

DesCartes: A Continuum of Learning®

Mathematics

Goal: The Real and Complex Number Systems

RIT Score Range:171 - 180Statements Last Updated:Mar 10, 2014

Skills and Concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Ratios and Proportional Relationships	Ratios and Proportional Relationships	Ratios and Proportional Relationships
Completes a growing arithmetic pattern by naming missing members	Completes a growing arithmetic pattern by naming missing members	Completes arithmetic growth patterns in number tables by identifying the missing elemente
	• Computes simple conversions among units of time (minutes in an hour, half hour, quarter hour)	Computes simple conversions among units of time (days, weeks)
Perform Operations	Perform Operations	Perform Operations
Uses a number line to construct addition facts with sums through 20 (whole numbers)	Uses a number line to construct addition facts with sums through 20 (whole numbers)	Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)
Uses models to calculate whole number sums through 99	Uses models to calculate whole number sums through 999	Instantly recalls basic addition facts with sums to 18 in a table
Adds two 1-digit numbers with sums to 10 in horizontal format	Uses strategies for addition facts (e.g., compatible numbers, counting	Adds two or three 2-digit number with regrouping
Adds two 1-digit numbers with sums between 10 and 19 in horizontal	on, doubles, neighbors, making tens)	Adds 3-digit numbers, with regrouping, with sums under 1000
format	Adds two or three 2-digit number with regrouping	Performs mental computation with 2, 3, or 4 addends
Adds two 1-digit numbers with sums between 10 and 19 in vertical	Adds 1- and/or 2-digit numbers with sums under 100	Adds two 3- and/or 4-digit numbers, with regrouping, with sums over
format	Adds 3-digit numbers with no regrouping	1000
Adds multiple 1-digit numbers	Adds 3-digit numbers, with regrouping, with sums under 1000	Adds multiple-digit numbers, with regrouping, with sums over 1000
 Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens) 	Solves real-world whole number addition problems with sums to 20 (result unknown)	• Solves real-world whole number addition problems with sums to 20 (result unknown) - with extraneous information given
 Adds 1-digit to multiple-digit number with no regrouping Adds 1-digit to multiple-digit number with regrouping 	Solves real-world whole number addition problems with sums to 20 (start unknown)	Solves real-world whole number addition problems with sums to 100 (result unknown)
Adds 2-digit numbers with no regrouping	Solves real-world whole number addition problems with sums to 100	Uses models to calculate differences through 100 (whole numbers)
Solves real-world whole number addition problems with sums to 20	(result unknown)	Instantly recalls basic subtraction facts with minuend less than 10
(result unknown)	• Subtracts a 1-digit number from a 2-digit number that is less than 20	Subtracts a 2-digit number from a 2-digit number, with regrouping
 Subtracts two 1-digit numbers horizontally 		• Uses strategies for sums and differences with 2-digit numbers (e.g.,
Subtracts a 1-digit number from a 2-digit number that is less than 20	Subtracts a 1-digit number from a 2-digit number with no regrouping, vertically	decomposing, compatible, compensation, partial sums, counting on)
(whole numbers only)	Subtracts a 2-digit number from a 2-digit number, with no regrouping	Subtracts 2- and/or 3-digit numbers with no regrouping
Subtracts two 1-digit numbers vertically	Subtracts 2- and/or 3-digit numbers with no regrouping	Subtracts 3- or 4-digit numbers with regrouping
Subtracts a 2-digit number from a 2-digit number, with no regrouping	Solves real-world whole number problems involving subtraction with	Performs mental subtraction with numbers under 1000
Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12	numbers under 20	 Subtracts multiple-digit numbers with no regrouping
• Tells time to the nearest hour	• Instantly recalls basic multiplication facts where one factor is 0-5 and the other factor is 0-12	Solves real-world whole number problems involving subtraction with numbers under 20
Tells time to the nearest half hour	Multiplies basic facts to 10 x 10 vertically	Solves real-world whole number problems involving subtraction with
	Adds 1-digit numbers with sums to 18 (with parentheses)	numbers 100 and under
	Recognizes addition and subtraction fact families through 18	Solves problems using the inverse relationship between addition and subtraction
	• Identifies the value of a collection of coins to \$1.00 (with pictures of	• Uses counting by multiples for multiplication
	coins)	Instantly recalls basic multiplication facts where one factor is 6-12 and
	 Identifies the value of a collection of coins and bills to \$10.00 by counting on (with picture of monoy) 	the other factor is 0-12
	Counting on (with picture of money) Talle time to the pearect hour	Multiplies basic facts to 10 x 10 vertically
	Tells time to the nearest half hour	Multiplies a 2-digit number by a 1-digit number with regrouping
	Tells time to the nearest 5 minutes	Multiplies a 2-digit number by a 2-digit number with no regrouping
	Connects money with place value	
		1

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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Perform Operations	Perform Operations	Perform Operations
	Determines the operation needed from a simple problem	Solves word problems involving basic whole number multiplication facts to 10 x 10
		Uses manipulatives to divide a small set of objects into groups of equal size
		Uses sharing for division
		Models whole number multiplication and division algorithms (e.g., shows multiplication as repeated addition and division as repeated subtraction)
		Models multiplication and division algorithms using arrays (whole numbers)
		Instantly recalls division facts with dividend and divisors less than 10
		Solves real-world whole number problems involving addition and subtraction
		Recognizes addition and subtraction fact families through 18
		• Demonstrates an understanding of the inverse relationship between multiplication and division
		Adds decimals to the hundredths place (same number of digits)
		• Identifies the value of a collection of coins to \$1.00 (without picture of coins)
		Adds money with regrouping
		• Identifies the value of a collection of coins and bills to \$10.00 by counting on (with picture of money)
		Finds equivalent combinations of coins with the same value
		Combines a collection of coins and identifies the correct notation
		Makes change to \$1.00 by counting on or subtracting
		• Computes with dollars and cents up to and including \$5.00 and converts to decimals (addition/subtraction only)
		• Computes 1 operation on addition or subtraction real-world problems involving money up to \$5.00
		Identifies the correct time, given the words, and vice versa
		Determines elapsed clock time
		Determines elapsed time under 1 hour or to the hour
		• Determines elapsed time involving whole hours, whole days, whole years
		Tells time to the nearest 5 minutes
		Determines the operation needed from a simple problem
		Identifies the number that is 1 less than a given number
		Distinguishes between odd and even numbers
Extend and Use Properties	Extend and Use Properties	Extend and Use Properties
 Identifies whole numbers under 100 using base-10 blocks 	Identifies whole numbers 100 - 999 using base-10 blocks	

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Extend and Use Properties	Extend and Use Properties	Extend and Use Properties
• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)	• Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)	• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)
 Counts 1 to 10 objects Identifies missing numbers in a series through 100 	• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)	• Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa)
 Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20 Orders whole numbers less than 10 Writes whole numbers in standard and expanded form through the tens 	 Identifies missing numbers in a series through 100 Counts by 2's to 100 	• Identifies the numeral and written name for whole numbers 10,000 to 100,000
	Counts backwards from a given number (given number greater than 10)	Compares whole numbers through 999 Compares whole numbers through 9999
	Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20	Rounds 2- and 3- digit whole numbers to the nearest ten
	Compares sets of objects and identifies which is equal to, more than, or loss than the other (1 to 10 chieft)	Counts objects that are grouped into tens and ones
	Compares whole numbers through 999	• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)
	 Counts objects that are grouped into tens and ones Identifies the place value and value of each digit in whole numbers through the tens place Represents 1/2 with a diagram or model Represents 1/4 with a diagram or model Identifies one half from a racion or set 	Identifies the place value and value of each digit in whole numbers through the tens place
		Identifies the place value and value of each digit in whole numbers through the hundreds place
		 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
		Represents 3/4 with a diagram or model
		Identifies equal parts by using models
		Identifies 1/2 from a region or set
		 Identifies one-half from a region or set
		 Identifies 1/4 from a region or set
		 Identifies 2/4, 3/4, or 4/4 from a region or set
		 Identifies 2/3 or 3/3 from a region or set
		 Identifies tenths from a region or set
		 Identifies eighths from a region or set
		• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set
		Compares and orders decimals to the hundredths place (same number of digits after decimal)
New Vocabulary: None	New Vocabulary: fact family, fourth, hundred, morning, thirds, thousand	New Vocabulary: changed, clock, closest, digit, fourths, gave, half past,
<i>New Signs and Symbols:</i> + addition, = is equal to, × multiplication, - subtraction, : used with time, variable	New Signs and Symbols: () order of operations, a.m., ¢ cent sign, \$ dollar sign, p.m., tally mark	how much time, hundreds, left, left over, million, nearest, noon, o'clock, one, pennies, quarter past, quarter to, row, ten thousand, unifix cubes, what time
		New Signs and Symbols: { } set notation, ÷ division, long division symbol. : used with time. : used with time

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