

LESSON 2.6 Assignment

Name _____ Date _____

Now It's Getting Complex . . . But It's Really Not Difficult!
Complex Number Operations**2**1. Calculate each power of i .

a. i^{44}

b. i^{4003}

c. i^{730}

d. i^{-20}

2. Simplify each expression. Identify the real and imaginary parts of your answer.

a. $\sqrt{-18}$

b. $\frac{\sqrt{-72} - 2}{6}$ _____

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3. Solve each equation for x . Identify the real and imaginary parts of your answer.

a. $-7 + 3i + x = 10 - 2i$

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b. $\frac{x}{5 + 4i} = -2 - i$

4. Multiply each number by its complex conjugate. Identify the real and imaginary parts of your answer.

a. $4 - 6i$

b. $5 + i$

5. Simplify the expression $(3 + i)(2 + 4i)(3 - i)(2 - 4i)$. Identify the real and imaginary parts of your answer.