



Algebra II
Operations with Complex Numbers

Today I will...	I'll know I've got it when...	Essential Question...

Example 1: Solve $3x^2 + 10 = -26$ by finding the square root.

What is the imaginary unit?

What are pure imaginary numbers?

What is a complex number?

Example 2: Simplify each expression.

a. $\sqrt{-125}$

b. $\sqrt{-18}$

c. $\sqrt{-6} \cdot \sqrt{-15}$

d. $-5i \cdot 3i$

Example 3: Simplify each expression.

a. i^{66}

b. i^{84}

Example 4: Perform the indicated operations.

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

b. $(7 - 5i) - (1 - 5i)$

c. $6 - (-2 + 9i) + (-8 + 4i)$

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

e. $(7 - 4i)(-1 + 2i)$

f. $(6 + 3i)(6 - 3i)$

g. $(2 - 5i)(-3 + i)$

h. $\frac{4+i}{5i}$

i. $\frac{5+3i}{1-2i}$

j. $\frac{2-7i}{1+i}$