Clarity for Learning Standard KY.HS.N.7 (Algebra 2) Perform operations with complex numbers.			
			Concepts (Nouns)
real	add		
imaginary	subtract		
complex	multiply		
conjugate	solve		

## Learning Progressions

Prerequisites:

- Find square roots of negative numbers using imaginary numbers
- Represent numbers, not on the real number line, with complex numbers
- Add subtract and multiply imaginary and complex numbers

## Grade level skills:

- 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.
- Use the relation  $i^2 = -1$  and the commutative, associative and distributive properties to add, subtract and multiply complex numbers.

Clarifications:

Students understand that the complex number system provides solutions to the equation  $x^2 + 1 = 0$  and higher-degree equations.

Learning Intentions (I am learning to)	Success Criteria (I know I'm successful when)
Add, subtract, and multiply binomials. Solve quadratic equations with real solutions.	<ul> <li>I can add subtract and multiply complex numbers using the properties of operations and the relation i<sup>2</sup> = -1.</li> <li>I can use complex numbers to represent numbers, not on the real number line.</li> </ul>