DesCartes: A Continuum of Learning®

Mathematics

Goal: Number and Operations

RIT Score Range: 201 - 210
Statements Last Updated: Mar 10, 2014

Skills and Concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Understand Place Value, Counting, and Cardinality	**Understand Place Value, Counting, and Cardinality**	**Understand Place Value, Counting, and Cardinality**
• Identifies whole numbers over 999 using base-10 blocks • Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place • Identifies the numeral and written name for whole numbers 10,000 to 100,000 • Identifies the numeral and written name for whole numbers over 100,000 • Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) • Compares whole numbers through the thousands using the symbols <, >, or = • Rounds 2- and 3- digit whole numbers to the nearest ten • Rounds 3-digit whole numbers to the nearest hundred • Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) • Identifies the place value and value of each digit in whole numbers through the thousands • Identifies the place value and value of each digit in whole numbers through the hundred thousands • Writes whole numbers in standard and expanded form through the hundreds • Writes whole numbers in standard and expanded form through the thousands	• Identifies whole numbers over 999 using base-10 blocks • Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place • Identifies the numeral and written name for whole numbers over 100,000 • Compares whole numbers through the billions using the symbols <, >, or = • Orders whole numbers a million or greater using < or > symbols • Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten • Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred • Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand • Rounds whole numbers to the nearest hundred thousand • Rounds wholes numbers to the nearest billion • Explains the rules for rounding • Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones) • Identifies the place value and value of each digit in whole numbers through the billions • Writes whole numbers in standard and expanded form through the hundred thousands • Applies base ten place value concepts with whole numbers to solve problems • Writes whole numbers using place value terms and vice versa • Rounds decimals to the nearest whole number	• Predicts the relative size of the answer when computing with 10's, 100's, 1000's • Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred • Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand • Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand • Rounds wholes numbers to the nearest billion • Writes whole numbers in standard and expanded form through the hundred thousands • Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) • Compares and orders decimals past the thousandths place • Rounds decimals to the nearest whole number • Rounds decimals to the nearest tenth • Applies base ten place value concepts to solve problems using decimals
Number and Operations in Base Ten	**Number and Operations in Base Ten**	**Number and Operations in Base Ten**
• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000 • Adds multiple-digit numbers, with regrouping, with sums over 1000 • Adds multiple-digit numbers with sums under 1000 • Subtracts 1-digit number from a 2-digit number with regrouping • Subtracts a 2-digit number from a 2-digit number, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Subtracts a 2-digit number from a 3-digit number with a single regrouping • Subtracts 3- or 4-digit numbers with regrouping • Performs mental subtraction with numbers under 1000	• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only) • Adds multiple-digit numbers, with regrouping, with sums over 1000 • Adds multiple-digit numbers with sums under 1000 • Performs mental computation with more than 4 addends • Subtracts 3- or 4-digit numbers with regrouping • Subtracts numbers with 5 digits or more with regrouping • Instantly recalls basic multiplication and division facts in a table • Multiplies a 2-digit number by a 1-digit number with regrouping • Multiplies a 3- or 4-digit number by a 1-digit number • Multiplies multiple 1-digit numbers • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication	• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) • Subtracts numbers with 5 digits or more with regrouping • Instantly recalls basic multiplication and division facts in a table • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) • Multiplies a 3-digit number by a 3-digit number • Multiplies a 4- or more digit number by multiples of 100 or 1000 • Multiplies multiple-digit numbers • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder

Explanatory Notes
* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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RIT Score Range: 201 - 210
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Skills and Concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Number and Operations in Base Ten	**Number and Operations in Base Ten**	**Number and Operations in Base Ten**
• Subtracts multiple-digit numbers with no regrouping • Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping • Multiplies a 2-digit number by a 1-digit number with regrouping • Multiplies a 3- or 4-digit number by a 1-digit number • Multiplies a 2-digit number by a 2-digit number with no regrouping • Performs mental computation with multiplication • Divides a 2-digit number by a 1-digit number with no remainder • Adds decimals to the hundredths place (same number of digits) • Adds decimals to the hundredths place in vertical format (not same number of digits) • Adds decimals to the thousandths place vertically with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Multiplies a decimal by whole number	• Multiplies a 2- or 3-digit number by multiples of 10 or 100 • Multiplies a 3-digit number by a 3-digit number • Divides a 2-digit number by a 1-digit number with no remainder • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Divides a 3-digit number by a 1-digit number with no remainder • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 3-digit number by a multiple of 10 • Divides a 4-digit number by a 2-digit number • Adds decimals to the thousandths place horizontally with and without regrouping • Subtracts decimals to the hundredths place (same number of digits) with regrouping • Multiplies a decimal by whole number • Divides decimal by a whole number	• Divides a 4-digit number by a 1-digit number with no remainder • Divides a 3-digit number by a 2-digit number • Divides a 4-digit number by a 2-digit number • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals to the thousandths place horizontally with and without regrouping • Adds decimals through the hundred-thousandths place • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Divides decimal by a whole number
Number and Operations - Fractions	**Number and Operations - Fractions**	**Number and Operations - Fractions**
• Uses models to add and subtract fractions and connect the actions to algorithms • Subtracts fractions with like denominators without reducing • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction • Represents 1/3 with a diagram or model • Represents fractions with denominators other than 2, 3, 4 with a diagram or model • Identifies 1/4 from a region or set • Identifies 1/3 from a region or set • Identifies 2/3 or 3/3 from a region or set • Identifies tenths from a region or set • Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set • Identifies equivalent fractions using visual representations • Matches numeric and visual representation of equivalent fractions • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Writes the missing number in a proportion using basic facts	• Adds fractions with like denominators without reducing • Adds whole numbers and fractions • Uses models to add and subtract fractions and connect the actions to algorithms • Subtracts fractions with like denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators • Multiplies a fraction by a fraction without reducing to simplest form (simple problem) • Identifies halves of a region using nonadjacent parts • Identifies equivalent fractions using visual representations • Expresses 1 in many different ways (e.g., 3/3, 4/4) • Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters) • Writes mixed numbers as improper fractions and improper fractions as mixed numbers • Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10) • Orders fractions on a number line • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Writes a terminating decimal as a fraction or mixed number	• Adds fractions with like denominators without reducing • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Uses models to multiply and divide fractions and connect the actions to algorithms • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Solves 1-step real-world problems involving fractions with multiplication and division • Solves 1-step problems involving proportions • Identifies equivalent fractions using visual representations • Identifies a fractions in lowest terms from a region or set

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Number and Operations - Fractions	Number and Operations - Fractions	Number and Operations - Fractions
	• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) • Writes the missing number in a proportion using basic facts	• Identifies eighths, reduced to lowest terms, from a region or set • Determines simple equivalent fractions using multiples • Converts fractions to lowest terms • Writes mixed numbers as improper fractions and improper fractions as mixed numbers • Compares fractions on a number line • Compares fractions greater than or less than a given fraction using visual representations • Compares fractions and mixed numbers • Compares fractions and mixed numbers using symbols • Orders fractions on a number line • Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) • Expresses a simple fraction as a decimal • Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 • Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)
New Vocabulary: billion, hundred million, quintillion, standard numeral, trillion	*New Vocabulary:* biggest, expanded numeral	*New Vocabulary:* lowest term, lowest terms, reduce, triple
New Signs and Symbols: °F degrees Fahrenheit, > greater than, < less than, long division symbol, R remainder	*New Signs and Symbols:* ¢ cent sign	*New Signs and Symbols:* ≠ not equal to

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