

Complex Numbers Class Work (Continued)

🦋 **Objective:** You will be able to simplify expressions using the complex number system, and operate within the complex number system.

Select all values in the table for which the product of the row and column values is equal to 1.

	i^2	i^3	i^8
i			
i^4			
i^5			
i^7			

Simplify each expression. State the real and imaginary components.

1. $(4i + 2) - i(3i - 1)$

2. $2i(i + 8) - 3i(7i - 1)$

3. $\sqrt{-162}$

★ Multiplying Complex Numbers

Guided Example: Write the product in standard form.

$$(2 + 3i)(3i - 4)$$

Practice: Write each product in standard form.

1. $(5-i)(3+8i)$

2. $(5i-9)(5i+9)$

3. $(3i^2+i)(2i-2)$

4. $(i^3-i)(4i+4)$

5. $(9i^2+7)(3-2i)$

6. $(i^3-i)(2i+2i^2)$

7. Select all cells in the table for which the product of the row and the column is a real number.

	$9+5i$	4	i
$9-5i$			
$8i$			
-3			
$2i^2+3$			

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8. Select all of the expressions that evaluate to a complex number.

$(-3i)^{13}$

$(-10i)^{18}$

$(2-8i)^2$

$(\sqrt{-5})^2$

$(3-8i)(3+8i)$

$(4+3i)(3+4i)$

Write down any important reminder from the work you completed today, or any questions you have regarding the work you completed today.