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Clarity for Learning
Standard KY.HS.N.7 (Algebra 2) Perform operations with complex numbers.
Concepts (Nouns) Skills (Verbs)
real
imaginary
complex
conjugate
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## Skills (Verbs)

add
subtrac $\dagger$
multiply
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 $a+b i$ 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...)
Add, subtract, and multiply binomials.
Solve quadratic equations with real solutions.

## Success Criteria (I know I'm successful when...)

- I can add subtract and multiply complex numbers using the properties of operations and the relation $i^{2}$ $=-1$.
- I can use complex numbers to represent numbers, not on the real number line.

