Algebra II **Section 5.9**
Auch **Date:**

Objectives

- To perform operations with complex numbers.

Vocabulary

Absolute value of a complex number -

Example 1 Determining Absolute Value of Complex Numbers

a) Find each absolute value.

$|-9+i|$

b) Find each absolute value.

$|-4i|$

TRY IT!

c) Find each absolute value.

$|1-2i|$

d) Find each absolute value.

$|23i|$

Example 2 Adding and Subtracting Complex Numbers

a) Add or subtract. Write the result in the form $a+bi$

$(-2+4i)+(3-11i)$

b) Add or subtract. Write the result in the form $a+bi$

$(4-i)-(5+8i)$

c) Add or subtract. Write the result in the form $a+bi$

$(6-2i)-(-6+2i)$

d) Add or subtract. Write the result in the form $a+bi$

$(10+3i)-(10-4i)$

Try it

e) Add or subtract. Write the result in the form $a+bi$

$(-3+5i)+(-6i)$

e) Add or subtract. Write the result in the form $a+bi$

$2i-(3+5i)$

f) Add or subtract. Write the result in the form $a+bi$

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

Example 3 Multiplying Complex Numbers

g) Multiply. Write the result in the form $a+bi$

$2i(3-5i)$

h) Multiply. Write the result in the form $a+bi$

$(5-6i)(4-3i)$

i) Multiply. Write the result in the form $a+bi$

$(7+2i)(7-2i)$