

## **DesCartes: A Continuum of Learning®**

## **Mathematics**

Goal: Operations and Algebraic Thinking

RIT Score Range: 191 - 200 Statements Last Updated: Mar 10, 2014

Skills and Concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Expressions and Equations	Expressions and Equations	Expressions and Equations
<ul> <li>Solves real-world whole number problems involving subtraction with numbers under 1000</li> </ul>	Solves real-world whole number problems involving subtraction with numbers under 1000	Uses rounding to estimate answers to 2-step problems involving money (using decimals)
<ul> <li>Demonstrates an understanding of the zero property of multiplication</li> <li>Solves basic facts addition and subtraction open sentences using diagrams and models (e.g., using balances)</li> <li>Solves linear equations with basic facts - 1-step addition using a letter for the variable</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> <li>Writes a number sentence for a simple problem solving situation</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7)</li> </ul>	<ul> <li>Solves whole number subtraction word problems with numbers over 1000</li> <li>Evaluates numerical expressions using grouping symbols (whole numbers only)</li> <li>Demonstrates an understanding of the zero property of multiplication</li> <li>Computes half price (multiplication/division)</li> <li>Uses algebraic reasoning to solve problems involving equality relationships</li> <li>Solves 1-step open sentences with missing addends (numbers 100 and under)</li> <li>Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>Solves simple open sentences with missing factors (numbers 100 and under)</li> <li>Solves 2-step open sentences with missing addends</li> <li>Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7)</li> </ul>	<ul> <li>Solves whole number subtraction word problems with numbers over 1000</li> <li>Evaluates numerical expressions using grouping symbols (whole numbers only)</li> <li>Demonstrates an understanding of the commutative property of addition</li> <li>Understands equivalence and extends the concept to number sentences involving variables (e.g., 8 + 2 = [] + 2)</li> <li>Uses algebraic reasoning to solve problems involving equality relationships</li> <li>Uses simple linear equations to represent problem situations</li> <li>Describes a realistic situation using information given in a linear equation</li> <li>Solves 1-step open sentences with missing addends (numbers over 100)</li> <li>Solves simple open sentences with missing factors (numbers 100 and under)</li> </ul>
		Solves 2-step open sentences with missing addends     Solves open sentences with basic-facts calculations on both sides of the sentence     Translates a 2-step problem to a symbolic expression or equation     Solves real-world problems using reasoning strategies
Use Functions to Model Relationships	Use Functions to Model Relationships	Use Functions to Model Relationships
<ul> <li>Extends a growing arithmetic pattern, defined by numbers</li> <li>Analyzes a growing, arithmetic pattern with numbers to determine the rule</li> <li>Identifies transformations of plane figures (translations/slides)</li> <li>Reads data in a line graph - no calculations</li> </ul>	Extends a growing arithmetic pattern, defined by objects or diagrams     Analyzes a growing, arithmetic pattern with numbers to determine the rule     Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels)     Reads data in a line graph - no calculations	<ul> <li>Extends a growing arithmetic pattern, defined by objects or diagrams</li> <li>Completes a simple function table based on real-life situations (e.g., the number of tricycles related to the number of wheels)</li> <li>Completes a function table given a simple rule (e.g., x + 2)</li> <li>Predicts from simple charts and tables</li> </ul>
New Vocabulary: None	New Vocabulary: longer	New Vocabulary: minimum, plus
New Signs and Symbols: × multiplication	New Signs and Symbols: ( ) order of operations, ÷ division, \$ dollar sign	New Signs and Symbols: °C degrees Celsius, = is equal to, min minute, - negative number, p.m., + positive number

## **Explanatory Note**

\* 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.