

Honors Algebra II

Notes Section 1.6

Perform Operations with Complex Numbers

VOCABULARY

Imaginary Unit: _____

$i^2 =$ _____

Complex Number: _____

Pure Imaginary Number: _____

Complex Conjugates: _____

Absolute Value of a Complex Number: _____

EXAMPLE 1 Solve.

a) $2x^2 + 11 = -37$

b) $3x^2 - 7 = -31$

EXAMPLE 2 Simplify and write in standard form.

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

a) $(7 - 6i) - (3 - 6i)$

a) $10 - (6 + 7i) + 4i$

EXAMPLE 3 Simplify and write in standard form.

a) $4i(-6 + i)$

b) $(9 - 2i)(-4 + 7i)$

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

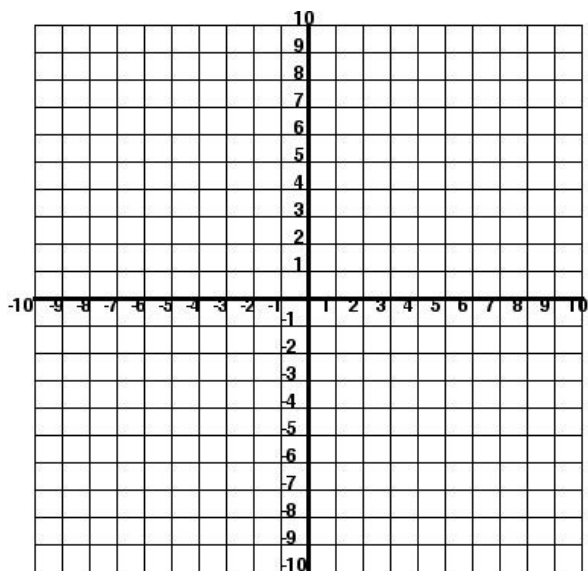
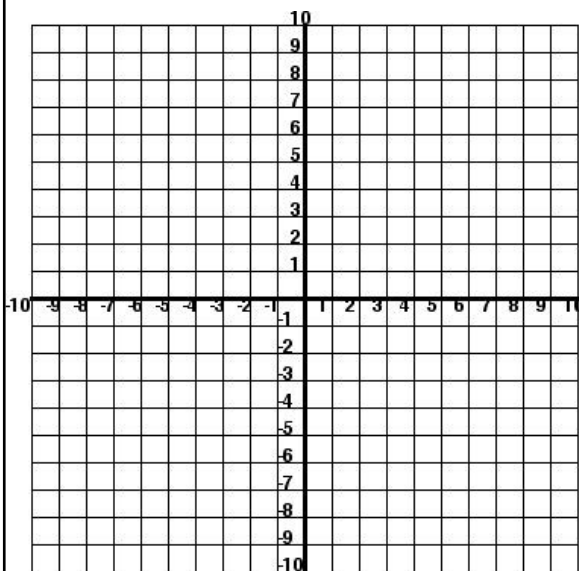
EXAMPLE 4 Write the quotient in standard form.

a)
$$\frac{7 + 5i}{1 - 4i}$$

b)
$$\frac{5}{1 + i}$$

EXAMPLE 5 Plot the complex numbers.

a) $3 - 2i$ b) $-2 + 4i$ c) $3i$ d) $-4 - 3i$



EXAMPLE 6

Find the absolute value.

a) $\square -4 + 3i \square$

b) $\square - 3i \square$
