

**UNIT 4 Quadratic Functions**

***Vocabulary Words***

Quadratic function	Greatest common factor (GCF) of an expression	Imaginary number
Standard form of a quadratic function	Perfect square trinomial	Complex numbers
Parabola	Difference of two squares	Complex number plane
Axis of symmetry	Zero product property	Absolute value of a complex number
Vertex of a parabola	Zero of a function	Complex conjugate
Vertex form of a quadratic equation	$i$	Completing the square
Factoring		Quadratic formula
		Discriminant

***California Content Standards***

- 10.0 Students graph quadratic functions and determine the maxima, minima and zeros of the function.
- 9.0 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  $y = a(x - b)^2 + c$ .
- 4.0 Students factor polynomials representing the difference of squares and perfect square trinomials.
- 8.0a Students solve and graph quadratic equations by factoring. Students apply this technique in solving word problems.
- 5.0 Students can plot complex numbers as points in the plane.
- 6.0 Students add, subtract, multiply and divide complex numbers.
- 8.0b Students solve quadratic equations by completing the square. Students apply this technique in solving word problems.
- 8.0c Students solve quadratic equations by using quadratic formula. They also solve quadratic equations in the complex number system.