

Intensive Mathematics Performance Standards

1.0 Integers

The student will:

- 1.1 Represent integers on the number line.
- 1.2 Model situations with integers.
- 1.3 Compare integers using $<$, $=$, and $>$ symbols.
- 1.4 Develop strategies for adding, subtracting, multiplying, and dividing integers.
- 1.5 Find inverses for given integers.
- 1.6 Find the absolute value for given real numbers.
- 1.7 Evaluate expressions by applying the rules of order of operations.
- 1.8 Sketch coordinate graphs in four quadrants.

2.0 Working With Data

The student will:

- 2.1 Explore the process of data investigation, such as posing questions, collecting data, analyzing data, and making interpretations to answer questions.
- 2.2 Represent data using line graphs, bar graphs, stem-and-leaf plots, and coordinate graphs.
- 2.3 Explore ways of describing data such as measures of center (mode, median, mean) and range or variability in the data.
- 2.4 Develop strategies for comparing data sets.

3.0 Number Theory

The student will:

- 3.1 Understand the relationships among factors, multiples, divisors, and products.
- 3.2 Link area and dimensions of rectangles with products and factors.
- 3.3 Identify numbers as prime or composites and as odd or even based on their factors.
- 3.4 Develop strategies for finding factors and multiples of whole numbers.

- 3.5 Demonstrate the Fundamental Theorem of Arithmetic with specified whole numbers.
- 3.6 Develop strategies to solve problems involving factors and multiples.

4.0 Working With Rational Numbers

The student will:

- 4.1 Model situations involving fractions, decimals, and percents.
- 4.2 Develop an understanding of the relationships between fractions, decimals, and percents.
- 4.3 Compare and order rational numbers.
- 4.4 Move flexibly between fractions, decimals, and percent representations.
- 4.5 Add, subtract, multiply, and divide with fractions.
- 4.6 Add, subtract, multiply, and divide with decimals.

5.0 Ratio, Proportion, and Percent

The student will:

- 5.1 Demonstrate the use of the term ‘ratio’, ‘proportion’, and ‘percent’ to ask comparison questions.
- 5.2 Find equivalent ratios.
- 5.3 Set up and solve proportions that arise in applications.

6.0 Measurement

The student will:

- 6.1 Find areas and perimeters of rectangular shapes and non-rectangular shapes.
- 6.2 Develop procedures for finding areas and perimeters of rectangles, parallelograms, triangles, and circles.
- 6.3 Find areas of parallelograms, triangles, and trapezoids.
- 6.4 Find areas and circumferences of circles.
- 6.5 Find volumes and surface areas for rectangular prisms.
- 6.6 Find volumes and surface areas for cylinders.
- 6.7 Use models and representations of models to solve area and volume problems.

7.0 Geometry

The student will:

- 7.1 Recognize, classify, and analyze polygons.
- 7.2 Recognize and describe symmetries of figures.
- 7.3 Identify similar figures visually and by comparing sides and angles.
- 7.4 Recognize that lengths between similar figures change by a constant scale factor.
- 7.5 Determine and use scale factors to find unknown lengths.
- 7.6 Perform transformations of figures, including reflections, translations, and rotations.
- 7.7 Reason about spatial relationships.

8.0 Probability

The student will:

- 8.1 Interpret statements of probability.
- 8.2 Represent possible outcomes in tables, grids, and tree diagrams.

9.0 Expressions and Equations

The student will:

- 9.1 Write symbolic sentence that communicate their reasoning.
- 9.2 Recognize applications of the commutative and distributive properties.