

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
<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> Solves problems involving equivalent fractions Solves 1-step problems involving proportions Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) Converts between inches and feet Converts between inches, feet, and yards Solves simple problems involving measurement of length Converts between cups, pints, quarts, and gallons Apply dimensional analysis to simple real-world problems (capacity) Computes more difficult conversions among units of time Applies dimensional analysis to simple real-world problems (time) Solves simple problems involving miles per gallon Determines unit price Solves problems involving rates Writes a basic percent as a fraction and vice versa (e.g., 10%, 25%, 50%, 100%) Expresses a percent as a fraction with 100 as the denominator and vice versa Recognizes and writes proportions Identifies the percent represented in a 2-D region 	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> Solves real-world problems involving decimals (not money) using multiplication Solves problems involving ratios Solves 1-step problems involving proportions Calculates basic percents of a number (e.g., 10%, 20%, 25%, 50%, 100%) Calculates a percent of a number (e.g., 6% of 30) Calculates a number from a percent (e.g., 4 is 9% of what) Solves problems involving percents Solves problems involving tax and tips Converts between inches, feet, and yards Converts between millimeters, centimeters, meters, and kilometers Uses dimensional analysis for unit conversions (length) Solves problems involving length in the customary system and converts to larger or smaller units Converts between ounces and pounds Converts between ounces, pounds, and tons Converts between cups, pints, quarts, and gallons Converts within the metric system Apply dimensional analysis to simple real-world problems (capacity) Solves problems involving capacity in the customary system and converts to larger or smaller units Computes 2-step conversions between units of time Applies dimensional analysis to simple real-world problems (time) Solves complex problems involving miles per gallon Solves complex problems involving miles/kilometers per hour Solves problems involving rates Solves problems involving perimeter and converts to larger or smaller units Interprets data given in circle graphs to solve complex problems (with percents) Expresses a percent as a fraction and vice versa Writes a ratio as a percent and vice versa Uses concrete and pictorial models to represent ratios Writes the missing number in a proportion with numbers other than basic facts (e.g., $5/13 = ?/117$) 	<p>Ratios and Proportional Relationships</p> <ul style="list-style-type: none"> Uses estimation to solve problems involving proportional reasoning (decimals only) Solves real-world problems involving decimals (not money) using multiplication Solves problems involving equivalent fractions (analysis) Solves problems involving ratios Solves multiple-step problems involving proportions Calculates a percent of a number (e.g., 6% of 30) Calculates the percent one number is of another (e.g., 20 is what % of 90) Solves problems involving percents Solves problems involving percents (analysis) Solves problems involving simple percent discounts (e.g., finding sale price) Solves problems involving percent increase and decrease Solves problems involving tax and tips Calculates commission/deductions and total pay Converts between millimeters, centimeters, meters, and kilometers Uses dimensional analysis for unit conversions (length) Converts between the customary and metric system given conversion ratios (2-step, length) Apply dimensional analysis to simple real-world problems (length) Solves problems involving length in the customary system and converts to larger or smaller units Converts between grams and kilograms Solves problems involving weight in the customary system and converts to larger or smaller units Converts within the metric system Apply dimensional analysis to simple real-world problems (capacity) Solves problems involving capacity in the customary system and converts to larger or smaller units Solves complex problems involving miles per gallon Solves problems comparing unit prices Solves problems involving rates Interprets data given in circle graphs to solve complex problems (with percents) Expresses a percent as a fraction and vice versa Writes a ratio as a percent and vice versa Identifies the ratio from a given real-world situation

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.

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
<p>Perform Operations</p> <ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only) • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only) • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only) • Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only) • Subtracts numbers with 5 digits or more with regrouping • Instantly recalls basic multiplication and division facts in a table • Multiplies a 2-digit number by a 2-digit number with regrouping • Multiplies a 3-digit number by a 2-digit number with regrouping • Performs mental computation with multiplication • Uses multiplication strategies to explain computation (e.g., doubles, 9-patterns, decomposing, partial products) • Multiplies a 3-digit number by a 3-digit number • Multiplies a 4- or more digit number by multiples of 100 or 1000 • Multiplies multiple-digit numbers • Models whole number multiplication and division algorithms (e.g., uses physical materials to show 4 groups of 3 objects) • Divides a 2-digit number or a 3-digit number by a 1-digit number with a remainder • Performs mental computation with division • Divides a 4-digit number by a 1-digit number with no remainder • Divides a 3-digit number by a 2-digit number • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • Solves whole number word problems with division over 10 x 10 • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world problems involving 2-step multiple operations, whole numbers only • Solves real-world multiple-step problems involving whole numbers • Demonstrates an understanding of the inverse relationship between addition and subtraction • Adds fractions with like denominators without reducing 	<p>Perform Operations</p> <ul style="list-style-type: none"> • Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only) • Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only) • Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only) • Multiplies multiple-digit numbers • Divides a 4-digit number by a 2-digit number • Divides multiple-digit numbers • Solves complex word problems involving whole number division with remainder (e.g., 2-step, 2-digit divisor) • Solves real-world multiple-step problems involving whole numbers • Demonstrates an understanding of multiple properties • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds fractions with unlike denominators with reducing or converting to a mixed fraction • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Adds mixed fractions where converting from improper fractions is necessary • Subtracts fractions with like denominators with reducing • Subtracts fractions with unlike denominators without reducing • Subtracts fractions with unlike denominators with reducing • Subtracts mixed fractions with unlike denominators with no regrouping • Subtracts whole numbers, fractions, and mixed fractions • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Uses models to multiply and divide fractions and connect the actions to algorithms • Multiplies a fraction by a fraction without reducing to simplest form (complex problem) • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number 	<p>Perform Operations</p> <ul style="list-style-type: none"> • Divides multiple-digit numbers • Divides numbers by powers of 10 • Adds fractions with unlike denominators with reducing or converting to a mixed fraction • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Adds mixed fractions where converting from improper fractions is necessary • Subtracts whole numbers, fractions, and mixed fractions • Subtracts whole numbers, fractions, and mixed fractions with regrouping • Solves real-world problems involving addition and subtraction of fractions where converting both denominators is necessary • Uses models to multiply and divide fractions and connect the actions to algorithms • Multiplies mixed fractions • Uses models to multiply and divide fractions and mixed fractions and connect the actions to algorithms • Divides a fraction by a fraction • Divides a fraction by a whole number • Divides a whole number by a fraction • Divides a mixed fraction by a whole number • Divides a whole number by a mixed fraction • Divides a mixed fraction by a fraction • Divides a fraction by a mixed fraction • Divides a mixed fraction by a mixed fraction • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions) • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by 10, 100, 1000 • Divides a whole number by a decimal • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Adds integers with unlike signs • Adds several positive and negative integers • Subtracts integers • Solves problems involving addition and subtraction of integers

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.

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
<p>Perform Operations</p> <ul style="list-style-type: none"> • Adds fractions with like denominators with reducing or converting to a mixed fraction • Adds fractions with unlike denominators without reducing • Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths) • Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths) • Subtracts fractions with unlike denominators without reducing • Subtracts mixed fractions with like denominators with no regrouping • Subtracts mixed fractions with unlike denominators with no regrouping • Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary • Uses models to multiply and divide fractions and connect the actions to algorithms • Multiplies a fraction by a fraction where reducing to simplest form is necessary • Multiplies a fraction by a whole number • Solves 1-step real-world problems involving fractions with multiplication and division • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals to the thousandths place horizontally with and without regrouping • Adds decimals through the hundred-thousandths place • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Computes the value of multiple bills and coins (addition/subtraction only) • Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (addition/subtraction only) • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Divides decimal by a whole number • Analyzes and computes 1 operation on real-world problems involving money over \$5.00 (multiplication/division) • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes addition and subtraction on multiple-step real-world problems involving money 	<p>Perform Operations</p> <ul style="list-style-type: none"> • Multiplies mixed fractions • Divides a fraction by a fraction • Divides a mixed fraction by a fraction • Solves 1-step real-world problems involving fractions with multiplication and division • Solves 2- or more step real-world problems involving fractions with multiplication and division • Solves problems involving fractions (e.g., multiple operations, conversions) • Adds decimals to the hundredths place in horizontal format (not same number of digits) • Adds decimals through the hundred-thousandths place • Subtracts decimals to the hundredths place (not same number of digits) • Subtracts decimals to the thousandths place, horizontally, with and without regrouping • Subtracts decimals through the hundred-thousandths place, horizontally • Subtracts a decimal from a whole number, horizontally • Multiplies a decimal by a decimal, vertical form (factors to tenths or hundredths) • Multiplies a decimal by a decimal (factors to hundredths) • Multiplies a decimal by 10, 100, 1000 • Multiplies a decimal by a decimal (factors to thousandths) • Divides a decimal by 10, 100, 1000 • Divides a decimal by a decimal • Computes with dollars and cents over \$5.00 and converts to decimals (multiplication/division) • Computes the value of multiple bills and coins (multiplication/division) • Calculate the sum of integers using a number line • Adds integers with unlike signs • Adds several positive and negative integers • Uses models to add and subtract integers and connect the actions to algorithms • Subtracts integers • Solves real-world problems involving addition and subtraction of integers • Solves problems involving addition and subtraction of integers • Multiplies integers with unlike signs • Divides integers with unlike signs 	<p>Perform Operations</p> <ul style="list-style-type: none"> • Multiplies integers with like signs • Divides integers with like signs • Subtracts rational expressions in decimal form • Multiplies rational expressions • Identifies the additive inverse property • Interprets data given in tables to solve problems • Writes a fraction as a decimal and vice versa • Writes a fraction as a mixed decimal and vice versa

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.

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
<p>Perform Operations</p> <ul style="list-style-type: none"> • Computes addition, subtraction, multiplication, and division on multiple-step, real-world problems involving money • Adds integers with like signs • Uses models to add and subtract integers and connect the actions to algorithms • Solves real-world problems involving addition and subtraction of integers • Multiplies integers with unlike signs • Divides integers with unlike signs • Divides integers with like signs • Demonstrates an understanding that division by 0 is undefined • Solves difficult problems involving elapsed time, with the conversion of hours • Selects and uses the appropriate units depending on degree of accuracy required to solve problems • Expresses a simple fraction as a decimal • Writes a simple mixed fraction as a decimal and vice versa • Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 • Expresses a percent as a decimal and vice versa • Expresses the equivalent form of a fraction, decimal, and/or percent (simple fraction) • Determines factors of whole numbers • Identifies numbers as prime • Identifies common factors of two or more numbers • Identifies the greatest common factor of whole numbers 	<p>Perform Operations</p> <ul style="list-style-type: none"> • Divides integers with like signs • Adds rational expressions in decimal form • Identifies the additive inverse property • Solves difficult problems involving elapsed time, with the conversion of hours • Interprets data given in tables to solve problems • Writes a simple mixed fraction as a decimal and vice versa • Writes a fraction or mixed number as a decimal when the denominator is a multiple of 10 • Determines factors of whole numbers • Uses multiple number theory concepts to solve problems (e.g., factors, digits, odd/even, divisibility) • Uses factor and multiple concepts to solve simple problems • Identifies common factors of two or more numbers • Identifies the greatest common factor of whole numbers 	<p>Perform Operations</p>
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> • Predicts the relative size of the answer when computing with 10's, 100's, 1000's • Predicts the relative size of the answer when multiplying whole numbers • Determines the distance between horizontal and vertical lines in the first quadrant of a rectangular coordinate system • Locates the origin on a coordinate grid • Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred • Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand • Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand • Rounds wholes numbers to the nearest billion 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> • Graphs ordered pairs in all quadrants • Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines) • Determines the relative magnitude of whole numbers • Rounds whole numbers to the nearest million • Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones) • Writes whole numbers in standard and exponential form • Identifies a fractions in lowest terms from a region or set • Determines simple equivalent fractions using multiples • Determines equivalent fractions using multiples • Compares fractions (e.g., comparing numerators and denominators) 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> • Simplifies rational expressions with absolute value • Graphs ordered pairs in all quadrants • Computes and interprets distance, given a set of ordered pairs (horizontal and vertical lines) • Determines the relative magnitude of whole numbers • Writes whole numbers in standard and exponential form • Compares fractions (e.g., comparing numerators and denominators) • Rounds decimals to the nearest hundredth • 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.

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
<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Writes whole numbers in standard and expanded form through the hundred thousands Identifies equivalent fractions using visual representations Identifies a fractions in lowest terms from a region or set Identifies eighths, reduced to lowest terms, from a region or set Determines simple equivalent fractions using multiples Converts fractions to lowest terms Writes mixed numbers as improper fractions and improper fractions as mixed numbers Compares fractions on a number line Compares fractions greater than or less than a given fraction using visual representations Compares fractions and mixed numbers Compares fractions and mixed numbers using symbols Orders fractions on a number line Explains different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers by whole numbers) Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) Compares and orders decimals past the thousandths place Rounds decimals to the nearest whole number Rounds decimals to the nearest tenth Applies base ten place value concepts to solve problems using decimals Identifies an integer from a number line Compares two integers Orders integers on a number line Defines integers 	<p>Extend and Use Properties</p> <ul style="list-style-type: none"> Uses alternative algorithms to explain the meaning of fraction Represents a decimal to thousandths place (e.g., three thousandths = 0.003) Represents a decimal to the hundred thousandths place - (e.g., three hundred thousandths = 0.00003) Writes a decimal for a shaded region to the hundredths place Compares and orders decimals to the hundredths place (not same number of digits after decimal) Compares and orders decimals to the thousandths place (not same number of digits after decimal) Compares and orders decimals past the thousandths place Rounds decimals to the nearest hundredth Rounds decimals to nearest thousandth Identifies the place value and value of each digit to the hundredths and thousandths Applies base ten place value concepts to solve problems using decimals Compares two integers Orders integers on a number line Orders integers Locates rational numbers on a number line Orders rational numbers, in a/b form Orders fractions and decimals to the hundred thousandths 	<p>Extend and Use Properties</p>
<p><i>New Vocabulary:</i> century, coin, common factor, decimal form, greatest common factor, how long, lowest term, lowest terms, reduce, triple</p>	<p><i>New Vocabulary:</i> real number, ten million</p>	<p><i>New Vocabulary:</i> discount, equality</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign, hr hour, kg kilogram, - negative sign, ≠ not equal to, yd yard</p>	<p><i>New Signs and Symbols:</i> () parenthesis around an integer, cm centimeter/centimetre, °C degrees Celsius, km kilometer/kilometre, mL milliliter/millilitre, # number, / per, + positive number, : ratio</p>	<p><i>New Signs and Symbols:</i> absolute value, oz ounce</p>

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.