

复幂函数Plot

```
Out[*]=
{ {z -> -1.32472}, {z -> 0. - 1. i}, {z -> 0. + 1. i},
  {z -> 0.662359 - 0.56228 i}, {z -> 0.662359 + 0.56228 i} }
```

```
In[*]:= (75 - 65 I)^5
Out[*]=
-8 757 187 500 + 4 004 162 500 i
```

```
In[*]:= f[z_, n_] := (len = Norm[z];
                     |模
                     theta = ArcCos[z[[1]] / len] Sign[z[[2]]];
                     |反余弦 |正负符号
                     len^n (Cos[n theta] + Sin[n theta] I) // N)
                     |余弦 |正弦 |虚... |数值运
f[{-0.75, -0.65}, 6]
(-0.75 - 0.65 I)^6
```

```
Out[*]=
-0.396518 - 0.869529 i
```

```
Out[*]=
-0.396519 - 0.869529 i
```

```
In[*]:= (75 + 65 I) / (32 + 23 I) // N
                     |数值运算
```

```
Out[*]=
2.50805 + 0.22859 i
```

```
In[*]:= ((75 + 65 I) (32 - 23 I)) / (32^2 + 23^2) // N
                     |数值运算
```

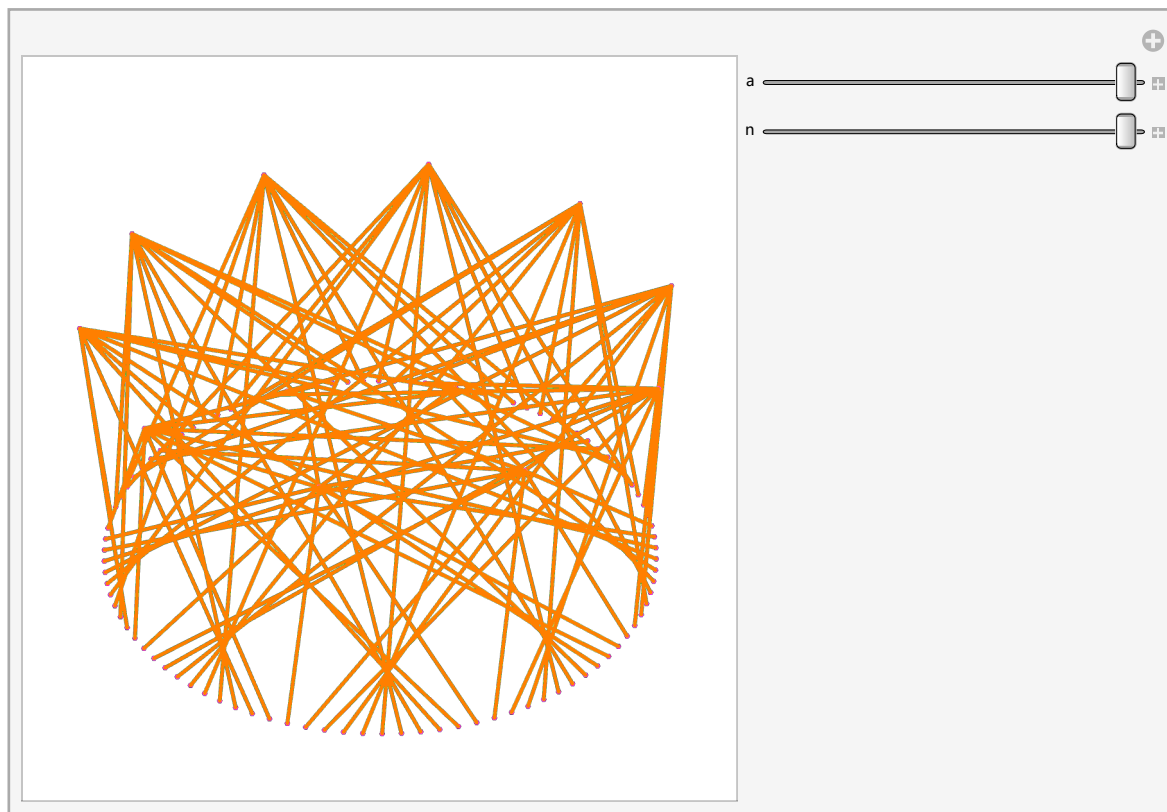
```
Out[*]=
2.50805 + 0.22859 i
```

```

In[ ]:= Manipulate[pts = Table[{Cos[ $\theta$ ], Sin[ $\theta$ ], 0}, { $\theta$ , 0, 2  $\pi$ , 2  $\pi$  / n}];
|交互式操作 |表格 |余弦 |正弦
pts2 = Append[ReIm[(#[[1]] + #[[2]] I)^a], 1] & /@ pts;
|追加 |实部虚部列表
Graphics3D[{Thick, Orange, Line[{pts, pts2}^T], Magenta, Point[pts], Point[pts2]},
|三维图形 |粗 |橙色 |线段 |品红色 |点 |点
Boxed -> False], {a, 1, 10}, {n, 10, 100, 1},
|边界框 |假
{pts, ControlType -> None}, {pts2, ControlType -> None}]
|控件类型 |无 |控件类型 |无

```

Out[]:=



```

In[ ]:= Manipulate[pts = Table[
  {Cos[θ], Sin[θ], 0}, Append[ReIm[(Cos[θ] + Sin[θ] I)^a], 1]], {θ, 0, 2 π, 2 π / n}];
Graphics3D[{Line[pts]}, Boxed → False], {a, 1, 100}, {{n, 100}, 10, 200, 1},
{pts, ControlType → None}, {pts2, ControlType → None}]

```

Out[]:=

