

## Using Maple in Elementary and High School Mathematics

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Computers and electronics are involved in almost every aspect of human interaction these days. Many mathematical concepts are abstract and learning these concepts requires advanced level cognitive activity. As a result, conceptual learning of this kind is complicated and requires more student effort. It is increasingly possible to demonstrate and explain many of the abstract concepts with proper computer technology. Through the use of computer software many of the abstract concepts become easier for students to grasp. Computers can be powerful aids for the teaching and learning of mathematics when the appropriate software is used. In this lecture we will demonstrate abilities of the Maple package.

Waterloo's Maple is a comprehensive environment for exploring, teaching, and applying mathematics. Maple is a complete mathematical problem-solving environment that supports a wide variety of mathematical operations such as Linear Algebra, Differential Equations, and graphics. It contains thousands of math procedures, but you can also create custom procedures, using the Maple's programming language. Both of them could help in every day scholars activities.

We will show lot of opportunities that Maple gives with some of the more than 3500 commands that range from performing Basic Arithmetic and Algebra, to computations involving advanced topics such as Combinatorics and Graph Theory, and more.