# Mathematics RIT Score: 241-250

**Number Sense and Operations**

*Fractions*

· Multiply a whole number by a fraction

*Integers*

· Understand the meaning of integers

· Subtract integers, subtracting a negative

*New Vocabulary in this range:*
decimal fractions, opposite

*New Signs and Symbols:*
none

*Square Roots*

· Evaluate expressions using square roots

*New Vocabulary in this Range:*
Base ten, prime factors

*New Signs and Symbols:*
none

**Patterns, Functions, and Algebra**

*Patterns, Sequences, Functions*

· Students analyze a given set of data for the existence of a pattern and represent the pattern algebraically and graphically

· Determine whether a relation is defined by a graph, a set of ordered pairs, or a symbolic expression is a function and justify the conclusion

· Use a function table to determine inverse variation

*Solving Equations and Inequalities, Simplifying Expressions, Order of Operations*

· Students solve equations and inequalities involving absolute values

· Understand the concepts of parallel lines and perpendicular lines and how those slopes are related

· Solve a system of two linear equations in two variables algebraically and interpret the answer graphically

· Graph a linear function in two variables using the slope-intercept method and identify intercepts

· Solve a system of two linear inequalities in two variables and identify the solution set

· Understand and use the rules of exponents, including negative exponents

· Add, subtract, multiply, and divide monomials and polynomials

· Apply basic factoring techniques to second- and simple third-degree polynomials, including finding a common factor for all terms in a polynomial, recognizing the difference of two squares, and recognizing perfect squares of binomials

· Add, subtract, multiply, and divide rational expressions and functions

· Simplify an expression containing imaginary roots

· Find the difference of two squares

*New Vocabulary in this Range:*
regression equation, varies inversely as the square, slope of parallel lines, solution to system, factor (used with equations)

*New Signs and Symbols:*
none

**Measurement**

*Area, Perimeter, Circumference*

· Calculate the area of a parallelogram and rectangle using algebra tiles

· Understand the effects of changing dimensions on perimeter, area, and volume

· Calculate the surface area of a rectangular prism and cylinder

*New Vocabulary in this Range:*
doubled and tripled, rectangular solid, cylindrical tank, algebra tiles, inscribed, time-and-a-half, sales tax, discount

*New Signs and Symbols:*
none

**Geometry and Spatial Sense**

*Congruency and Similarity*

· Construct congruent segments and angles

*Symmetry and Transformations*

· Identify symmetry of a sphere

*Geometric Properties and Terminology*

· Identify properties of parallel lines

· Construct angle bisectors

· Use the Pythagorean theorem to calculate the measure of one side of a right triangle when the other two sides are known

· Identify angle bisectors

· Solve problems regarding relationships among chords of a circle

*New Vocabulary in this Range:*
symmetrical halves, diameter, radius, angle bisector, tangent, corresponding parts of congruent triangles, Pythagorean theorem, corresponding angles, complementary angles, construction

*New Signs and Symbols:*
sign for parallel lines

**Data Analysis, Statistics, and Probability**

*Probability and Prediction*

· Predict outcomes using a six-sided cube

*Combinations and Permutations*

· Find how many different ways a set can be ordered

*Graphing*

· Use a graph to predict some future point in time

· Determine endpoints and midpoint of a line on a coordinate graph

*New Vocabulary in this Range:*
coordinate, Venn diagram, greatest decrease, endpoints, midpoint

*New Signs and Symbols:*
none

**Problem Solving**

· Solve complex word problems involving rate, ratio, percent, averages, and sale price
· Solve problems involving regression equations
· Manipulate problems with time and a half and overtime wages
· Actual versus precise measurements
· Use of symmetry to determine grouping properties
· Compare volume of different dimensional containers
· Use a matrix to identify given figure on a graph
· Write the converse of a geometric statement
· Select appropriate unit of measure

*New Vocabulary in this Range:*
matrix

*New Signs and Symbols:*
none