

```

In[1]:= z = 1.0 + 2.0 I
        w = 5.0 + 4.0 I
Out[1]= 1. + 2. i
Out[2]= 5. + 4. i

In[3]:= z + w
        z - w
        z * w
        z / w
Out[3]= 6. + 6. i
Out[4]= -4. - 2. i
Out[5]= -3. + 14. i
Out[6]= 0.317073 + 0.146341 i

In[7]:= z ^ 2
        z ^ 3
        z ^ -1
Out[7]= -3. + 4. i
Out[8]= -11. - 2. i
Out[9]= 0.2 - 0.4 i

In[10]:= 1 / z
Out[10]= 0.2 - 0.4 i

In[13]:= z ^ -2
        z ^ -3
Out[13]= -0.12 - 0.16 i
Out[14]= -0.088 + 0.016 i

In[16]:= -z
Out[16]= -1. - 2. i

In[15]:= Conjugate[z]
Out[15]= 1. - 2. i

In[17]:= Abs[z]
        Exp[z]
Out[17]= 2.23607
Out[18]= -1.1312 + 2.47173 i

In[19]:= Log[z]
Out[19]= 0.804719 + 1.10715 i

In[20]:= Arg[z]
Out[20]= 1.10715

```

```
In[24]:= Abs[-1. + 2. I]
         Abs[-1. - 2. I]
         Abs[1. - 2. I]
```

```
Out[24]= 2.23607
```

```
Out[25]= 2.23607
```

```
Out[26]= 2.23607
```

```
In[27]:= Arg[-1. + 2. I]
         Arg[-1. - 2. I]
         Arg[1. - 2. I]
```

```
Out[27]= 2.03444
```

```
Out[28]= -2.03444
```

```
Out[29]= -1.10715
```

```
In[30]:= Sin[z]
         Cos[z]
         Tan[z]
```

```
Out[30]= 3.16578 + 1.9596 i
```

```
Out[31]= 2.03272 - 3.0519 i
```

```
Out[32]= 0.0338128 + 1.01479 i
```

```
In[33]:= z == 1.0 + 2.0 I
```

```
Out[33]= True
```

```
In[34]:= z - z == 0
```

```
Out[34]= True
```

```
In[47]:= Abs[1 + 2 I]
         Abs[1 + 2 I] // N
```

```
Out[47]=  $\sqrt{5}$ 
```

```
Out[48]= 2.23607
```

```
In[49]:= {Re[z], Im[z]}
```

```
Out[49]= {1., 2.}
```

```
In[50]:= z * Exp[Pi / 2. I]
         z * Exp[-Pi / 2. I]
```

```
Out[50]= -2. + 1. i
```

```
Out[51]= 2. - 1. i
```