

# MATHEMATICS

## Grade 11 mathematics –

### **Algebra:**

Understanding and using the properties of complex numbers to solve problems

Understanding and using mathematical notation and symbolism to solve problems

Understanding and using the properties of polynomial, rational, exponential, and logarithmic functions to solve problems

Understanding and using properties of logarithmic and exponential functions

### **Functions:**

Understanding and analyzing the properties of trigonometric functions and their inverses

Understanding and using the properties of circular functions and their inverses

Understanding and using inverse trigonometric functions

### **Geometry:**

Understanding and using the properties of three-dimensional shapes, including cylinders, cones, and spheres

Understanding and using the properties of vectors and matrices to solve problems in geometry and trigonometry

Understanding and using coordinate geometry to solve problems involving conic sections

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### **Statistics and Probability:**

Understanding and using statistical inference to make predictions and draw conclusions

Understanding and using probability distributions to analyze data

Understanding and using statistical models to make predictions and draw conclusions

### **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

### **Modeling:**

Understanding and using mathematical models to solve real-world problems

Understanding and analyzing the limitations of models and assumptions

### **Calculus:**

Understanding and using limits and continuity to analyze functions

Understanding and using derivatives and integrals to analyze functions and solve problems

Understanding and using differential equations to model and solve problems