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# rozšířený obor komplexních čísel

In[49]:=  $\pi + \text{ComplexInfinity}$

Out[49]= `ComplexInfinity`

In[50]:=  $\pi * \text{ComplexInfinity}$

Out[50]= `ComplexInfinity`

In[51]:=  $\text{ComplexInfinity} * \text{ComplexInfinity}$

Out[51]= `ComplexInfinity`

In[52]:=  $\pi / \text{ComplexInfinity}$

Out[52]= `0`

In[58]:=  $\text{ComplexInfinity} / \pi$

Out[58]= `ComplexInfinity`

In[59]:=  $\pi / 0$

Power::infy : Infinite expression  $\frac{1}{0}$  encountered. >>

Out[59]= `ComplexInfinity`

In[60]:=  $\text{ComplexInfinity} / 0$

Power::infy : Infinite expression  $\frac{1}{0}$  encountered. >>

Out[60]= `ComplexInfinity`

In[61]:=  $\text{Sqrt}[\text{ComplexInfinity}]$

Out[61]= `ComplexInfinity`

In[63]:=  $\text{ComplexInfinity}^{(1/3)}$

Out[63]= `ComplexInfinity`

In[67]:=  $\text{Conjugate}[\text{ComplexInfinity}]$

Out[67]= `ComplexInfinity`

In[69]:=  $\text{Abs}[\text{ComplexInfinity}]$

Out[69]=  $\infty$

## neurčité výrazy

In[43]:= **ComplexInfinity + ComplexInfinity**

Infinity::indet : Indeterminate expression ComplexInfinity + ComplexInfinity encountered. >>

Out[43]= Indeterminate

In[44]:= **ComplexInfinity - ComplexInfinity**

Infinity::indet : Indeterminate expression ComplexInfinity + ComplexInfinity encountered. >>

Out[44]= Indeterminate

**0 \* ComplexInfinity /. 13**

Infinity::indet : Indeterminate expression 0 ComplexInfinity encountered. >>

Out[45]= Indeterminate

In[46]:= **ComplexInfinity / ComplexInfinity**

Infinity::indet : Indeterminate expression 0 ComplexInfinity encountered. >>

Out[46]= Indeterminate

In[47]:= **0 / 0**

Power::infy : Infinite expression  $\frac{1}{0}$  encountered. >>

Infinity::indet : Indeterminate expression 0 ComplexInfinity encountered. >>

Out[47]= Indeterminate

In[48]:= **1 ^ ComplexInfinity**

Infinity::indet : Indeterminate expression  $1^{\text{ComplexInfinity}}$  encountered. >>

Out[48]= Indeterminate

In[75]:= **0 ^ 0**

Power::indet : Indeterminate expression  $0^0$  encountered. >>

Out[75]= Indeterminate

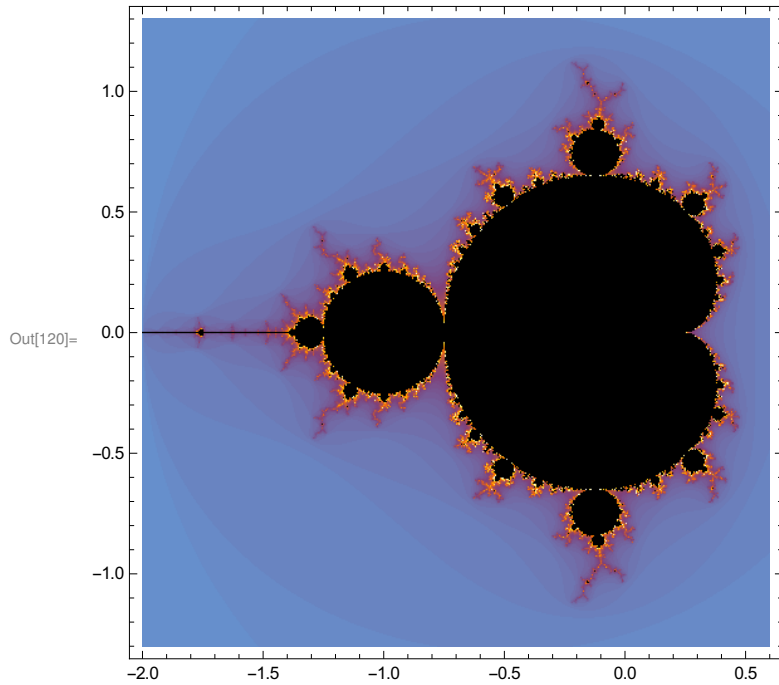
In[76]:= **ComplexInfinity ^ 0**

Infinity::indet : Indeterminate expression  $\text{ComplexInfinity}^0$  encountered. >>

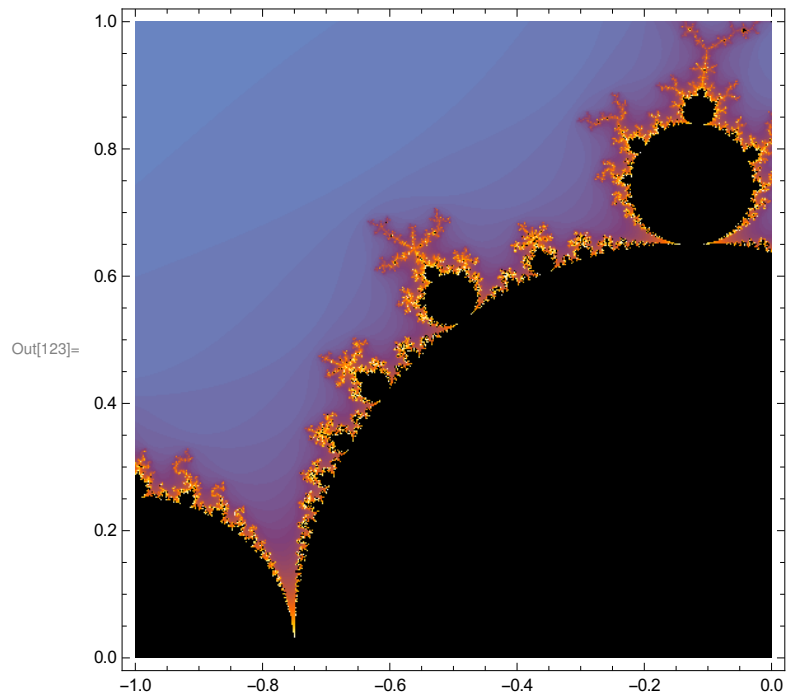
Out[76]= Indeterminate

# Mandelbrot

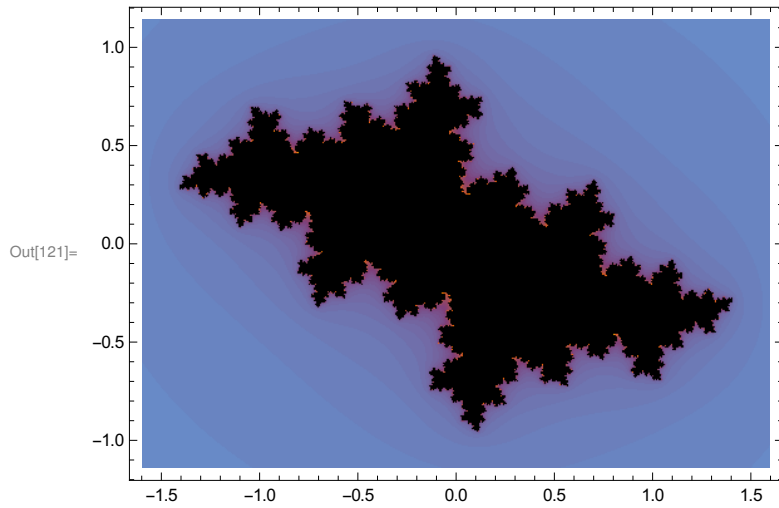
```
In[120]:= MandelbrotSetPlot[]
```



```
In[123]:= MandelbrotSetPlot[{-1, I}]
```



```
In[121]:= JuliaSetPlot[-0.5 + 0.5 I, ColorFunction -> Automatic]
```



```
In[117]:= Manipulate[
  c = x + I y;
  gr1 = MandelbrotSetPlot[Epilog -> {Red, PointSize[Large], Point[{Re[c], Im[c]}]}];
  gr2 = JuliaSetPlot[c];
  GraphicsGrid[{{gr1, gr2}},
  {x, -1, 1}, {y, -1, 1}]
```

