Operate on Complex Numbers

Add, Subtract, Multiply, or Divide Complex numbers.

Link to section in textbook

We end this lesson by looking at properties of the Complex numbers. Watch the video below to review the properties of Complex numbers. You can print out these notes to follow along and keep notes to organize your thoughts.

YouTube link: `https://www.youtube.com/watch?v=eXZxMRyY5zc`

Adding and subtracting Complex numbers requires you to add/subtract like terms. As students are proficient with combing like terms, the homework will focus on multiplying and dividing Complex numbers. For each, simplify the expression into the form $a + bi$.

Exercise 1 $(-7 + 9i)(4 - 3i)$

$\boxed{-1.00000000000000 + 57.0000000000000i}$

Hint: *Make sure you distribute and reduce i^2.*

Exercise 2 $(9 + 3i)(-6 - 2i)$

$\boxed{-48.0000000000000 - 36.0000000000000i}$

Exercise 3 $\dfrac{-8 + 9i}{5 - 4i}$

Hint: *The goal when dividing by a Complex number is to remove the Complex number from the denominator. Is there a word for the number we can multiply by to remove the Complex part of a number?*

$\boxed{-1.85365853658537} + \boxed{0.317073170731707}i$

Learning outcomes: Understand the different sets of numbers along with the properties of these sets.

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Exercise 4 $\dfrac{-5+7i}{-3-4i}$

$\boxed{-0.520000000000000} + \boxed{-1.64000000000000}\,i$