

## Multiplication of Complex Numbers

The multiplication of complex numbers follows the same rules of algebraic multiplication, using either the distributive property or FOIL.

Examples:

$$\begin{aligned}(2 + 3i)(1 + 7i) \\ 2(1) + 2(7i) + 3i(1) + (3i)(7i) \\ 2 + 14i + 3i + 21i^2 \quad \text{note: } i^2 = -1 \\ 2 + 14i + 3i - 21 \\ -19 + 17i\end{aligned}$$

$$\begin{aligned}(4 - i)(3 + 2i) \\ 4(3) + 4(2i) - i(3) - i(2i) \quad \text{note: } i^2 = -1 \\ 12 + 8i - 3i + 2 \\ 14 + 5i\end{aligned}$$