MATHEMATICS

Grade 9 mathematics –

Algebra:
Understanding and using properties of real numbers to simplify expressions
Understanding and solving problems with linear and quadratic equations and inequalities
Understanding and using the laws of exponents to simplify expressions
Understanding and using properties of logarithms to solve equations
Understanding and solving problems with functions, including inverse functions and composition of functions

Functions:
Understanding and interpreting functions represented numerically, graphically, and symbolically
Understanding and using linear and nonlinear functions to model real-world situations
Understanding and graphing polynomial and exponential functions

MATHEMATICS

Grade 9 mathematics –

Geometry:
Understanding and using the properties of congruent and similar figures
Understanding and using the Pythagorean theorem and trigonometric ratios to solve problems
Understanding and using the properties of circles to find circumference, area, and arc length
Understanding and using the properties of polygons and polyhedra
Understanding and using similarity transformations to prove geometric theorems
Understanding and using the properties of congruence to prove geometric theorems

Statistics and Probability:
Understanding and using statistical measures to describe and compare data
Understanding and using bivariate data to make predictions
Understanding and using conditional probability to solve problems

Mathematical Practices:
Developing effective problem-solving strategies and applying them to real-world and mathematical problems
Developing effective communication and collaboration skills
Developing effective critical thinking and reasoning skills

MATHEMATICS

Grade 9 mathematics –

Number and Quantity:
Understanding and using rational and irrational numbers
Understanding and performing operations with complex numbers
Understanding and using vectors and matrices
Statistics and Probability:
Understanding and using probability distributions to solve problems
Understanding and using sampling methods to make predictions
Understanding and using statistical inference to draw conclusions from data

Modeling:
Understanding and using mathematical models to solve real-world problems
Understanding and analyzing the limitations of models and assumptions