

Algebra 2 Unit 2 -- Derive the Equation of Parabola & Understand the Complex Number System & Complex Solutions both Algebraically & Graphically -- 10 hours;  
testing date: 9/16-9/17/2013

	<u>CCSS Standard</u>	<u>EOY &amp; PBA Evidence Statement Text (Does NOT include subclaim D for PBA)</u>	<u>EOY Clarifications from Evidence Statement</u>	<u>SMP</u>	<u>Calculator</u>
N-CN.1	Know there is a complex number $i$ such that $i^2 = -1$ , and every complex number has the form $a + bi$ with $a$ and $b$ real.	Know there is a complex number $i$ such that $i^2 = -1$ , and every complex number has the form $a + bi$ with $a$ and $b$ real. EOY & PBA		7	Item Specific
N-CN.2	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers. EOY & PBA		6,7	No
N-CN.7	Solve quadratic equations with real coefficients that have complex solutions.	Solve quadratic equations with real coefficients that have complex solutions. EOY & PBA	i) Tasks are limited to equations with non-real solutions.	5	Item Specific
F-BF.1a	Write a function that describes a relationship between two quantities.★				
F-BF.3	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , and $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.	Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs, limiting the function types to polynomial, exponential, logarithmic, and trigonometric functions. EOY: F-BF.3-2 Recognize even and odd functions from their graphs and algebraic expressions for them, limiting the function types to polynomial, exponential, logarithmic, and trigonometric functions. EOY: F-BF.3-3 Identify the effect on the graph of a polynomial, exponential, logarithmic, or trigonometric function of replacing $f(x)$ by $f(x) + k$ , $k f(x)$ , $f(kx)$ , $f(x + k)$ for specific values of $k$ (both positive and negative); find the value of $k$ given the graphs. Experiment with cases using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. EOY: F-BF.3-5	i) Experimenting with cases and illustrating an explanation are not assessed here.  i) Experimenting with cases and illustrating an explanation are not assessed here.  i) Illustrating an explanation is not assessed here (see Sub-claim C).	5,7  7  3,5,8	Item Specific  Neutral  Item Specific
		Express reasoning about transformations of functions. Content scope: F-BF.3, which may involve polynomial, exponential, logarithmic or trigonometric functions. Tasks also may involve even and odd functions. PBA; HS.C.9.2		3	Yes

A-REI.4b	Solve quadratic equations by inspection (e.g., for $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers $a$ and $b$	Solve quadratic equations in one variable. b) Recognize when the quadratic formula gives complex solutions.  EOY & PBA	i) Tasks involve recognizing an equation with complex solutions, e.g., “Which of the following equations has no real solutions?” with one of the options being a quadratic equation with non-real solutions. ii) Writing solutions in the form $a \pm bi$ is not assessed here. (N-CN.7)	5,7	Neutral	
		Solve equations that require seeing structure in expressions.  EOY & PBA: A.Int.1	i) Tasks do not have context. ii) Equations simplify considerably after appropriate algebraic manipulations are performed. For example, if $24 + 10x - x^2 = p - (x - 5)^2$ then find the value of $p$ ; solve $(3x - 2)^2 = 6x - 4$ .	1,7	No	
G-GPE.2	Derive the equation of a parabola given a focus and directrix					
		Base explanations/reasoning on the principle that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane. Content scope: G-GPE.2.  PBA: HS.C.6.4		3	Yes	
N-Q.2	Define appropriate quantities for the purpose of descriptive modeling					