

Term I**REVIEW**

Order of Operations & Exponents with Natural Numbers, Integers and Fractions
Commutative, Associative and Distributive Properties
Introduction to Variables
Substitutions in Algebraic Expressions
Properties of Equations
Solving Simple Equations with One Unknown

1. Algebra Basics

****Expression vs Equation***

The Distributive Property - Multiplying a Constant by a Binomial(basic)
Combining like terms (exponent of one)
Solving an Equation by Isolating a Variable (variables on both sides)
Solving Equations Using the Distributive Property
Solving Fractional First Degree Equations
Translating Words into Algebraic Expressions
Algebraic Expressions in Geometry Problems
Translating Words into Equations with One Unknown
Solving First Degree Word Problems (Translating Words into Equations with Multiple Unknowns/one variable)

2. Proportions

Properties of Proportions**
Solving for an Unknown Value in a Proportion
Defining the Variables of a Function
Identifying Points on the Cartesian Plane
Using a Table of Values
Introduction to Proportional Situations
Word Problems for Proportional Situations

Term II**3. Percents**

Percent Models
Calculating Percentage
Converting Between Fractions, Decimals and Percents
Percent Markup, Discount and Sales Tax
Percent Increases and Decreases (percent change)
Cash Flow/Income Statement

4. Ratios and Rates

Definition of a Ratio
Definition of a Rate
Comparing Rates and Ratios
Using Unit Rates to Make Buying Decisions

MIDYEAR EXAM**5. Pattern Rules - Representing a Situation**

Defining the Variables of a Function (revisited)
Identifying Points on the Cartesian Plane
Linear Relations
Using a Table of Values
Number Patterns and Sequences
Using a Table of Values to Solve Linear Relations Problems
Graphing Linear Relations to Model Real Life Situations
Linear Relations Word Problems
Inversely Proportional Situations
Inverse Word Problems

Term III

6. Size Transformations

Dilations With a Positive Scale Factor
Introduction to Similar Figures
Ratios and Scale Factors

REVIEW

Properties of triangles/Classifying Triangles and angles
Important Lines for Triangles
Lines segments and rays
Naming and classifying angles

7. Circles and Regular Polygons

Definitions for Regular Polygons
The Perimeter of a Regular Polygon
The Metric System - Two Dimensional Conversions
The Area of a Regular Polygon
Perimeters and Areas of Composite Figures
Word Problems for Regular Polygons
Properties of Circles
The circumference of a circle
Arc length of a circle
The area of a circle
Area of a circular sector
Word problems for circles - putting it all together

8. Solids

Properties of Solids
Surface Area of Prisms
Surface Area of Composite Solids
Surface Area of Cylinders
Surface Area of Pyramids
Surface Area of Composite Solids Involving Prisms and Cylinders

9. Advanced Algebra

Parts of a Monomial
Adding and Subtracting Monomials (like terms)
Multiplying monomials (advanced/exponents)
The Distributive Property - Multiplying a Monomial by a Polynomial (advanced/exponents)
Dividing monomials

10. Probability

Probability Experiments
Representing Probability
Theoretical & Experimental Probability
Tree Diagrams
Tree Diagrams and consecutive events
Calculating the Probability of Complementary Events
Using Probability to Make Predictions