Strands

Grade 9 Courses

Strands and Subgroups in the Grade 9 Courses

**Principles of Mathematics
(Academic)**

Number Sense and Algebra
- Operating with Exponents
- Manipulating Expressions and Solving Equations

Linear Relations
- Using Data Management to Investigate Relationships
- Understanding Characteristics of Linear Relations
- Connecting Various Representations of Linear Relations

Analytic Geometry
- Investigating the Relationship Between the Equation of a Relation and the Shape of Its Graph
- Investigating the Properties of Slope
- Using the Properties of Linear Relations to Solve Problems

Measurement and Geometry
- Investigating the Optimal Values of Measurements
- Solving Problems Involving Perimeter, Area, Surface Area, and Volume
- Investigating and Applying Geometric Relationships

NUMBER SENSE
   INCLUDES:
      ● Rate, Ratios, Proportions
      ● Mixed and Improper Fractions
      ● Order of Operations with Integers and Fractions
         NOT:
         Fractions must be in Mixed Form

PATTERNING AND LINEAR RELATIONS
   INCLUDES:
      ● "Slope"
      ● Equation of a Line
      ● $y = mx + b$
      ● Standard Form
      ● Intercept Form
         NOT:
         Solving System of Equations Algebraically

ALGEBRA AND EQUATION SOLVING
   INCLUDES:
      ● Work with polynomials with up to two variables
      ● Work with polynomials greater than degree 3
      ● Solve equations with fractional coefficients
         NOT:
            ● Negative exponents
            ● Multiplying binomials (ex. FOIL)
            ● Solving linear systems algebraically (substitution and/or elimination)

MEASUREMENT AND GEOMETRY
   INCLUDES:
      ● Surface Area of Prisms, Cylinders, Cones, Pyramids, and Cones
      ● Note: There is a Formula Sheet for Perimeter, Area/Surface Area and Volume provided to all students on the EQAO assessment
         NOT:
         "Memorizing" Formulae