

Standards

This unit was developed to meet the following standards.

California Academic Content Standards for Mathematics, Grades 9–12

- Students determine the domain of independent variables and the range of dependent variables defined by a graph, a set of ordered pairs, or a symbolic expression. *[Algebra 1, 17.0]*
- Students demonstrate and explain the effect that changing a coefficient has on the graph of quadratic functions; that is, students can determine how the graph of a parabola changes as a , b , and c vary in the equation $y = a(x - b)^2 + c$. *[Algebra 2, 9.0]*

CTE AME Industry Sector Foundation Standards

4.0 Technology

Students know how to use contemporary and emerging technological resources in diverse and changing personal, community, and workplace environments:

- 4.2 Understand the use of technological resources to gain access to, manipulate, and produce information, products, and services.
- 4.7 Understand how technology can reinforce, enhance, or alter products and performances.

11.0 Demonstration

Students demonstrate and apply the concepts contained in the foundation and pathway standards.

NCTM Standards

- Students understand patterns, relations, and functions, and select, convert flexibly among, and use various representations for them. *[Algebra]*
- Students use symbolic algebra to represent and explain mathematical relationships. *[Algebra]*
- Students understand and compare properties of classes of functions, including exponential, polynomial, and periodic functions. *[Algebra]*
- Students identify essential quantitative relationships in a situation and determine the class of functions that might model the relationships. *[Algebra]*
- Students solve problems that arise in mathematics and other contexts. *[Problem Solving]*

- Students use the language of mathematics to express mathematical ideas precisely. *[Communication]*
- Students use representations to model and interpret physical, social, and mathematical phenomena. *[Representation]*
- Students recognize and use connections among mathematical ideas. *[Connections]*