# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** < 161
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Develop (50% Probability*)<br>< 161 | Skills and Concepts to Introduce (27% Probability*)<br>161 - 170 |
|---|---|
| Understand Place Value, Counting, and Cardinality | Understand Place Value, Counting, and Cardinality |
| • Identifies whole numbers under 100 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa) | • Identifies whole numbers under 100 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)<br>• Counts 1 to 10 objects<br>• Identifies missing numbers in a series through 100<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Orders whole numbers less than 10<br>• Writes whole numbers in standard and expanded form through the tens |
| Number and Operations in Base Ten | Number and Operations in Base Ten |
| • Uses models to calculate whole number sums through 99<br>• Adds 1-digit to multiple-digit number with no regrouping<br>• Adds 1-digit to multiple-digit number with regrouping | • Uses models to calculate whole number sums through 99<br>• Adds multiple 1-digit numbers<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds 1-digit to multiple-digit number with no regrouping<br>• Adds 1-digit to multiple-digit number with regrouping<br>• Adds 2-digit numbers with no regrouping<br>• Subtracts two 1-digit numbers horizontally<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping |
| Number and Operations - Fractions | Number and Operations - Fractions |
| *New Vocabulary:* None | *New Vocabulary:* None |
| *New Signs and Symbols:* None | *New Signs and Symbols:* + addition, = is equal to, × multiplication, variable |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 161 - 170
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) < 161 | Skills and Concepts to Develop (50% Probability*) 161 - 170 | Skills and Concepts to Introduce (27% Probability*) 171 - 180 |
|---|---|---|
| Understand Place Value, Counting, and Cardinality | Understand Place Value, Counting, and Cardinality | Understand Place Value, Counting, and Cardinality |
| • Identifies whole numbers under 100 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa) | • Identifies whole numbers under 100 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)<br>• Counts 1 to 10 objects<br>• Identifies missing numbers in a series through 100<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Orders whole numbers less than 10<br>• Writes whole numbers in standard and expanded form through the tens | • Identifies whole numbers 100 - 999 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)<br>• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• Identifies missing numbers in a series through 100<br>• Counts backwards from a given number (given number greater than 10)<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)<br>• Compares whole numbers through 999<br>• Counts objects that are grouped into tens and ones<br>• Identifies the place value and value of each digit in whole numbers through the tens place |
| Number and Operations in Base Ten | Number and Operations in Base Ten | Number and Operations in Base Ten |
| • Uses models to calculate whole number sums through 99<br>• Adds 1-digit to multiple-digit number with no regrouping<br>• Adds 1-digit to multiple-digit number with regrouping | • Uses models to calculate whole number sums through 99<br>• Adds multiple 1-digit numbers<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds 1-digit to multiple-digit number with no regrouping<br>• Adds 1-digit to multiple-digit number with regrouping<br>• Adds 2-digit numbers with no regrouping<br>• Subtracts two 1-digit numbers horizontally<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping | • Uses models to calculate whole number sums through 999<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds two or three 2-digit number with regrouping<br>• Adds 1- and/or 2-digit numbers with sums under 100<br>• Adds 3-digit numbers with no regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping<br>• Subtracts 2- and/or 3-digit numbers with no regrouping |
| Number and Operations - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| | | • Represents 1/2 with a diagram or model<br>• Represents 1/4 with a diagram or model<br>• Identifies one-half from a region or set |
| *New Vocabulary:* None | *New Vocabulary:* None | *New Vocabulary:* fourth, hundred, thirds, thousand |
| *New Signs and Symbols:* None | *New Signs and Symbols:* + addition, = is equal to, × multiplication, variable | *New Signs and Symbols:* None |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 171 - 180
**Statements Last Updated:** Sep 23, 2013

| 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 |
|---|---|---|
| **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** |
| • Identifies whole numbers under 100 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 11 to 20 (e.g., 15 is fifteen, and vice versa)<br>• Counts 1 to 10 objects<br>• Identifies missing numbers in a series through 100<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Orders whole numbers less than 10<br>• Writes whole numbers in standard and expanded form through the tens | • Identifies whole numbers 100 - 999 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)<br>• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• Identifies missing numbers in a series through 100<br>• Counts backwards from a given number (given number greater than 10)<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)<br>• Compares whole numbers through 999<br>• Counts objects that are grouped into tens and ones<br>• Identifies the place value and value of each digit in whole numbers through the tens place | • Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• 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)<br>• Identifies the numeral and written name for whole numbers 10,000 to 100,000<br>• Compares whole numbers through 999<br>• Rounds 2- and 3- digit whole numbers to the nearest ten<br>• Rounds 3-digit whole numbers to the nearest hundred<br>• Counts objects that are grouped into tens and ones<br>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)<br>• Identifies the place value and value of each digit in whole numbers through the tens place<br>• Identifies the place value and value of each digit in whole numbers through the hundreds place<br>• Identifies the place value and value of each digit in whole numbers through the thousands<br>• Identifies the place value and value of each digit in whole numbers through the hundred thousands<br>• Compares and orders decimals to the hundredths place (same number of digits after decimal) |
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Uses models to calculate whole number sums through 99<br>• Adds multiple 1-digit numbers<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds 1-digit to multiple-digit number with no regrouping<br>• Adds 1-digit to multiple-digit number with regrouping<br>• Adds 2-digit numbers with no regrouping<br>• Subtracts two 1-digit numbers horizontally<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping | • Uses models to calculate whole number sums through 999<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds two or three 2-digit number with regrouping<br>• Adds 1- and/or 2-digit numbers with sums under 100<br>• Adds 3-digit numbers with no regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping<br>• Subtracts 2- and/or 3-digit numbers with no regrouping | • Adds two or three 2-digit number with regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Performs mental computation with 2, 3, or 4 addends<br>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Uses models to calculate differences through 100 (whole numbers)<br>• Subtracts a 2-digit number from a 2-digit number, with regrouping<br>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)<br>• Subtracts 2- and/or 3-digit numbers with no regrouping<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Performs mental subtraction with numbers under 1000<br>• Subtracts multiple-digit numbers with no regrouping<br>• Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 2-digit number by a 2-digit number with no regrouping |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 171 - 180
**Statements Last Updated:** Sep 23, 2013

| 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 |
|---|---|---|
| Number and Operations in Base Ten | Number and Operations in Base Ten | Number and Operations in Base Ten |
| | | • Adds decimals to the hundredths place (same number of digits)<br>• Identifies the number that is 1 less than a given number<br>• Compares whole numbers through 9999 |
| Number and Operations - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| | • Represents 1/2 with a diagram or model<br>• Represents 1/4 with a diagram or model<br>• Identifies one-half from a region or set | • Represents 3/4 with a diagram or model<br>• Identifies 1/2 from a region or set<br>• Identifies one-half from a region or set<br>• Identifies 1/4 from a region or set<br>• Identifies 2/4, 3/4, or 4/4 from a region or set<br>• Identifies 2/3 or 3/3 from a region or set<br>• Identifies tenths from a region or set<br>• Identifies eighths from a region or set<br>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set |
| *New Vocabulary:* None | *New Vocabulary:* fourth, hundred, thirds, thousand | *New Vocabulary:* closest, digit, hundreds, million, nearest, one, ten thousand |
| *New Signs and Symbols:* + addition, = is equal to, × multiplication, variable | *New Signs and Symbols:* None | *New Signs and Symbols:* { } set notation, $ dollar sign, - subtraction |

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# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 181 - 190
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 171 - 180 | Skills and Concepts to Develop (50% Probability*) 181 - 190 | Skills and Concepts to Introduce (27% Probability*) 191 - 200 |
|---|---|---|
| **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** |
| • Identifies whole numbers 100 - 999 using base-10 blocks<br>• Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa)<br>• Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• Identifies missing numbers in a series through 100<br>• Counts backwards from a given number (given number greater than 10)<br>• Recognizes and generates equivalent forms for the same number using physical models for whole numbers 11 to 20<br>• Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)<br>• Compares whole numbers through 999<br>• Counts objects that are grouped into tens and ones<br>• Identifies the place value and value of each digit in whole numbers through the tens place | • Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• 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)<br>• Identifies the numeral and written name for whole numbers 10,000 to 100,000<br>• Compares whole numbers through 999<br>• Rounds 2- and 3- digit whole numbers to the nearest ten<br>• Rounds 3-digit whole numbers to the nearest hundred<br>• Counts objects that are grouped into tens and ones<br>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)<br>• Identifies the place value and value of each digit in whole numbers through the tens place<br>• Identifies the place value and value of each digit in whole numbers through the hundreds place<br>• Identifies the place value and value of each digit in whole numbers through the thousands<br>• Identifies the place value and value of each digit in whole numbers through the hundred thousands<br>• Compares and orders decimals to the hundredths place (same number of digits after decimal) | • Identifies whole numbers over 999 using base-10 blocks<br>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place<br>• Identifies the numeral and written name for whole numbers 10,000 to 100,000<br>• Identifies the numeral and written name for whole numbers over 100,000<br>• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >)<br>• Compares whole numbers through the thousands using the symbols <, >, or =<br>• Rounds 2- and 3- digit whole numbers to the nearest ten<br>• Rounds 3-digit whole numbers to the nearest hundred<br>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)<br>• Identifies the place value and value of each digit in whole numbers through the thousands<br>• Identifies the place value and value of each digit in whole numbers through the hundred thousands<br>• Writes whole numbers in standard and expanded form through the hundreds<br>• Writes whole numbers in standard and expanded form through the thousands |
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Uses models to calculate whole number sums through 999<br>• Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)<br>• Adds two or three 2-digit number with regrouping<br>• Adds 1- and/or 2-digit numbers with sums under 100<br>• Adds 3-digit numbers with no regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Subtracts a 2-digit number from a 2-digit number, with no regrouping<br>• Subtracts 2- and/or 3-digit numbers with no regrouping | • Adds two or three 2-digit number with regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Performs mental computation with 2, 3, or 4 addends<br>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Uses models to calculate differences through 100 (whole numbers)<br>• Subtracts a 2-digit number from a 2-digit number, with regrouping<br>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)<br>• Subtracts 2- and/or 3-digit numbers with no regrouping<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Performs mental subtraction with numbers under 1000<br>• Subtracts multiple-digit numbers with no regrouping<br>• Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 2-digit number by a 2-digit number with no regrouping | • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)<br>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers with sums under 1000<br>• Subtracts 1-digit number from a 2-digit number with regrouping<br>• Subtracts a 2-digit number from a 2-digit number, with regrouping<br>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)<br>• Subtracts a 2-digit number from a 3-digit number with a single regrouping<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Performs mental subtraction with numbers under 1000<br>• Subtracts multiple-digit numbers with no regrouping<br>• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping |

**Explanatory Notes**

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# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 181 - 190
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 171 - 180 | Skills and Concepts to Develop (50% Probability*) 181 - 190 | Skills and Concepts to Introduce (27% Probability*) 191 - 200 |
|---|---|---|
| Number and Operations in Base Ten | Number and Operations in Base Ten | Number and Operations in Base Ten |
| | • Adds decimals to the hundredths place (same number of digits)<br>• Identifies the number that is 1 less than a given number<br>• Compares whole numbers through 9999 | • Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 3- or 4-digit number by a 1-digit number<br>• Multiplies a 2-digit number by a 2-digit number with no regrouping<br>• Performs mental computation with multiplication<br>• Divides a 2-digit number by a 1-digit number with no remainder<br>• Adds decimals to the hundredths place (same number of digits)<br>• Adds decimals to the hundredths place in vertical format (not same number of digits)<br>• Adds decimals to the thousandths place vertically with and without regrouping<br>• Subtracts decimals to the hundredths place (same number of digits) with regrouping<br>• Multiplies a decimal by whole number |
| Number and Operations - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| • Represents 1/2 with a diagram or model<br>• Represents 1/4 with a diagram or model<br>• Identifies one-half from a region or set | • Represents 3/4 with a diagram or model<br>• Identifies 1/2 from a region or set<br>• Identifies one-half from a region or set<br>• Identifies 1/4 from a region or set<br>• Identifies 2/4, 3/4, or 4/4 from a region or set<br>• Identifies 2/3 or 3/3 from a region or set<br>• Identifies tenths from a region or set<br>• Identifies eighths from a region or set<br>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set | • Uses models to add and subtract fractions and connect the actions to algorithms<br>• Subtracts fractions with like denominators without reducing<br>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators<br>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction<br>• Represents 1/3 with a diagram or model<br>• Represents fractions with denominators other than 2, 3, 4 with a diagram or model<br>• Identifies 1/4 from a region or set<br>• Identifies 1/3 from a region or set<br>• Identifies 2/3 or 3/3 from a region or set<br>• Identifies tenths from a region or set<br>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set<br>• Identifies equivalent fractions using visual representations<br>• Matches numeric and visual representation of equivalent fractions<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Writes the missing number in a proportion using basic facts |
| *New Vocabulary:* fourth, hundred, thirds, thousand | *New Vocabulary:* closest, digit, hundreds, million, nearest, one, ten thousand | *New Vocabulary:* billion, hundred million, quintillion, standard numeral, trillion |
| *New Signs and Symbols:* None | *New Signs and Symbols:* { } set notation, $ dollar sign, - subtraction | *New Signs and Symbols:* °F degrees Fahrenheit, > greater than, < less than, long division symbol, R remainder |

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

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 191 - 200
**Statements Last Updated:** Sep 23, 2013

| 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 |
|---|---|---|
| **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** |
| • Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa)<br>• 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)<br>• Identifies the numeral and written name for whole numbers 10,000 to 100,000<br>• Compares whole numbers through 999<br>• Rounds 2- and 3- digit whole numbers to the nearest ten<br>• Rounds 3-digit whole numbers to the nearest hundred<br>• Counts objects that are grouped into tens and ones<br>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)<br>• Identifies the place value and value of each digit in whole numbers through the tens place<br>• Identifies the place value and value of each digit in whole numbers through the hundreds place<br>• Identifies the place value and value of each digit in whole numbers through the thousands<br>• Identifies the place value and value of each digit in whole numbers through the hundred thousands<br>• Compares and orders decimals to the hundredths place (same number of digits after decimal) | • Identifies whole numbers over 999 using base-10 blocks<br>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place<br>• Identifies the numeral and written name for whole numbers 10,000 to 100,000<br>• Identifies the numeral and written name for whole numbers over 100,000<br>• Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >)<br>• Compares whole numbers through the thousands using the symbols <, >, or =<br>• Rounds 2- and 3- digit whole numbers to the nearest ten<br>• Rounds 3-digit whole numbers to the nearest hundred<br>• Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34)<br>• Identifies the place value and value of each digit in whole numbers through the thousands<br>• Identifies the place value and value of each digit in whole numbers through the hundred thousands<br>• Writes whole numbers in standard and expanded form through the hundreds<br>• Writes whole numbers in standard and expanded form through the thousands | • Identifies whole numbers over 999 using base-10 blocks<br>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place<br>• Identifies the numeral and written name for whole numbers over 100,000<br>• Compares whole numbers through the billions using the symbols <, >, or =<br>• Orders whole numbers a million or greater using < or > symbols<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand<br>• Rounds whole numbers to the nearest hundred thousand<br>• Rounds wholes numbers to the nearest billion<br>• Explains the rules for rounding<br>• Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)<br>• Identifies the place value and value of each digit in whole numbers through the billions<br>• Writes whole numbers in standard and expanded form through the hundred thousands<br>• Applies base ten place value concepts with whole numbers to solve problems<br>• Writes whole numbers using place value terms and vice versa<br>• Rounds decimals to the nearest whole number |
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Adds two or three 2-digit number with regrouping<br>• Adds 3-digit numbers, with regrouping, with sums under 1000<br>• Performs mental computation with 2, 3, or 4 addends<br>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Uses models to calculate differences through 100 (whole numbers)<br>• Subtracts a 2-digit number from a 2-digit number, with regrouping<br>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)<br>• Subtracts 2- and/or 3-digit numbers with no regrouping<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Performs mental subtraction with numbers under 1000<br>• Subtracts multiple-digit numbers with no regrouping | • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)<br>• Adds two 3- and/or 4-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers with sums under 1000<br>• Subtracts 1-digit number from a 2-digit number with regrouping<br>• Subtracts a 2-digit number from a 2-digit number, with regrouping<br>• Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on)<br>• Subtracts a 2-digit number from a 3-digit number with a single regrouping<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Performs mental subtraction with numbers under 1000 | • Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers with sums under 1000<br>• Performs mental computation with more than 4 addends<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Subtracts numbers with 5 digits or more with regrouping<br>• Instantly recalls basic multiplication and division facts in a table<br>• Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 3- or 4-digit number by a 1-digit number<br>• Multiplies multiple 1-digit numbers<br>• Multiplies a 2-digit number by a 2-digit number with regrouping<br>• Multiplies a 3-digit number by a 2-digit number with regrouping<br>• Performs mental computation with multiplication |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 191 - 200
**Statements Last Updated:** Sep 23, 2013

| 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 |
|---|---|---|
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 2-digit number by a 2-digit number with no regrouping<br>• Adds decimals to the hundredths place (same number of digits)<br>• Identifies the number that is 1 less than a given number<br>• Compares whole numbers through 9999 | • Subtracts multiple-digit numbers with no regrouping<br>• Multiplies a 2- or 3-digit number by a 1-digit number with no regrouping<br>• Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 3- or 4-digit number by a 1-digit number<br>• Multiplies a 2-digit number by a 2-digit number with no regrouping<br>• Performs mental computation with multiplication<br>• Divides a 2-digit number by a 1-digit number with no remainder<br>• Adds decimals to the hundredths place (same number of digits)<br>• Adds decimals to the hundredths place in vertical format (not same number of digits)<br>• Adds decimals to the thousandths place vertically with and without regrouping<br>• Subtracts decimals to the hundredths place (same number of digits) with regrouping<br>• Multiplies a decimal by whole number | • Multiplies a 2- or 3-digit number by multiples of 10 or 100<br>• Multiplies a 3-digit number by a 3-digit number<br>• Divides a 2-digit number by a 1-digit number with no remainder<br>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder<br>• Divides a 3-digit number by a 1-digit number with no remainder<br>• Divides a 4-digit number by a 1-digit number with no remainder<br>• Divides a 3-digit number by a multiple of 10<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the thousandths place horizontally with and without regrouping<br>• Subtracts decimals to the hundredths place (same number of digits) with regrouping<br>• Multiplies a decimal by whole number<br>• Divides decimal by a whole number |
| **Number and Operations - Fractions** | **Number and Operations - Fractions** | **Number and Operations - Fractions** |
| • Represents 3/4 with a diagram or model<br>• Identifies 1/2 from a region or set<br>• Identifies one-half from a region or set<br>• Identifies 1/4 from a region or set<br>• Identifies 2/4, 3/4, or 4/4 from a region or set<br>• Identifies 2/3 or 3/3 from a region or set<br>• Identifies tenths from a region or set<br>• Identifies eighths from a region or set<br>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set | • Uses models to add and subtract fractions and connect the actions to algorithms<br>• Subtracts fractions with like denominators without reducing<br>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators<br>• Solves real-world 1-step problems involving multiplication or division of a whole number by a fraction<br>• Represents 1/3 with a diagram or model<br>• Represents fractions with denominators other than 2, 3, 4 with a diagram or model<br>• Identifies 1/4 from a region or set<br>• Identifies 1/3 from a region or set<br>• Identifies 2/3 or 3/3 from a region or set<br>• Identifies tenths from a region or set<br>• Identifies a fraction (denominators other than 2, 3, 4, 8, 10) from a region or set<br>• Identifies equivalent fractions using visual representations<br>• Matches numeric and visual representation of equivalent fractions<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Writes the missing number in a proportion using basic facts | • Adds fractions with like denominators without reducing<br>• Adds whole numbers and fractions<br>• Uses models to add and subtract fractions and connect the actions to algorithms<br>• Subtracts fractions with like denominators without reducing<br>• Subtracts mixed fractions with like denominators with no regrouping<br>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators<br>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)<br>• Identifies halves of a region using nonadjacent parts<br>• Identifies equivalent fractions using visual representations<br>• Expresses 1 in many different ways (e.g., 3/3, 4/4)<br>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)<br>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers<br>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)<br>• Orders fractions on a number line<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Writes a terminating decimal as a fraction or mixed number |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 191 - 200
**Statements Last Updated:** Sep 23, 2013

| 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 |
|---|---|---|
| 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)<br>• Writes the missing number in a proportion using basic facts |
| *New Vocabulary:* closest, digit, hundreds, million, nearest, one, ten thousand | *New Vocabulary:* billion, hundred million, quintillion, standard numeral, trillion | *New Vocabulary:* biggest, expanded numeral |
| *New Signs and Symbols:* { } set notation, $ dollar sign, - subtraction | *New Signs and Symbols:* °F degrees Fahrenheit, > greater than, < less than, long division symbol, R remainder | *New Signs and Symbols:* ¢ cent sign |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 201 - 210
**Statements Last Updated:** Sep 23, 2013

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

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

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 201 - 210
**Statements Last Updated:** Sep 23, 2013

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

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

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 201 - 210
**Statements Last Updated:** Sep 23, 2013

| 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 - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| | • Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction)<br>• Writes the missing number in a proportion using basic facts | • Identifies eighths, reduced to lowest terms, from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Converts fractions to lowest terms<br>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers<br>• Compares fractions on a number line<br>• Compares fractions greater than or less than a given fraction using visual representations<br>• Compares fractions and mixed numbers<br>• Compares fractions and mixed numbers using symbols<br>• Orders fractions on a number line<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Expresses a simple fraction as a decimal<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10<br>• 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 |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 211 - 220
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 201 - 210 | Skills and Concepts to Develop (50% Probability*) 211 - 220 | Skills and Concepts to Introduce (27% Probability*) 221 - 230 |
|---|---|---|
| **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<br>• Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place<br>• Identifies the numeral and written name for whole numbers over 100,000<br>• Compares whole numbers through the billions using the symbols <, >, or =<br>• Orders whole numbers a million or greater using < or > symbols<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand<br>• Rounds whole numbers to the nearest hundred thousand<br>• Rounds wholes numbers to the nearest billion<br>• Explains the rules for rounding<br>• Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones)<br>• Identifies the place value and value of each digit in whole numbers through the billions<br>• Writes whole numbers in standard and expanded form through the hundred thousands<br>• Applies base ten place value concepts with whole numbers to solve problems<br>• Writes whole numbers using place value terms and vice versa<br>• Rounds decimals to the nearest whole number | • Predicts the relative size of the answer when computing with 10's, 100's, 1000's<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand<br>• Rounds wholes numbers to the nearest billion<br>• Writes whole numbers in standard and expanded form through the hundred thousands<br>• Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)<br>• Compares and orders decimals past the thousandths place<br>• Rounds decimals to the nearest whole number<br>• Rounds decimals to the nearest tenth<br>• Applies base ten place value concepts to solve problems using decimals | • Multiplies a decimal by 10, 100, 1000<br>• Divides a decimal by 10, 100, 1000<br>• Determines the relative magnitude of whole numbers<br>• Rounds whole numbers to the nearest million<br>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)<br>• Writes whole numbers in standard and exponential form<br>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)<br>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0. 00003)<br>• Compares and orders decimals to the hundredths place (not same number of digits after decimal)<br>• Compares and orders decimals to the thousandths place (not same number of digits after decimal)<br>• Compares and orders decimals past the thousandths place<br>• Rounds decimals to the nearest hundredth<br>• Rounds decimals to nearest thousandth<br>• Identifies the place value and value of each digit to the hundredths and thousandths<br>• 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)<br>• Adds multiple-digit numbers, with regrouping, with sums over 1000<br>• Adds multiple-digit numbers with sums under 1000<br>• Performs mental computation with more than 4 addends<br>• Subtracts 3- or 4-digit numbers with regrouping<br>• Subtracts numbers with 5 digits or more with regrouping<br>• Instantly recalls basic multiplication and division facts in a table<br>• Multiplies a 2-digit number by a 1-digit number with regrouping<br>• Multiplies a 3- or 4-digit number by a 1-digit number<br>• Multiplies multiple 1-digit numbers<br>• Multiplies a 2-digit number by a 2-digit number with regrouping<br>• Multiplies a 3-digit number by a 2-digit number with regrouping<br>• Performs mental computation with multiplication | • Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)<br>• Subtracts numbers with 5 digits or more with regrouping<br>• Instantly recalls basic multiplication and division facts in a table<br>• Multiplies a 2-digit number by a 2-digit number with regrouping<br>• Multiplies a 3-digit number by a 2-digit number with regrouping<br>• Performs mental computation with multiplication<br>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)<br>• Multiplies a 3-digit number by a 3-digit number<br>• Multiplies a 4- or more digit number by multiples of 100 or 1000<br>• Multiplies multiple-digit numbers<br>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder | • Multiplies multiple-digit numbers<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the hundredths place in horizontal format (not same number of digits)<br>• Adds decimals through the hundred-thousandths place<br>• Subtracts decimals to the hundredths place (not same number of digits)<br>• Subtracts a decimal from a whole number, horizontally<br>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)<br>• Multiplies a decimal by a decimal (factors to hundredths)<br>• Multiplies a decimal by a decimal (factors to thousandths)<br>• Divides a decimal by a decimal |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 211 - 220
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 201 - 210 | Skills and Concepts to Develop (50% Probability*) 211 - 220 | Skills and Concepts to Introduce (27% Probability*) 221 - 230 |
|---|---|---|
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Multiplies a 2- or 3-digit number by multiples of 10 or 100<br>• Multiplies a 3-digit number by a 3-digit number<br>• Divides a 2-digit number by a 1-digit number with no remainder<br>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder<br>• Divides a 3-digit number by a 1-digit number with no remainder<br>• Divides a 4-digit number by a 1-digit number with no remainder<br>• Divides a 3-digit number by a multiple of 10<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the thousandths place horizontally with and without regrouping<br>• Subtracts decimals to the hundredths place (same number of digits) with regrouping<br>• Multiplies a decimal by whole number<br>• Divides decimal by a whole number | • Divides a 4-digit number by a 1-digit number with no remainder<br>• Divides a 3-digit number by a 2-digit number<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the hundredths place in horizontal format (not same number of digits)<br>• Adds decimals to the thousandths place horizontally with and without regrouping<br>• Adds decimals through the hundred-thousandths place<br>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)<br>• Multiplies a decimal by a decimal (factors to hundredths)<br>• Divides decimal by a whole number | |
| **Number and Operations - Fractions** | **Number and Operations - Fractions** | **Number and Operations - Fractions** |
| • Adds fractions with like denominators without reducing<br>• Adds whole numbers and fractions<br>• Uses models to add and subtract fractions and connect the actions to algorithms<br>• Subtracts fractions with like denominators without reducing<br>• Subtracts mixed fractions with like denominators with no regrouping<br>• Solves real-world 1-step problems involving addition and subtraction of fractions with like denominators<br>• Multiplies a fraction by a fraction without reducing to simplest form (simple problem)<br>• Identifies halves of a region using nonadjacent parts<br>• Identifies equivalent fractions using visual representations<br>• Expresses 1 in many different ways (e.g., 3/3, 4/4)<br>• Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)<br>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers<br>• Compares fractions (e.g., common denominator, 1 in the numerator, denominator is 2, 3, 4, 6, 8, 10)<br>• Orders fractions on a number line<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Writes a terminating decimal as a fraction or mixed number | • Adds fractions with like denominators without reducing<br>• Adds fractions with like denominators with reducing or converting to a mixed fraction<br>• Adds fractions with unlike denominators without reducing<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)<br>• Subtracts fractions with unlike denominators without reducing<br>• Subtracts mixed fractions with like denominators with no regrouping<br>• Subtracts mixed fractions with unlike denominators with no regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies a fraction by a fraction where reducing to simplest form is necessary<br>• Multiplies a fraction by a whole number<br>• Solves 1-step real-world problems involving fractions with multiplication and division<br>• Solves 1-step problems involving proportions<br>• Identifies equivalent fractions using visual representations<br>• Identifies a fractions in lowest terms from a region or set | • Adds fractions with like denominators with reducing or converting to a mixed fraction<br>• Adds fractions with unlike denominators without reducing<br>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts fractions with like denominators with reducing<br>• Subtracts fractions with unlike denominators without reducing<br>• Subtracts fractions with unlike denominators with reducing<br>• Subtracts mixed fractions with unlike denominators with no regrouping<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies a fraction by a fraction without reducing to simplest form (complex problem)<br>• Multiplies a fraction by a fraction where reducing to simplest form is necessary |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 211 - 220
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 201 - 210 | Skills and Concepts to Develop (50% Probability*) 211 - 220 | Skills and Concepts to Introduce (27% Probability*) 221 - 230 |
|---|---|---|
| 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)<br>• Writes the missing number in a proportion using basic facts | • Identifies eighths, reduced to lowest terms, from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Converts fractions to lowest terms<br>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers<br>• Compares fractions on a number line<br>• Compares fractions greater than or less than a given fraction using visual representations<br>• Compares fractions and mixed numbers<br>• Compares fractions and mixed numbers using symbols<br>• Orders fractions on a number line<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Expresses a simple fraction as a decimal<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10<br>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) | • Multiplies a fraction by a whole number<br>• Multiplies mixed fractions<br>• Divides a mixed fraction by a fraction<br>• Solves 1-step real-world problems involving fractions with multiplication and division<br>• Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Solves 1-step problems involving proportions<br>• Identifies a fractions in lowest terms from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Determines equivalent fractions using multiples<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Uses alternative algorithms to explain the meaning of fraction<br>• Writes a decimal for a shaded region to the hundredths place<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 |
| *New Vocabulary:* biggest, expanded numeral | *New Vocabulary:* lowest term, lowest terms, reduce, triple | *New Vocabulary:* short, ten million |
| *New Signs and Symbols:* ¢ cent sign | *New Signs and Symbols:* ≠ not equal to | *New Signs and Symbols:* None |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 221 - 230
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 211 - 220 | Skills and Concepts to Develop (50% Probability*) 221 - 230 | Skills and Concepts to Introduce (27% Probability*) 231 - 240 |
|---|---|---|
| **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** |
| • Predicts the relative size of the answer when computing with 10's, 100's, 1000's<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand<br>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand<br>• Rounds wholes numbers to the nearest billion<br>• Writes whole numbers in standard and expanded form through the hundred thousands<br>• Represents a decimal to the hundredths place (e.g., three hundredths = 0.03)<br>• Compares and orders decimals past the thousandths place<br>• Rounds decimals to the nearest whole number<br>• Rounds decimals to the nearest tenth<br>• Applies base ten place value concepts to solve problems using decimals | • Multiplies a decimal by 10, 100, 1000<br>• Divides a decimal by 10, 100, 1000<br>• Determines the relative magnitude of whole numbers<br>• Rounds whole numbers to the nearest million<br>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)<br>• Writes whole numbers in standard and exponential form<br>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)<br>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0. 00003)<br>• Compares and orders decimals to the hundredths place (not same number of digits after decimal)<br>• Compares and orders decimals to the thousandths place (not same number of digits after decimal)<br>• Compares and orders decimals past the thousandths place<br>• Rounds decimals to the nearest hundredth<br>• Rounds decimals to nearest thousandth<br>• Identifies the place value and value of each digit to the hundredths and thousandths<br>• Applies base ten place value concepts to solve problems using decimals | • Divides numbers by powers of 10<br>• Multiplies a decimal by 10, 100, 1000<br>• Divides a decimal by 10, 100, 1000<br>• Determines the relative magnitude of whole numbers<br>• Writes whole numbers in standard and exponential form<br>• Rounds decimals to the nearest hundredth |
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)<br>• Subtracts numbers with 5 digits or more with regrouping<br>• Instantly recalls basic multiplication and division facts in a table<br>• Multiplies a 2-digit number by a 2-digit number with regrouping<br>• Multiplies a 3-digit number by a 2-digit number with regrouping<br>• Performs mental computation with multiplication<br>• Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products)<br>• Multiplies a 3-digit number by a 3-digit number<br>• Multiplies a 4- or more digit number by multiples of 100 or 1000<br>• Multiplies multiple-digit numbers<br>• Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder<br>• Divides a 4-digit number by a 1-digit number with no remainder<br>• Divides a 3-digit number by a 2-digit number | • Multiplies multiple-digit numbers<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the hundredths place in horizontal format (not same number of digits)<br>• Adds decimals through the hundred-thousandths place<br>• Subtracts decimals to the hundredths place (not same number of digits)<br>• Subtracts a decimal from a whole number, horizontally<br>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)<br>• Multiplies a decimal by a decimal (factors to hundredths)<br>• Multiplies a decimal by a decimal (factors to thousandths)<br>• Divides a decimal by a decimal | • Subtracts a decimal from a whole number, horizontally<br>• Divides a whole number by a decimal<br>• Divides a decimal by a decimal |

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

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 221 - 230
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 211 - 220 | Skills and Concepts to Develop (50% Probability*) 221 - 230 | Skills and Concepts to Introduce (27% Probability*) 231 - 240 |
|---|---|---|
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the hundredths place in horizontal format (not same number of digits)<br>• Adds decimals to the thousandths place horizontally with and without regrouping<br>• Adds decimals through the hundred-thousandths place<br>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)<br>• Multiplies a decimal by a decimal (factors to hundredths)<br>• Divides decimal by a whole number | | |
| **Number and Operations - Fractions** | **Number and Operations - Fractions** | **Number and Operations - Fractions** |
| • Adds fractions with like denominators without reducing<br>• Adds fractions with like denominators with reducing or converting to a mixed fraction<br>• Adds fractions with unlike denominators without reducing<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)<br>• Subtracts fractions with unlike denominators without reducing<br>• Subtracts mixed fractions with like denominators with no regrouping<br>• Subtracts mixed fractions with unlike denominators with no regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies a fraction by a fraction where reducing to simplest form is necessary<br>• Multiplies a fraction by a whole number<br>• Solves 1-step real-world problems involving fractions with multiplication and division<br>• Solves 1-step problems involving proportions<br>• Identifies equivalent fractions using visual representations<br>• Identifies a fractions in lowest terms from a region or set<br>• Identifies eighths, reduced to lowest terms, from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Converts fractions to lowest terms<br>• Writes mixed numbers as improper fractions and improper fractions as mixed numbers | • Adds fractions with like denominators with reducing or converting to a mixed fraction<br>• Adds fractions with unlike denominators without reducing<br>• Adds fractions with unlike denominators with reducing or converting to a mixed fraction<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts fractions with like denominators with reducing<br>• Subtracts fractions with unlike denominators without reducing<br>• Subtracts fractions with unlike denominators with reducing<br>• Subtracts mixed fractions with unlike denominators with no regrouping<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies a fraction by a fraction without reducing to simplest form (complex problem)<br>• Multiplies a fraction by a fraction where reducing to simplest form is necessary<br>• Multiplies a fraction by a whole number<br>• Multiplies mixed fractions<br>• Divides a mixed fraction by a fraction<br>• Solves 1-step real-world problems involving fractions with multiplication and division | • Adds fractions with unlike denominators with reducing or converting to a mixed fraction<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies mixed fractions<br>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms<br>• Divides a fraction by a whole number<br>• Divides a whole number by a fraction<br>• Divides a mixed fraction by a fraction<br>• Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Writes a fraction as a decimal and vice versa<br>• Compares and orders decimal and fractional coordinates on a number line |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 221 - 230
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 211 - 220 | Skills and Concepts to Develop (50% Probability*) 221 - 230 | Skills and Concepts to Introduce (27% Probability*) 231 - 240 |
|---|---|---|
| Number and Operations - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| • Compares fractions on a number line<br>• Compares fractions greater than or less than a given fraction using visual representations<br>• Compares fractions and mixed numbers<br>• Compares fractions and mixed numbers using symbols<br>• Orders fractions on a number line<br>• Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers)<br>• Expresses a simple fraction as a decimal<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10<br>• Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) | • Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Solves 1-step problems involving proportions<br>• Identifies a fractions in lowest terms from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Determines equivalent fractions using multiples<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Uses alternative algorithms to explain the meaning of fraction<br>• Writes a decimal for a shaded region to the hundredths place<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 | |
| *New Vocabulary:* lowest term, lowest terms, reduce, triple | *New Vocabulary:* short, ten million | *New Vocabulary:* None |
| *New Signs and Symbols:* ≠ not equal to | *New Signs and Symbols:* None | *New Signs and Symbols:* ÷ division |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 231 - 240
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 221 - 230 | Skills and Concepts to Develop (50% Probability*) 231 - 240 | Skills and Concepts to Introduce (27% Probability*) > 240 |
|---|---|---|
| **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** | **Understand Place Value, Counting, and Cardinality** |
| • Multiplies a decimal by 10, 100, 1000<br>• Divides a decimal by 10, 100, 1000<br>• Determines the relative magnitude of whole numbers<br>• Rounds whole numbers to the nearest million<br>• Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones)<br>• Writes whole numbers in standard and exponential form<br>• Represents a decimal to thousandths place (e.g., three thousandths = 0.003)<br>• Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0. 00003)<br>• Compares and orders decimals to the hundredths place (not same number of digits after decimal)<br>• Compares and orders decimals to the thousandths place (not same number of digits after decimal)<br>• Compares and orders decimals past the thousandths place<br>• Rounds decimals to the nearest hundredth<br>• Rounds decimals to nearest thousandth<br>• Identifies the place value and value of each digit to the hundredths and thousandths<br>• Applies base ten place value concepts to solve problems using decimals | • Divides numbers by powers of 10<br>• Multiplies a decimal by 10, 100, 1000<br>• Divides a decimal by 10, 100, 1000<br>• Determines the relative magnitude of whole numbers<br>• Writes whole numbers in standard and exponential form<br>• Rounds decimals to the nearest hundredth | |
| **Number and Operations in Base Ten** | **Number and Operations in Base Ten** | **Number and Operations in Base Ten** |
| • Multiplies multiple-digit numbers<br>• Divides a 4-digit number by a 2-digit number<br>• Adds decimals to the hundredths place in horizontal format (not same number of digits)<br>• Adds decimals through the hundred-thousandths place<br>• Subtracts decimals to the hundredths place (not same number of digits)<br>• Subtracts a decimal from a whole number, horizontally<br>• Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths)<br>• Multiplies a decimal by a decimal (factors to hundredths)<br>• Multiplies a decimal by a decimal (factors to thousandths)<br>• Divides a decimal by a decimal | • Subtracts a decimal from a whole number, horizontally<br>• Divides a whole number by a decimal<br>• Divides a decimal by a decimal | |
| **Number and Operations - Fractions** | **Number and Operations - Fractions** | **Number and Operations - Fractions** |
| • Adds fractions with like denominators with reducing or converting to a mixed fraction<br>• Adds fractions with unlike denominators without reducing | • Adds fractions with unlike denominators with reducing or converting to a mixed fraction | • Solves open sentences with fractions<br>• Identifies the least common multiple of whole numbers |

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

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 231 - 240
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*) 221 - 230 | Skills and Concepts to Develop (50% Probability*) 231 - 240 | Skills and Concepts to Introduce (27% Probability*) > 240 |
|---|---|---|
| Number and Operations - Fractions | Number and Operations - Fractions | Number and Operations - Fractions |
| • Adds fractions with unlike denominators with reducing or converting to a mixed fraction<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts fractions with like denominators with reducing<br>• Subtracts fractions with unlike denominators without reducing<br>• Subtracts fractions with unlike denominators with reducing<br>• Subtracts mixed fractions with unlike denominators with no regrouping<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies a fraction by a fraction without reducing to simplest form (complex problem)<br>• Multiplies a fraction by a fraction where reducing to simplest form is necessary<br>• Multiplies a fraction by a whole number<br>• Multiplies mixed fractions<br>• Divides a mixed fraction by a fraction<br>• Solves 1-step real-world problems involving fractions with multiplication and division<br>• Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Solves 1-step problems involving proportions<br>• Identifies a fractions in lowest terms from a region or set<br>• Determines simple equivalent fractions using multiples<br>• Determines equivalent fractions using multiples<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Uses alternative algorithms to explain the meaning of fraction<br>• Writes a decimal for a shaded region to the hundredths place<br>• Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 | • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies mixed fractions<br>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms<br>• Divides a fraction by a whole number<br>• Divides a whole number by a fraction<br>• Divides a mixed fraction by a fraction<br>• Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Writes a fraction as a decimal and vice versa<br>• Compares and orders decimal and fractional coordinates on a number line | |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** 231 - 240
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*)<br>221 - 230 | Skills and Concepts to Develop (50% Probability*)<br>231 - 240 | Skills and Concepts to Introduce (27% Probability*)<br>> 240 |
|---|---|---|
| *New Vocabulary:* short, ten million | *New Vocabulary:* None | *New Vocabulary:* None |
| *New Signs and Symbols:* None | *New Signs and Symbols:* ÷ division | *New Signs and Symbols:* None |

**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.

# DesCartes: A Continuum of Learning®

## Mathematics

Goal: Number and Operations

**RIT Score Range:** > 240
**Statements Last Updated:** Sep 23, 2013

| Skills and Concepts to Enhance (73% Probability*)<br>231 - 240 | Skills and Concepts to Develop (50% Probability*)<br>> 240 |
|---|---|
| Number and Operations in Base Ten | Number and Operations in Base Ten |
| • Subtracts a decimal from a whole number, horizontally<br>• Divides a whole number by a decimal<br>• Divides a decimal by a decimal | |
| Number and Operations - Fractions | Number and Operations - Fractions |
| • Adds fractions with unlike denominators with reducing or converting to a mixed fraction<br>• Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)<br>• Adds mixed fractions where converting from improper fractions is necessary<br>• Subtracts whole numbers, fractions, and mixed fractions<br>• Subtracts whole numbers, fractions, and mixed fractions with regrouping<br>• Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary<br>• Uses models to multiply and divide fractions and connect the actions to algorithms<br>• Multiplies mixed fractions<br>• Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms<br>• Divides a fraction by a whole number<br>• Divides a whole number by a fraction<br>• Divides a mixed fraction by a fraction<br>• Solves 2- or more step real-world problems involving fractions with multiplication and division<br>• Solves problems involving fractions (e.g., multiple operations, conversions)<br>• Compares fractions (e.g., comparing numerators and denominators)<br>• Writes a fraction as a decimal and vice versa<br>• Compares and orders decimal and fractional coordinates on a number line | • Solves open sentences with fractions<br>• Identifies the least common multiple of whole numbers |
| *New Vocabulary:* None | *New Vocabulary:* None |
| *New Signs and Symbols:* ÷ division | *New Signs and Symbols:* None |

**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.