Name _____

2-4 Reteach to Build Understanding

Complex Numbers and Operations

A complex number consists of a real part and an imaginary part. It is written in the form of $a + bi$, where a and b are real numbers. When you multiply b and i, the whole term becomes imaginary.

$i = \sqrt{-1}$ and $i^2 = (\sqrt{-1})(\sqrt{-1}) = -1$

1. Circle the real number a and underline the imaginary term, bi. Then solve the problem and match it to the correct answer.

a. $(7 - 3i) + (-4 + 9i)$ 1. $11 - 12i$

b. $(7 - 3i) - (-4 + 9i)$ 2. $\frac{3}{5} + \frac{14i}{5}$

c. $(7 - 3i)(-4 + 9i)$ 3. $3 + 6i$

d. $\frac{4 + 5i}{2 - i}$ 4. $-1 + 75i$

2. Abdul solved the following problems and he made some mistakes. Can you find his errors and fix them?

a. $(12 - 5i) + (10 + 6i) = 23i$

Write the quotient as $a + bi$. $\frac{4 + 6i}{2 - 3i}$

$\frac{4 + 6i}{2 - 3i} \times \frac{2 - 3i}{2 - 3i}$

$\frac{26}{-5} - \frac{1}{12i}$

3. Write the product or quotient as $a + bi$. Justify each step.

a. $(-6 - 3i)(-5 - 2i)$

$(-6)(\quad) - (\quad)(2i) - (5)(-3i) - (\quad)(\quad)$ Distribute -6 and $-3i$.