Unit	Learning Goal(s)	Success Criteria
1 – Introduction to Grade 9 Math (Numeracy & Proportional Reasoning)	I will be able to simplify numeric expressions ~~and polynomial expressions and solve first degree equations.~~ (NA2)	I can: • Simplify numerical expressions involving integers and rational numbers, with and without the use of technology. • Solve problems requiring the manipulation of expressions arising from applications of percent, ratio, rate, and proportion.
2 – Linear Relations: Applications of Data Management	I will be able to identify relationships, describe trends and make accurate predictions. (LR1)	I can: • Interpret the meanings of points on scatter plots or graphs that represent linear relations, including plots in more than one quadrant. • Pose problems, identify variables, and formulate hypotheses associated with relationships between two variables. • Design and carry out an investigation or experiment involving relationships between two variables (collect and organize data using appropriate techniques). • Describe trends in data, make inferences from data, compare inferences and hypotheses, and explain differences between the two.
	I will be able to demonstrate an understanding of the characteristics of a linear relation and develop lines and curve to best fit the data. (LR2)	I can: • Construct tables of values, graphs and equations to represent linear relations derived from real – world situations. • Construct tables of values, scatter plots, and lines or curves of best fit for linear and non-linear relationships. • Identify properties of linear relations and apply these properties to classify relations.
	I will be able to make connections between various representations of linear relations (distance time graphs). (LR3)	I can: • Determine values for a linear relation using a table of values, equation, or by interpolating/extrapolating from the graph. • Describe a situation that would explain the events illustrated by a given graph of a relationship between two variables.
3 – Simplifying Polynomial Expressions and Solving Equations	I will be able to explain the exponent rules and apply them to numerical and algebraic expressions. (NA1)	I can: • Substitute into and evaluate algebraic expressions involving exponents. • Describe the relationship between the algebraic and geometric representations of a term up to degree three (algebra tiles). • Derive the exponent rules for multiplying and dividing monomials and apply these rules to polynomial expressions. • Extend the multiplication rule to derive the power of a power rule and apply it to simplify expressions.

	I will be able to simplify numerical and polynomial expressions and apply inverse operations to solve equations. (NA2)	I can: • Relate my understanding of inverse operations to squaring and taking the square root of a number or expression, and apply inverse operations to solve equations. • Solve first degree equations, including those with fractional coefficients, using a variety of strategies. • Rearrange formulas involving variables with and without substitution. • Solve real-world problems modelled with first degree equations. • Add and subtract polynomials with up to two variables. • Multiply a polynomial with a monomial (distributive property). • Expand and simplify polynomial expressions involving one variable.
4 – Connecting Algebraic Reasoning to Linear Relationships	I will be able to demonstrate an understanding of the characteristics of a linear relation and develop lines and curve to best fit the data. (LR2)	I can: • Compare the properties of direct variation and partial variation in applications and identify the initial value for a relation.
	I will be able to make connections between various representations of linear relations (distance time graphs). (LR3)	I can: • Determine values for a linear relations using a table of values, equation, or graph. • Find other representations for linear relations given one representation. • Describe the effects on the graph of a linear relationship when the conditions are varied, and make the corresponding changes to the equation.
	I will be able to determine the relationship between the form of an equation and the shape of its graph. (AG1)	I can: • Explain the characteristics that distinguish a linear relationship from a non-linear relationship. • Identify the equation of a line in slope-y-intercept form and standard form, as well as equations for horizontal and vertical lines. • Rearrange standard form to slope-y-intercept form and vice versa.
	I will be able to determine the properties of the slope and y – intercept of a relation. (AG2)	I can: • Find the slope of a line using a variety of methods. • Explain the geometric significance of m and b in the equation $y = mx + b$. • Make connections between the various representations of the constant rate of change of a linear relation. • Identify and explain properties of parallel and perpendicular lines and line segments.
	I will be able to solve problems involving linear relations. (AG3)	I can: • Graph lines by hand using a variety of techniques. • Determine the equation of a line given some information about the line. • Describe the meaning of the slope and the y-intercept for a linear relationship arising from a real-world situation, and describe a situation that could be modelled using a linear equation. • Identify and explain any restrictions on the variables when working with a real-world situation. • Determine the point of intersection of two linear relations graphically and interpret the meaning of this point.

5 – Measurement and Geometry	I will be able to describe the geometric properties and relationships for two-dimensional shapes and apply the results to solve problems. (MG3)	I can: • Describe the properties and relationships of the interior and exterior angles of triangles and quadrilaterals and other polygons and apply them to problem solving situations. • Describe properties of polygons (medians, midsegments, etc.) and apply this knowledge to solve problems. • Pose questions about geometric relationships, investigate them, and communicate the findings. • Illustrate statements using multiple examples, or disprove a statement using a counter-example. •
	I will be able to solve problems involving the measurements of two-dimensional shapes and the surface area and volume of three dimensional figures. (MG2)	I can: • Make connections between the geometric and algebraic representations of the Pythagorean theorem, and solve problems using the Pythagorean theorem as it applies to geometry. • Solve problems involving the area and perimeter of composite figures. • Develop the formulas for the volume of a pyramid, cone and sphere, and use them to solve problems. • Solve problems involving the surface area and volume of a variety of composite three dimensional figures.
	I will be able to determine the maximum area given a fixed perimeter and the minimum surface area given a fixed volume for geometric figures. (MG1)	I can: • Determine the maximum area of a rectangle with a given perimeter using a variety of tools and strategies. • Determine the minimum perimeter of a rectangle with a given area using a variety of tools and strategies. • Explain the significance of optimal area, surface area, or volume in various applications. • Pose and solve problems involving the maximization and minimization of measurements.

Your grade will be determined based on your level of mastery of these Learning Goals. Test questions will be categorized by learning goals, so you should always know what you need to be able to do! You will still see a variety of question types (multiple choice, problem solving, short answer, etc), but you will be assessed specifically on your ability to meet the goals of the unit, and the curriculum. The weighting of each learning goal is listed in the table below.

Strand (% of Final Grade)			
Number Sense & Algebra (35%)	**Linear Relations (20%)**	**Analytic Geometry (30%)**	**Measurement & Geometry (15%)**

These Learning Goals reflect the overall expectations in the curriculum document, so you are ready for your next math course once you understand ALL of them! You will be provided with opportunities to demonstrate improved learning through reassessment of learning goals.