

ECE 111

Complex Number Worksheet

Addition

$$\begin{array}{r} 68 + j34 \\ + 39 + j48 \\ \hline \end{array}$$

$$\begin{array}{r} 95 + j23 \\ + 73 + j93 \\ \hline \end{array}$$

$$\begin{array}{r} 35 + j63 \\ + 47 + j78 \\ \hline \end{array}$$

Subtraction

$$\begin{array}{r} 68 + j34 \\ - 39 + j48 \\ \hline \end{array}$$

$$\begin{array}{r} 95 + j23 \\ - 73 + j93 \\ \hline \end{array}$$

$$\begin{array}{r} 35 + j63 \\ - 47 + j78 \\ \hline \end{array}$$

Multiplication

$$\begin{array}{r} 68 + j34 \\ * 39 + j48 \\ \hline \end{array}$$

$$\begin{array}{r} 95 + j23 \\ * 73 + j93 \\ \hline \end{array}$$

$$\begin{array}{r} 35 + j63 \\ * 47 + j78 \\ \hline \end{array}$$

Division

$$\frac{68 + j34}{39 + j48}$$

$$\frac{95 + j23}{73 + j93}$$

$$\frac{35 + j63}{47 + j78}$$

Express in phasor form

$$V = 54 \cos(20t) + 26 \sin(20t)$$

$$V = 72 \cos(50t) - 19 \sin(50t)$$

$$V = -50 \cos(200t) + 83 \sin(200t)$$