Operations with complex numbers

We can also add and subtract complex numbers. Even though it is not, treat i like it is a _____.

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

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

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

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

Multiplying complex numbers: Remember that $i^2 =$ _____

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

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

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

d.) $(2 + 3i)(-6 - 2i)$

Complex Conjugates: for any complex number $a + bi$ there is a complex conjugate _____

Example: $3 + 7i$ and $3 - 7i$ are complex conjugates

Name the conjugate of the following complex numbers:

a.) $6 + 3i$ b.) $10 - 4i$ c.) $-i$

Dividing Complex Numbers

Just like with radicals, we don't want imaginary numbers in the denominator. We have to fix that.

Multiply the top and bottom of the fraction by the _____ of the _____.

Examples:

a.) $\frac{5+3i}{1-2i}$ b.) $\frac{2-7i}{1+i}$

c.) $\frac{3+11i}{-1-2i}$