Mathematics $\quad$ RIT Score Range: $221-230$

Goal: Number and Operations

| 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, 9patterns, 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 |

[^0]Mathematics $\quad$ RIT Score Range: ${ }_{210}^{221-230}$

Goal: Number and Operations


| Number and Operations - Fractions | N |
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- Adds fractions with like denominators without reducing
- Adds fractions with like denominators with reducing or converting to a mixed fraction
- Adds fractions with unlike denominators without reducing
- Adds simple mixed fractions with unlike denominators (e.g., halves, thirds, fourths, eighths)
- Subtracts simple fractions with unlike denominators without reducing (e.g., halves, quarters, thirds, eighths)
- Subtracts fractions with unlike denominators without reducing
- Subtracts mixed fractions with like denominators with no regrouping
- Subtracts mixed fractions with unlike denominators with no regrouping - Solves real-world problems involving addition and subtraction of fractions where converting one denominator is necessary
- Uses models to multiply and divide fractions and connect the actions to algorithms
- Multiplies a fraction by a fraction where reducing to simplest form is necessary
- Multiplies a fraction by a whole number
- Solves 1 -step real-world problems involving fractions with multiplication and division
- Solves 1 -step problems involving proportions
- Identifies equivalent fractions using visual representations
- Identifies a fractions in lowest terms from a region or set
- 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

| Skills and Concepts to Develop (50\% Probability*) <br> 221-230 |  |
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| Number and Operations in Base Ten | Nun |
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|  |  |
| Number and Operations - Fractions |  |
| • Adds fractions with like denominators with reducing or converting to a |  |

## - 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
- Multiplies mixed fractions
- Divides a mixed fraction by a fraction
- Solves 1-step real-world problems involving fractions with multiplication and division

Number and Operations - Fractions

- Adds fractions with unlike denominators with reducing or converting to
a mixed fraction 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 whole number
- Divides a whole number by a fraction
- Divides a mixed fraction by a fraction
- Solves 2- or more step real-world problems involving fractions with multiplication and division
- Solves problems involving fractions (e.g., multiple operations, conversions)
- Compares fractions (e.g., comparing numerators and denominators) - Writes a fraction as a decimal and vice versa
- Compares and orders decimal and fractional coordinates on a number line

Mathematics
Goal: Number and Operations

RIT Score Range:
Statements Last Updated:

| 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: $\neq$ not equal to | New Signs and Symbols: None | New Signs and Symbols: $\div$ division |

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[^1]:    Explanatory Notes
     appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

