

Adding, Subtracting and Multiplying with Complex Numbers

Example: Addition and Subtraction

1. $(3 + 2i) + (5 - 4i)$

2. $(7 - 5i) - (-2 + 6i)$

Example: Multiplication

1. $-3(-7 + 6i)$

2. $(-2 + 9i)(-3 - 10i)$

Finding Powers of “ i ”

i	
i^2	
i^3	
i^4	
i^5	
i^6	

What pattern do you notice with the table on the left?

Example: Find the following:

1. i^{293}

2. i^{15}

3. i^{66}

Vocabulary

- The _____ of a complex number is a number in standard complex form $a+bi$, where the imaginary part, bi , has the opposite sign of the original.

Example: Find the conjugate of the following complex numbers.

1. $4 - 2i$

2. $7 + 8i$

3. $7i$

4. 28

Example: Find the product of the complex number and its conjugate.

1. $6 - 2i$

2. $-3i$

3. $-8 + 6i$

4. $-2 - i$

5. $4 - 5i$

6. $-1 + 9i$