MATHEMATICS

Grade 7 mathematics -

Ratios and Proportional Relationships
1.1. Understanding ratios and using ratio language
1.2. Identifying and creating equivalent ratios
1.3. Solving real-world problems using proportions
1.4. Understanding percentages and their relationship to ratios

The Number System
2.1. Adding, subtracting, multiplying, and dividing rational numbers
2.2. Solving real-world problems with rational numbers
2.3. Understanding absolute value and its properties
2.4. Converting between fractions, decimals, and percents

Expressions and Equations
3.1. Simplifying and evaluating expressions with integer exponents
3.2. Solving linear equations and inequalities with rational number coefficients
3.3. Understanding and using the properties of operations to generate equivalent expressions
3.4. Solving real-world problems involving expressions and equations

Geometry
4.1. Understanding scale drawings and their uses
4.2. Solving problems involving angle measures, area, surface area, and volume
4.3. Drawing geometric shapes with given conditions
4.4. Understanding and applying the Pythagorean theorem in context

Statistics and Probability
5.1. Understanding and using measures of central tendency (mean, median, mode) and variability (range, interquartile range, mean absolute deviation)
5.2. Developing and interpreting data displays (box plots, histograms, dot plots)
5.3. Investigating chance processes and developing probability models
5.4. Finding probabilities of compound events using organized lists, tables, and tree diagrams

Functions
6.1. Understanding the concept of a function and its representation using tables, graphs, and equations
6.2. Comparing functions presented in different forms
6.3. Analyzing functional relationships to explain real-world phenomena

Integer Operations
7.1. Adding and subtracting integers using number lines and integer chips
7.2. Multiplying and dividing integers, understanding the rules for positive and negative numbers
7.3. Applying integer operations to real-world problems

Rational and Irrational Numbers
8.1. Understanding the difference between rational and irrational numbers
8.2. Estimating the value of irrational numbers and locating them on a number line
8.3. Approximating irrational numbers using rational numbers

Coordinate Geometry

9.1. Plotting points on a coordinate plane

9.2. Understanding the concept of distance and midpoint in the coordinate plane

9.3. Graphing linear equations and inequalities on the coordinate plane

9.4. Finding the slope and intercept of a linear equation

Transformations and Congruence

10.1. Understanding the concepts of translation, reflection, and rotation

10.2. Performing transformations on geometric shapes

10.3. Investigating the properties of transformations and their impact on congruence

Complementary and Supplementary Angles

11.1. Identifying complementary and supplementary angles

11.2. Solving problems involving complementary and supplementary angles

11.3. Understanding the relationship between complementary and supplementary angles in geometric figures