List of Topics for Grade 9
2017-2018

	Numbers			
	Recognize: Natural, Integers, Rational, Irrational, Real			
	Elements & Subsets			
	Intervals			
	Algebra			
	Exponents			
	Exponents – Adding & Subtracting			
	Rules of Exponents – Multiplication			
	Rules of Exponents – Division			
	Negative Exponents			
	Fractional Exponents			
	Classification of Polynomials: Monomial, Binomial, etc.			
	Adding Polynomials			
	Subtracting Polynomials			
	Multiplying Polynomials			
	Dividing Polynomials by a monomial			
	Dividing Polynomials by a polynomial			
	Factoring – removing a common factor; monomial			
	Scientific Notation			
	Metric Conversion			
	Metric System			
	Converting units of measure			
	Capacity – Converting cubic metric units to litres			
	Inequalities			
	Represent inequalities on a number line			
	Able to represent an inequality in interval form			
	Able to isolate for one variable			
	Pythagoras			
	Identifying Triangles: Equilateral, Isosceles, Scalene			
	Hypotenuse			
	Solving for unknown hypotenuse			
	Solving for unknown leg of right triangle that is not the hypotenuse			
	Identifying Pythagorean Triples			
	Linear Relations			
	Identifies the dependent and independent variable			
	Types of Functions: Constant, Direct, Partial, Rational			
	Identify a Function by a given rule			
	Identify a Function by a given graph			
	Identify a Function by a table of values			
	Linear Relations – understand parameter “a” and “b” (how a graph would change)			
	Calculate the rate of change			
	Calculate the equation of a line passing through two given points			
	Able to determine the value of the dependent variable when given the value of the independent variable and vice versa			

	Point of Intersection: able to solve ● Algebraic Method – Comparison Method ● Table of Values ● Graphically			
	Perspectives of a solid			
	Top, Bottom, Right, Left View			
	Area and Volume			
	Review Metric Conversion			
	Classification: Right Prisms, Cylinders & Cones, Sphere & Hemisphere			
	Lateral Area of Right Prisms			
	Lateral Area of Cones and Pyramids			
	Lateral Area of Spheres and Hemispheres			
	Total Surface Area of Right Prisms			
	Total Surface Area of Cones and Pyramids			
	Total Surface Area of Spheres and Hemispheres			
	Volume of Right Prisms			
	Volume of Cones and Pyramids			
	Volume of Spheres and Hemispheres			
	Analytical Geometry			
	Calculate Distance/Length between two given points			
	Calculate Midpoint given the two endpoints			
	Calculate Endpoint using Midpoint			
	Calculate the Division Point of a Line Segment			
	Trigonometry			
	Calculate the the missing side of a right triangle using Sine			
	Calculate the the missing side of a right triangle using Cosine			
	Calculate the the missing side of a right triangle using Tangent			
	Calculate the the missing angle of a right triangle using the inverse of Sine			
	Calculate the the missing angle of a right triangle using the inverse of Cosine			
	Calculate the the missing angle of a right triangle using the inverse of Tangent			
	Statistics			
	Calculate Mean of given Data			
	Calculate Median of given Data			
	Calculate Mode of given Data			
	Calculate for a missing piece of data using Mean			
	Calculate for a missing piece of data using Median			
	Calculate for a missing piece of data using Mode			
	Calculate the Mean of Grouped Classes			
	Calculate the Median of Grouped Classes			
	Calculate the Mode of Grouped Classes			
	Calculate Range			
	Stem and Leaf			
	Box-and-Whiskers - Calculate Quartiles: ▪ Min, Q1, Q2, Q3, Max ▪ Range ▪ Interquartile Range			