EN-3212 Electronics Worksheet 6

Complex numbers and Euler's Formula

Given following real, imaginary, and complex numbers:

C1 = 8 + j3 C2 = 4 – j6 C3 = -2.4 + j3.8 C4 = 7.32 C5 = -j2.57

1. Find the following:

C1 + C2 C1 – C2 C1(C2) C2-C3 C1(C3) C4 + C5

C1(C4) C2(C5)

2. Write the complex conjugates C1*, C2*, C3*, C4*, and C5*.

3. Find the following:

C1(C1*) C3(C3*) C4(C4*) C5(C5*)

4. Write out Euler's Formula.

5. If C3 is a complex voltage, use Euler's formula to find the Amplitude and phase of that voltage.

6. Repeat that process for C1, C2, C4, and C5.