

# ECE 111: Handout #12

Week #12: ECE 311 Circuits II & Complex Numbers

1) Determine the result of the following operations with complex numbers

$$\begin{array}{r} 2 + j3 \\ + 9 + j4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 + j3 \\ - 9 + j4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 + j3 \\ * 9 + j4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 + j3 \\ \hline 9 + j4 \end{array}$$

2) Determine the result of the following operations with complex numbers

$$\begin{array}{r} 7 - j4 \\ + 5 + j8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 - j4 \\ - 5 + j8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 - j4 \\ * 5 + j8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 - j4 \\ \hline 5 + j8 \end{array}$$

1) Determine the result of the following operations with complex numbers

$$\begin{array}{r} 2 + j3 \\ + 9 + j4 \\ \hline 11 + j7 \end{array}$$

$$\begin{array}{r} 2 + j3 \\ - 9 + j4 \\ \hline -7 - j1 \end{array}$$

$$\begin{array}{r} 2 + j3 \\ * 9 + j4 \\ \hline 6 + j35 \end{array}$$

$$\begin{array}{r} 2 + j3 \\ \hline 9 + j4 \\ = 0.3093 + j0.1959 \end{array}$$

2) Determine the result of the following operations with complex numbers

$$\begin{array}{r} 7 - j4 \\ + 5 + j8 \\ \hline 12 + j4 \end{array}$$

$$\begin{array}{r} 7 - j4 \\ - 5 + j8 \\ \hline -1 - j12 \end{array}$$

$$\begin{array}{r} 7 - j4 \\ * 5 + j8 \\ \hline 67 + j36 \end{array}$$

$$\begin{array}{r} 7 - j4 \\ \hline 5 + j8 \\ 0.0337 - j0.8359 \end{array}$$