.
M0335 - Adding One-Digit Numbers
M0336 - Adding Three One-Digit Numbers
M0337 - Adding Two Two-Digit Numbers With No Regrouping
M0338 - Adding a One-Digit Number to a Two-Digit Number With No Regrouping
M0345 - Subtracting a One-Digit Number from a Two-Digit Number Without Regrouping
M0346 - Subtracting Two Two-Digit Numbers Without Regrouping
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XB - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M03XC - Adding Two Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M03108 - Problems Involving Addition of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03109 - Problems Involving Subtraction of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M0539 - Adding Three Two-Digit Numbers With Regrouping
M0540 - Adding Three-Digit Numbers With Regrouping
M0541 - Adding Four-Digit Numbers With Regrouping
M0542 - Adding One-, Two-, or Three-Digit Numbers With Regrouping
M0543 - Adding One-, Two-, or Four-Digit Numbers With Regrouping
M0547 - Subtracting Three- or Four-Digit Numbers Without Regrouping
M0548 - Subtracting Two-Digit Numbers With Regrouping
M0549A - Subtracting Three-Digit Numbers With Regrouping Across a Middle Zero
M0549B - Subtracting Three-Digit Numbers With Regrouping
M0550 - Subtracting Four-Digit Numbers With Regrouping
M0554A - Multiplying by a One-Digit Number Without Regrouping - Part A
M0554B - Multiplying by a One-Digit Number With Regrouping - Part B
M0554C - Multiplying by a One-Digit Number With Regrouping - Part C
M0560 - Dividing a Two-Digit Number by a One-Digit Number With Remainders
M0561 - Dividing a Three-Digit Number by a One-Digit Number With Remainders
M0563 - Adding Proper Fractions With Like Denominators
M0564 - Subtracting Proper Fractions With Like Denominators
M05110 - Solving Word Problems Involving Addition and Subtraction
M05112 - Solving Word Problems Involving Multiplication and Division
M0851 - Subtracting Five-Digit Numbers With Regrouping
M0855 - Multiplying by a Two-Digit Number With Regrouping
M0862 - Dividing a Three- or Four-Digit Number by a Two-Digit Number With Remainders
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators
M0867A - Multiplying Proper Fractions
M0867B - Multiplying Proper Fractions by Whole Numbers
M0868 - Dividing Proper Fractions
M0873 - Adding Decimals
M0874 - Subtracting Decimals
M0875 - Multiplying a Whole Number by a Decimal
M0876 - Multiplying a Decimal by a Decimal
M0877 - Dividing a Decimal by a Whole Number
M08113 - Solving Word Problems Involving Addition and Subtraction
M08114 - Solving Word Problems Involving Multiplication and Division

M6.B Measurement
   M6.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.
M6.B.1.1 Compare and/or determine elapsed time.
M6.B.1.1.1 Determine and/or compare elapsed time to the minute (e.g., 11:46 AM to 2:18 PM = 2 hours 32 minutes).
M08135 - Determining Elapsed Time
M6.B.1.2 Solve problems using simple conversions.
M6.B.1.2.1 Convert using linear measurements, capacity, and weight (mass) within the same system.
M08138 - Solving Measurement Problems Involving Capacity
M08140 - Converting Customary Measures
M0588 - Measuring Objects in Centimeters and Inches
M6.C Geometry
M6.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
M6.C.1.1 Define/use basic properties of triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons, nonagons, etc.
M6.C.1.1.3 Identify a polygon and/or whether it is regular.
M0398 - Identifying a Circle, Square, Rectangle, and Triangle
M6.C.3 Locate and describe relationships using the coordinate plane.
M6.C.3.1 Identify points or match points to an ordered pair.
M6.C.3.1.1 Plot, locate or identify points in Quadrant I and/or on the x and y axes with intervals of 1, 2, 5 or 10 units.
M08147 - Locating Position on a Map
M6.D Algebraic Concepts
M6.D.1 Demonstrate an understanding of patterns, relations and functions.
M6.D.1.1 Create or extend patterns.
M6.D.1.1.1 Create, extend or find a missing element in a pattern displayed in a table, chart or graph.
   M0322 - Learning the Meaning of Addition
   M0342 - Understanding the Meaning of Subtraction
   M0551 - Understanding the Meaning of Multiplication
M6.D.1.2 Analyze patterns.
   M6.D.1.2.1 Determine a rule based on a pattern or illustrate a pattern based on a given rule.
   M0322 - Learning the Meaning of Addition
   M0342 - Understanding the Meaning of Subtraction
   M0551 - Understanding the Meaning of Multiplication
M6.D.2 Represent and/or analyze mathematical situations and structures using numbers, symbols, words, tables and graphs.
   M6.D.2.1 Select and/or use appropriate strategies to solve number sentences.
      M6.D.2.1.2 Solve a one-step equation (i.e., using the inverse operation - whole numbers only).
         M0323B - Learning the Basic Addition Facts - Part B
         M0343 - Learning the Basic Subtraction Facts
         M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
         M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
M6.D.2.2 Create and/or interpret expressions or equations that model problem situations.
   M6.D.2.2.1 Match an equation or expression involving one variable, to a verbal math situation (one operation only).
      M08115 - Matching Word Problems With Number Sentences
M6.D.3 Analyze change in various contexts.
   M6.D.3.1 Interpret relationships between variables in a graph.
      M6.D.3.1.1 Explain relationship of the data on the horizontal axis to the data on the vertical axis represented on a line graph.
         M05145 - Interpreting Bar Graphs and Pictographs
         M08145 - Graphing and Interpreting Data
         M08146 - Interpreting Bar Graphs and Pictographs
M6.E Data Analysis and Probability
   M6.E.1 Formulate questions that can be addressed with data and/or collect, organize, display, and analyze data.
      M6.E.1.1 Interpret data shown in frequency tables, histograms, circle/bar/double bar/line/double line graphs, line plots.
         M6.E.1.1.1 Analyze data and/or answer questions pertaining to data represented in frequency tables, graphs, or line plots.
            M05145 - Interpreting Bar Graphs and Pictographs
            M08145 - Graphing and Interpreting Data
            M08146 - Interpreting Bar Graphs and Pictographs
            M08150 - Constructing and Using a Frequency Distribution
   M6.E.1.1.2 Choose the appropriate representation for a specific set of data (choices should be the same type of graph).
      M08145 - Graphing and Interpreting Data
M6.E.2 Select and use appropriate statistical methods to analyze data.
M6.E.2.1 Describe data sets using mean, median, mode and/or range.
M6.E.2.1.1 Determine/calculate the mean, median, mode and/or range of displayed data.
M08145 - Graphing and Interpreting Data

Grade 7
M7.A Numbers and Operations
M7.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.
M7.A.1.1 Express numbers in equivalent forms.
M7.A.1.1.1 Convert between fractions, decimals and/or percents (e.g., 20% = 0.2 = 1/5) (terminating decimals only).
M0810 - Reading and Writing Decimals
M0811 - Understanding Percents
M7.A.1.2 Compare quantities and/or magnitudes of numbers.
M7.A.1.2.1 Compare and/or order whole numbers, mixed numbers, fractions and decimals.
M0823 - Ordering Numbers Less Than 10,000

M7.A.1.3 Apply number theory concepts.
M7.A.1.3.1 Find and/or use the Greatest Common Factor (GCF) (e.g., to simplify fractions).
M0828B - Finding Lowest-Term Equivalent Fractions
M7.A.1.3.2 Calculate and/or use the Least Common Multiple (LCM).
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators
M7.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
M7.A.2.2 Solve problems using ratios, proportions, percents and/or rates.
M7.A.2.2.1 Write ratios to compare quantities (e.g., ratio of boys to girls).
M0828A - Finding Equivalent Forms of Fractions
M7.A.2.2.3 Use proportions to determine if two quantities are equivalent.
M0828A - Finding Equivalent Forms of Fractions

M7.A.3 Compute accurately and fluently and make reasonable estimates.
M7.A.3.1 Compute accurately with and without use of a calculator.
M7.A.3.1.1 Solve problems involving operations (+, -, x, ÷) of whole numbers, decimals, fractions, or mixed numbers.
M0335 - Adding One-Digit Numbers
M0336 - Adding Three One-Digit Numbers
M0337 - Adding Two Two-Digit Numbers With No Regrouping
M0338 - Adding a One-Digit Number to a Two-Digit Number With No Regrouping
M0345 - Subtracting a One-Digit Number from a Two-Digit Number Without Regrouping
M0346 - Subtracting Two Two-Digit Numbers Without Regrouping
M03XA - Adding One-Digit and Two-Digit Numbers With Regrouping
M03XB - Adding Two Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M03XC - Adding Two Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M03108 - Problems Involving Addition of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03109 - Problems Involving Subtraction of Two One-Digit or Two Two-Digit Numbers Without Regrouping
M03123 - Solving Real-World Addition Problems Involving Two Purchases Totaling No More Than Fifty Cents Without Regrouping
M03124 - Solving Real-World Subtraction Problems Which Involve Purchases With Money Amounts No Greater Than Fifty Cents Without Regrouping
M0539 - Adding Three Two-Digit Numbers With Regrouping
M0540 - Adding Three Two-Digit Numbers Resulting in Two-Digit Sums With Regrouping
M0541 - Adding Three Two-Digit Numbers Resulting in Three-Digit Sums With Regrouping
M0542 - Adding One-, Two-, or Three-Digit Numbers With Regrouping
M0543 - Adding One-, Two-, or Three-Digit Numbers Without Regrouping
M0547 - Subtracting Three- or Four-Digit Numbers Without Regrouping
M0548 - Subtracting Two-Digit Numbers With Regrouping
M0549A - Subtracting Three-Digit Numbers With Regrouping
M0549B - Subtracting Three-Digit Numbers Resulting in Two-Digit Sums With Regrouping Across a Middle Zero
M0550 - Subtracting Four-Digit Numbers Without Regrouping
M0554A - Multiplying by a One-Digit Number Without Regrouping - Part A
M0554B - Multiplying by a One-Digit Number Without Regrouping - Part B
M0554C - Multiplying by a One-Digit Number With Regrouping - Part C
M0560 - Dividing a Two-Digit Number by a One-Digit Number With Remainders
M0561 - Dividing a Three-Digit Number by a One-Digit Number With Remainders
M0563 - Adding Proper Fractions With Like Denominators
M0564 - Subtracting Proper Fractions With Like Denominators
M05110 - Solving Word Problems Involving Addition and Subtraction
M05112 - Solving Word Problems Involving Multiplication and Division
M0851 - Subtracting Five-Digit Numbers With Regrouping
M0855 - Multiplying by a Two-Digit Number With Regrouping
M0862 - Dividing a Three- or Four-Digit Number by a Two-Digit Number With Remainders
M0865 - Adding Proper Fractions With Unlike Denominators
M0866 - Subtracting Proper Fractions With Unlike Denominators
M0867A - Multiplying Proper Fractions
M0867B - Multiplying Proper Fractions by Whole Numbers
M0868 - Dividing Proper Fractions
M0873 - Adding Decimals
M0874 - Subtracting Decimals
M0875 - Multiplying a Whole Number by a Decimal
M0876 - Multiplying a Decimal by a Decimal
M0877 - Dividing a Decimal by a Whole Number
M08113 - Solving Word Problems Involving Addition and Subtraction
M08114 - Solving Word Problems Involving Multiplication and Division

M7.A.3.2 Apply estimation strategies to a variety of problems.
M7.A.3.2.1 Estimate answers to problems involving whole numbers, decimals, fractions or mixed numbers.
M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
M08104 - Estimating Solutions to Word Problems Using Multiplication and Division

M7.B Measurement
M7.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.
M7.B.1.1 Add or subtract measurements.
M7.B.1.1.1 Add or subtract measurements, using only the units below, with and without regrouping.
in, ft, yd
M08137 - Solving Linear Measurement Problems
fl oz, cup, pint, quart, gallon
M08138 - Solving Measurement Problems Involving Capacity
oz, Lb
M08139 - Solving Measurement Problems Involving Weight
sec, min, hours, days
M08135 - Determining Elapsed Time
metric units milli, centi, m/L/g, kilo
M08137 - Solving Linear Measurement Problems
M08138 - Solving Measurement Problems Involving Capacity
M08139 - Solving Measurement Problems Involving Weight

M7.B.2 Apply appropriate techniques, tools and formulas to determine measurements.
M7.B.2.1 Develop, use and/or describe measures of length, perimeter, circumference, area or volume.
M7.B.2.1.1 Develop and use strategies to find the perimeter and/or area of simple and/or combined (compound) figures.
M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles

M7.C Geometry
M7.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
M7.C.1.1 Define and/or apply basic properties of two- and three-dimensional geometric shapes.
M7.C.1.1.1 Classify and/or compare plane figures up to a decagon (include regular and irregular polygons).
M0398 - Identifying a Circle, Square, Rectangle, and Triangle
M7.C.3 Locate and describe relationships using the coordinate plane.
M7.C.3.1 Locate and/or describe points on a coordinate plane.
M7.C.3.1.1 Plot and/or identify ordered pairs on a coordinate plane (any quadrant or axis).
M08147 - Locating Position on a Map

M7.D Algebraic Concepts
M7.D.1 Demonstrate an understanding of patterns, relations and functions.
M7.D.1.1 Recognize, reproduce, extend and/or describe patterns, sequences and relationships.
M7.D.1.1.1 Describe, extend or find a missing element of a pattern (show 3 repetitions of the pattern); whole numbers - may use +, -, x, ÷ or squares, and up to 2 operations (e.g., multiply by 2 then add 1).
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0551 - Understanding the Meaning of Multiplication
M0553A - Learning the Multiplication Tables from 0 to 3
M0553B - Learning the Multiplication Tables from 4 to 6
M0553C - Learning the Multiplication Tables from 7 to 9

M7.D.2 Represent and/or analyze mathematical situations and structures using algebraic symbols, words, tables, and graphs.
M7.D.2.1 Select and/or use appropriate strategies to solve or represent number sentences.
M7.D.2.1.1 Select and/or use appropriate strategies to solve one- or two-step equations (whole numbers only).
M0323B - Learning the Basic Addition Facts - Part B
M0343 - Learning the Basic Subtraction Facts
M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1

M7.D.2.2 Create and/or interpret expressions, equations or inequalities that model problem situations.
M7.D.2.2.1 Identify expressions, equations or inequalities that model mathematical situations.
M08115 - Matching Word Problems With Number Sentences

M7.E Data Analysis and Probability
M7.E.1 Formulate questions that can be addressed with data and/or collect, organize, display, and analyze data.
M7.E.1.1 Interpret data shown in complex data displays.
M7.E.1.1.1 Analyze data/answer questions pertaining to histograms, double bar graphs, multiple line graphs, stem-and-leaf plots.
M05145 - Interpreting Bar Graphs and Pictographs
M08145 - Graphing and Interpreting Data
M08146 - Interpreting Bar Graphs and Pictographs

M7.E.2 Select and use appropriate statistical methods to analyze data.
M7.E.2.2 Describe, compare and/or contrast data using measures of central tendency.
M7.E.2.2.1 Decide/choose which measure of central tendency would be most appropriate for a given situation.
Grade 8

M8.A Numbers and Operations

M8.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.

M8.A.1.1 Represent numbers in equivalent forms.

M8.A.1.1.1 Convert fractions, decimals and/or percents to equivalent forms (e.g., $\frac{1}{3} = 33\frac{1}{3}% = .333$).

M8.A.1.2 Compare quantities or magnitudes of real numbers.

M8.A.1.2.1 Locate or plot decimals, fractions, mixed numbers and/or integers on a number line.

M8.A.1.2.2 Order a set (up to 5 numbers) of decimals, fractions, mixed numbers and/or integers from least to greatest.

M8.A.1.3 Apply number theory concepts.

M8.A.1.3.1 Use divisibility rules for 2, 3, 5 and 10 to draw conclusions and/or solve problems.

M8.A.1.3.2 Find and/or use the Greatest Common Factor (GCF) and/or Least Common Multiple (LCM) of 2 or 3 numbers.

M7.E.4 Develop and evaluate inferences and predictions based on data displays.

M7.E.4.1 Draw conclusions, make predictions based on data displays.

M7.E.4.1.1 Formulate predictions and/or draw conclusions based on data displays or probability.

M08145 - Graphing and Interpreting Data

M08146 - Interpreting Bar Graphs and Pictographs

M1127 - Comparing and Ordering on the Real Number Line

M11151 - Recognizing Common Square Roots

M08150 - Constructing and Using a Frequency Distribution

M0823 - Ordering Numbers Less Than 10,000

M0828B - Finding Lowest-Term Equivalent Fractions

M0865 - Adding Proper Fractions With Unlike Denominators

M0866 - Subtracting Proper Fractions With Unlike Denominators
M8.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
   M8.A.2.2 Represent or solve problems using rates, ratios, proportions and/or percents.
      M8.A.2.2.1 Select or use ratios, proportions and percents to solve problems.
         M0811 - Understanding Percents
         M0828A - Finding Equivalent Forms of Fractions
         M1180 - Finding the Percentage of a Number
         M11120 - Solving Word Problems Involving Percentages
      M8.A.2.2.2 Represent or solve rate problems (e.g., unit rates, simple interest, distance, etc.).
         M08129 - Comparing Unit Prices
         M1180 - Finding the Percentage of a Number
         M11120 - Solving Word Problems Involving Percentages
         M11153 - Determining the Better Buy

M8.A.3 Compute accurately and fluently and make reasonable estimates.
   M8.A.3.1 Determine appropriateness of overestimating, underestimating or calculating exact answer in problem-solving situations.
      M8.A.3.1.1 Identify, apply and/or explain when it is appropriate to round up or round down.
         M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
         M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
         M11105 - Estimating Solutions to Word Problems Using Addition and Subtraction
         M11106 - Estimating Solutions to Word Problems Using Multiplication and Division
      M8.A.3.1.2 Identify, apply and/or explain when an exact answer is needed or when estimation is appropriate.
         M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
         M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
         M11105 - Estimating Solutions to Word Problems Using Addition and Subtraction
         M11106 - Estimating Solutions to Word Problems Using Multiplication and Division
   M8.A.3.3 Compute and/or explain operations with integers, fractions and/or decimals.
      M8.A.3.3.1 Add, subtract, multiply and/or divide integers, fractions and/or decimals with and without a calculator.
         M0563 - Adding Proper Fractions With Like Denominators
         M0564 - Subtracting Proper Fractions With Like Denominators
         M0865 - Adding Proper Fractions With Unlike Denominators
         M0866 - Subtracting Proper Fractions With Unlike Denominators
         M0867A - Multiplying Proper Fractions
         M0867B - Multiplying Proper Fractions by Whole Numbers
         M0868 - Dividing Proper Fractions
         M0873 - Adding Decimals
         M0874 - Subtracting Decimals
M0875 - Multiplying a Whole Number by a Decimal
M0876 - Multiplying a Decimal by a Decimal
M0877 - Dividing a Decimal by a Whole Number
M1169 - Adding Mixed Numbers
M1170 - Subtracting Mixed Numbers
M1171 - Multiplying Mixed Numbers
M1172 - Dividing Mixed Numbers
M1178 - Dividing a Decimal By a Decimal
M1179 - Rounding the Quotient in Decimal Division

M8.B Measurement
M8.B.1 Demonstrate understanding of measurable attributes of objects/figures, and units, systems and processes of measurement.
  M8.B.1.1 Convert measurements.
    M8.B.1.1.1 Convert among all metric measurements (milli, centi, deci, deka, hecto, kilo using meter, liter and gram).
      M0584 - Using Linear Measurements
      M0885 - Using the Metric System - Part A
      M0893 - Converting Units of Length Within the Metric System
      M08137 - Solving Measurement Problems Involving Capacity
      M08138 - Solving Measurement Problems Involving Weight
      M08139 - Solving Measurement Problems Involving Weight
    M8.B.1.1.2 Convert customary measurements to 2 units above or below the given unit (e.g., inches to yards, pints to gallons).
      M0584 - Using Linear Measurements
      M08137 - Solving Linear Measurement Problems
      M08138 - Solving Measurement Problems Involving Capacity
      M08139 - Solving Measurement Problems Involving Weight
      M08140 - Converting Customary Measures
    M8.B.1.1.3 Convert time to 2 units above or below given unit (e.g., seconds to hours).
      M0587 - Telling Time in Minutes After and Minutes Before the Hour
      M08135 - Determining Elapsed Time
    M8.B.1.1.4 Convert from Fahrenheit to Celsius or Celsius to Fahrenheit (formulas provided on the reference sheet).
      M1197 - Identifying Common Temperatures in Fahrenheit and Celsius

M8.B.2 Apply appropriate techniques, tools and formulas to determine measurements.
M8.B.2.1 Determine the measurement of a missing side(s) or angle(s) in a polygon.
  M8.B.2.1.1 Determine the number of degrees in 3 through 8 sided figures and/or the number of sides given the angle measurement
  M11150 - Geometric Figures and Solids
  M8.B.2.1.2 Find the missing angle measure in a triangle.
M11150 - Geometric Figures and Solids
M8.B.2.1.3 Use proportions to find the missing length of a side in similar figures.
M11150 - Geometric Figures and Solids
M8.B.2.3 Use, describe, develop procedures to determine measures of perimeter, circumference, area, surface area and/or volume.
M8.B.2.3.1 Develop, use formulas and procedures to determine circumference, perimeter, area of simple and complex figures.
M8.C Geometr
M8.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
M8.C.1.1 Identify/name/describe properties of quadrilaterals, triangles, circles, pyramids, cubes, prisms, spheres, cones, etc.
M8.C.1.1.1 Identify and/or describe properties of all types of quadrilaterals.
M11150 - Geometric Figures and Solids
M8.C.1.1.2 Identify, describe properties of all types of triangles (scalene, equilateral, isosceles, right, acute, obtuse).
M11150 - Geometric Figures and Solids
M8.C.1.1.3 Identify and/or describe properties of cubes, pyramids, spheres, prisms, cones and cylinders.
M11150 - Geometric Figures and Solids
M8.C.3 Locate points or describe relationships using the coordinate plane.
M8.C.3.1 Plot and/or identify ordered pairs on a coordinate plane.
M8.C.3.1.1 Plot, locate, or identify ordered pairs on a coordinate plane (the point may be a vertex of a polygon).
M08147 - Locating Position on a Map
M8.D Algebraic Concepts
M8.D.1 Demonstrate an understanding of patterns, relations and functions.
M8.D.1.1 Analyze, extend or develop descriptions of patterns or functions.
   M8.D.1.1.1 Continue a numeric or algebraic pattern that could be extended infinitely.
      M0323B - Learning the Basic Addition Facts - Part B
      M0343 - Learning the Basic Subtraction Facts
      M0553A - Learning the Multiplication Tables from 0 to 3
      M0556 - Understanding the Meaning of Division
   M8.D.1.1.2 Find missing elements in numeric, geometric or graphic patterns and/or functions.
      M0323B - Learning the Basic Addition Facts - Part B
      M0343 - Learning the Basic Subtraction Facts
      M0553A - Learning the Multiplication Tables from 0 to 3
      M0556 - Understanding the Meaning of Division
   M8.D.1.1.3 Write/state the rule of a function (given elements in an input-output table, chart or list).
      M0343 - Learning the Basic Subtraction Facts
      M0551 - Understanding the Meaning of Multiplication
M8.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.
   M8.D.2.1 Select and/or use strategy to simplify expression, solve equation or inequality and/or check the solution for accuracy.
      M8.D.2.1.1 Solve one- or two-step equations and inequalities (should not include absolute values - one variable only).
         M0323B - Learning the Basic Addition Facts - Part B
         M0343 - Learning the Basic Subtraction Facts
         M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
         M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
   M8.D.2.2 Create and/or interpret expressions, equations or inequalities that model problem situations.
      M8.D.2.2.1 Match a written situation to its numeric and/or algebraic expression, equation or inequality.
         M08115 - Matching Word Problems With Number Sentences
      M8.D.2.2.2 Write and solve an equation for a given problem situation (one variable only).
         M0323B - Learning the Basic Addition Facts - Part B
         M0343 - Learning the Basic Subtraction Facts
         M0558A - Learning the Basic Division Facts With Divisors From 2 to 5
         M0558B - Learning the Basic Division Facts With Divisors From 6 to 9 and 1
M8.E Data Analysis and Probability
   M8.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.
      M8.E.1.1 Choose, display or interpret data (tables, charts, graphs, etc.).
         M8.E.1.1.1 Choose the correct representation for a set of data.
            M08145 - Graphing and Interpreting Data
         M8.E.1.1.2 Display and/or interpret data shown in bar/double bar graphs, line/double line graphs, circle graphs and histograms.
M08145 - Graphing and Interpreting Data
M08146 - Interpreting Bar Graphs and Pictographs
M11149 - Solving Problems Using Graphs

M8.E.2 Select and/or use appropriate statistical methods to analyze data.
M8.E.2.1 Describe, compare and/or contrast different plots of data using measures of central tendency.
M8.E.2.1.1 Determine the mean (average), median, mode, range and/or quartiles of a set of data.
M08145 - Graphing and Interpreting Data
M8.E.2.1.2 Choose which measure of central tendency is appropriate for a given situation.
M08145 - Graphing and Interpreting Data

M8.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.
M8.E.4.1 Draw conclusions, make inferences and/or evaluate hypotheses based on statistical and data displays.
M8.E.4.1.2 Make predictions based on survey results or graphs (bar, line, circle, scatterplots, etc.).
M08145 - Graphing and Interpreting Data

Grade 11

M11.A Numbers and Operations
M11.A.1 Demonstrate an understanding of numbers, ways of representing numbers, relationships among numbers and number systems.
M11.A.1.1 Represent and/or use numbers in equivalent forms.
M11.A.1.1.1 Represent and/or use fractions as decimals and percents.
M1130A - Finding Equivalent Forms of Fractions and Decimals
M1130C - Finding Equivalent Forms of Fractions and Percents
M11.A.1.1.2 Find the square root of an integer using either a calculator or estimation.
M11151 - Recognizing Common Square Roots
M1313 - Introduction to Exponents and Square Roots
M11.A.1.1.3 Express numbers and/or simplify expressions using scientific notation (including numbers less than 1).
M1363 - Using Scientific Notation
M11.A.1.1.4 Simplify square roots (e.g., the square root of 24).
M11151 - Recognizing Common Square Roots
M1313 - Introduction to Exponents and Square Roots
M11.A.1.2 Apply number theory concepts to show relationships between real numbers in problem solving settings.
M11.A.1.2.1 Factor algebraic expressions, including difference of squares and trinomials.
M1376 - Factoring Expressions I
M1377 - Factoring Expressions II
M1378 - Factoring Polynomials Using Algebra Tiles
M11.A.1.2.2 Find the GCF for sets of monomials and/or factor polynomial expressions using the greatest common monomial factor.
M1376 - Factoring Expressions I
M11.A.1.2.3 Simplify algebraic fractions.
M1379 - Simplifying Rational Expressions
M11.A.1.3 Estimate the value of an irrational number.
M11.A.1.3.1 Compare and/or plot irrational numbers at the approximate location on a number line.
M1502 - Number Systems
M11.A.2 Understand the meanings of operations, use operations and understand how they relate to each other.
M11.A.2.1 Apply ratio and/or proportion in problem-solving situations.
M11.A.2.1.1 Solve problems using operations with rational numbers including rates and percents.
M11151 - Recognizing Common Square Roots
M1313 - Introduction to Exponents and Square Roots
M11.A.2.2 Use exponents, roots and/or absolute value to solve problems.
M11.A.2.2.1 Simplify expressions involving positive and negative exponents, roots and/or absolute value.
M11151 - Recognizing Common Square Roots
M1313 - Introduction to Exponents and Square Roots
M11.A.2.2.2 Simplify expressions involving multiplying with exponents, powers of powers and powers of products.
M1313 - Introduction to Exponents and Square Roots
M1373 - Multiplying Binomial Expressions I
M1374 - Multiplying Binomial Expressions II
M11.A.3 Compute accurately and fluently and make reasonable estimates.
M11.A.3.1 Apply the order of operations in computation and in problem-solving situations.
M11.A.3.1.1 Simplify expressions using the order of operations to solve problems (any rational numbers may be used).
M1315 - Understanding Order of Operations

M11.A.3.2.1 Use estimation to check reasonableness of calculations in problem-solving situations involving rational numbers.

M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
M11105 - Estimating Solutions to Word Problems Using Addition and Subtraction
M11106 - Estimating Solutions to Word Problems Using Multiplication and Division
M13138 - Determining the Validity of Conclusions

M11.A.3.2.2 Use estimation to solve problems for which an exact answer is not needed.

M08103 - Estimating Solutions to Word Problems Using Addition and Subtraction
M08104 - Estimating Solutions to Word Problems Using Multiplication and Division
M11105 - Estimating Solutions to Word Problems Using Addition and Subtraction
M11106 - Estimating Solutions to Word Problems Using Multiplication and Division
M13138 - Determining the Validity of Conclusions

M11.B Measurement

M11.B.2 Apply appropriate techniques, tools and formulas to determine measurements.

M11.B.2.1 Use and/or compare measurements of angles.

M11.B.2.1.1 Measure and/or compare angles in degrees (up to 360°) (protractor must be provided or drawn).

M13102 - Understanding Basic Geometric Terms II
M13102 - Understanding Basic Geometric Terms II

M11.B.2.2 Use/develop procedures to determine, describe measures of perimeter, circumference, area, surface area, volume.

M11.B.2.2.1 Calculate surface area, volume of prisms, cylinders, cones, pyramids, spheres using formulas on the reference sheet

M11156 - Finding the Volume of a Rectangular Prism
M11157 - Nets and Surface Area
M13122 - Surface Area of Solids
M13127 - Finding the Volume of Geometric Solids

M11.B.2.2.3 Estimate and/or determine area, perimeter or circumference of simple figures or complex figures.

M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles
M11154 - Finding the Area of Geometric Figures
M11155 - Finding the Circumference of a Circle
M13121 - Finding the Area and Perimeter of Irregular Geometric Figures
M13124 - Exploring Polygons and Area

M11.B.2.2.4 Find the measurement of a missing length given the perimeter, circumference, area or volume.

M08136 - Finding the Perimeters of Rectangles, Squares, and Triangles
M11154 - Finding the Area of Geometric Figures
M11.B.2.3 Describe how a change in one dimension of a figure (2- or 3-dimensional) affects other measurements of that figure.
  M11.B.2.3.1 Describe how a change in the linear dimension of a figure affects its perimeter, circumference, area or volume.

  How does changing the radius of a circle affect the circumference of the circle?
  M11155 - Finding the Circumference of a Circle

  How does changing the edge of a cube affect the volume of the cube?
  M11156 - Finding the Volume of a Rectangular Prism

  How does changing the base of a triangle affect the area of the triangle?
  M11154 - Finding the Area of Geometric Figures

M11.C Geometry
  M11.C.1 Analyze characteristics, properties of two-/three-dimensional shapes; demonstrate understanding of relationships.
    M11.C.1.1 Identify and/or use parts of circles and segments associated with circles.
      M11.C.1.1.1 Recognize or use the properties of a radius, diameter, chord, tangent and/or secant of a circle.
      M13119 - Circle Relationships
    M11.C.1.1.2 Recognize or use the properties of arcs, semicircles, inscribed angles and/or central angles.
      M13119 - Circle Relationships

  M11.C.1.2 Recognize and/or apply properties of triangles and quadrilaterals.
    M11.C.1.2.1 Identify and/or use properties of triangles (e.g., medians, altitudes, angle bisectors, side/angle relationships).
      M13111 - Solving Problems With Congruent Triangles
      M13113 - Solving Problems With Similar Triangles
      M13114 - Inequalities of Triangles
    M11.C.1.2.2 Recognize and/or use properties of quadrilaterals.
      M13117 - Quadrilaterals

  M11.C.1.3 Use properties of congruence/correspondence/similarity in problem-solving settings involving 2-/3-dimensional figures
    M11.C.1.3.1 Recognize or use properties of congruent and similar polygons or solids.
      M11150 - Geometric Figures and Solids
      M13111 - Solving Problems With Congruent Triangles
      M13113 - Solving Problems With Similar Triangles
      M13120B - Similar and Congruent Solids

  M11.C.1.4 Solve problems involving right triangles using the Pythagorean Theorem.
    M11.C.1.4.1 Find the measure of a side of a right triangle using the Pythagorean Theorem.
      M13115 - Solving Problems Using the Pythagorean Theorem

  M11.C.3 Locate points or describe relationships using the coordinate plane.
    M11.C.3.1 Solve problems using analytic geometry.
      M11.C.3.1.1 Find the distance and/or midpoint between 2 points on a number line or on a coordinate plane.
M13103 - Segment Relationships
M11.C.3.1.2 Relate slope to perpendicularity and/or parallelism.
M1344B - Slope

M11.D Algebraic Concepts
M11.D.1 Demonstrate an understanding of patterns, relations and functions.
  M11.D.1.1 Analyze and/or use patterns or relations.
    M11.D.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically
    M13129 - Sequences
    M11.D.1.1.2 Determine if a relation is a function given a set of points or a graph.
    M1347 - Relations, Functions, Domain, and Range

M11.D.2 Represent and/or analyze mathematical situations using numbers, symbols, words, tables and/or graphs.
  M11.D.2.1 Solve and/or graph linear equations and inequalities using various methods.
    M11.D.2.1.2 Identify or graph linear inequalities on a coordinate plane.
    M1353 - Graphing Linear Inequalities on the Coordinate Plane
  M11.D.2.1.3 Write and/or solve a linear equation from given problem situations.
    M1321 - Solving One-Operation Equations
    M1322 - Solving Multi-Operation Equations I
    M1323 - Solving Multi-Operation Equations II
    M1324 - Solving Multi-Operation Equations III
    M1325 - Solving Multi-Operation Equations IV
    M1326 - Solving Equations Containing Fractions
    M1331 - Translating Simple Word Problems into Equations
    M1333 - Setting Up and Solving More Complex Word Problems
  M11.D.2.1.4 Solve systems of equations using graphing, substitution and/or elimination.
    M1383 - Solving a System of Simultaneous Equations
  M11.D.2.1.5 Solve quadratic equations using factoring.
    M1391 - Solving Quadratic Equations Using Factoring
  M11.D.2.2 Simplify expressions involving polynomials.
    M11.D.2.2.1 Add, subtract and/or multiply polynomial expressions.
      M1371 - Simplifying Polynomial Expressions
      M1373 - Multiplying Binomial Expressions I
      M1374 - Multiplying Binomial Expressions II

M11.D.3 Analyze change in various contexts.
  M11.D.3.1 Describe and/or determine change.
    M11.D.3.1.1 Identify, describe and/or use constant or varying rates of change.
M1344B - Slope
M1345 - Finding the Slope of a Line
M11.D.3.1.2 Determine how a change in one variable relates to a change in a second variable.
M1347 - Relations, Functions, Domain, and Range
M11.D.3.2 Compute and/or use the slope of a line.
M11.D.3.2.1 Apply the formula for the slope of a line to solve problems (formula given on reference sheet).
M1344B - Slope
M11.D.3.2.2 Given graph of line, 2 points on line or the slope and a point on line, write or identify the linear equation.
M1380 - Writing Equations of Lines
M11.D.3.2.3 Compute the slope of a linear equation or graph.
M1344B - Slope
M1345 - Finding the Slope of a Line
M11.D.4 Describe or use models to represent quantitative relationships.
M11.D.4.1 Interpret and/or use linear, quadratic and/or exponential functions and their equations, graphs or tables.
M11.D.4.1.1 Match the graph of a given function to its table or equation.
M1342 - Graphing Linear Equations on the Coordinate Plane
M1347 - Relations, Functions, Domain, and Range
M1395 - Graphing Quadratic Equations
M1505 - Exponential and Logarithmic Functions
M11.D.4.1.2 Graph linear functions in two variables.
M1342 - Graphing Linear Equations on the Coordinate Plane
M11.D.4.1.3 Determine the maximum or minimum of a quadratic function.
M1395 - Graphing Quadratic Equations
M11.E Data Analysis and Probability
M11.E.1 Formulate or answer questions that can be addressed with data and/or organize, display, interpret or analyze data.
M11.E.1.1 Appropriately display and/or use data in problem-solving settings.
M11.E.1.1.1 Create and/or use appropriate graphical representations of data.
M08145 - Graphing and Interpreting Data
M13142 - Introduction to Statistics
M11.E.1.1.2 Answer questions based on displayed data.
M08145 - Graphing and Interpreting Data
M08146 - Interpreting Bar Graphs and Pictographs
M08150 - Constructing and Using a Frequency Distribution
M11149 - Solving Problems Using Graphs
M13142 - Introduction to Statistics
M11.E.2 Select and/or use appropriate statistical methods to analyze data.
   M11.E.2.1 Use measures of central tendency to describe a set of data.
      M11.E.2.1.1 Find/select/use the appropriate measure of central tendency (mean, mode or median) of a set of data.
         M08145 - Graphing and Interpreting Data
         M13142 - Introduction to Statistics
      M11.E.2.1.2 Calculate and/or interpret the range, quartiles and interquartile range of sets of data.
         M08145 - Graphing and Interpreting Data
         M13142 - Introduction to Statistics
      M11.E.2.1.3 Describe how outliers affect measures of central tendency.
         M13142 - Introduction to Statistics
   M11.E.3 Understand and/or apply basic concepts of probability or outcomes.
      M11.E.3.1 Apply probability and/or odds to practical situations.
         M11.E.3.1.1 Determine probabilities for independent, dependent or compound events and represent probability in multiple forms.
            M13141 - Introduction to Probability
         M11.E.3.1.2 Determine, convert and/or compare the probability and/or odds of a simple event.
            M13141 - Introduction to Probability
   M11.E.4 Develop and/or evaluate inferences and predictions or draw conclusions based on data or data displays.
      M11.E.4.1 Make predictions using data displays and probability.
         M11.E.4.1.1 Estimate or calculate to make predictions based on a circle, line or bar graphs.
            M08145 - Graphing and Interpreting Data
            M13142 - Introduction to Statistics
         M11.E.4.1.2 Use probability to predict outcomes.
            M13141 - Introduction to Probability
      M11.E.4.2 Analyze and/or interpret data on a scatter plot and/or use a scatter plot to make predictions.
         M11.E.4.2.1 Draw and/or write an equation for a line of best fit for a scatter plot.
            M13142 - Introduction to Statistics
         M11.E.4.2.2 Make predictions using the equations of best-fit lines of scatter plots.
            M13142 - Introduction to Statistics