Math 4 Honors

**Unit 6 Learning Goals**

**“Concepts of Calculus: The Derivative”**

*Lesson 6-1: Difference Quotients & Rates of Change*

* I can compute average rates of change in functions.
* I can find the formula for the difference quotient of a function and use it to solve problems.
* I can use secant lines to determine the average rates of change in graphs of functions.

*Lesson 6-2: The Derivative at a Point*

* I can use the definition of derivative to find *f’*(*x*) for any function *f*(*x*) and any value of *x*.
* I can use the derivative of a function to solve problems.

*Lesson 6-3: The Derivative Function*

* I can use the derivative function to compute derivatives.
* I can use the formula for the derivative of a quadratic function.
* I can use the derivative function to solve problems.

*Lesson 6-4: Acceleration & Deceleration*

* I can find derivatives using the Power Rule.
* I can use derivatives to find the velocity and acceleration of a moving object and solve problems involving particle motion.

*Lesson 6-5: Using Derivatives to Analyze Graphs*

* I can use derivatives and their graphs to identify properties of functions.
* I can determine properties of derivatives from the graph of a function.

*Lesson 6-6: Optimization*

* I can use derivatives to solve optimization problems.