# ECE 111

## Complex Number Worksheet

Addition

```
     68 + j34            95 + j23            35 + j63
   + 39 + j48          + 73 + j93          + 47 + j78
```

Subtraction

```
     68 + j34            95 + j23            35 + j63
   - 39 + j48          - 73 + j93          - 47 + j78
```

Multiplication

```
     68 + j34            95 + j23            35 + j63
   * 39 + j48          * 73 + j93          * 47 + j78
```

Division

```
    68 + j34            95 + j23            35 + j63
    39 + j48            73 + j93            47 + j78
```

Express in phasor form

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

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

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