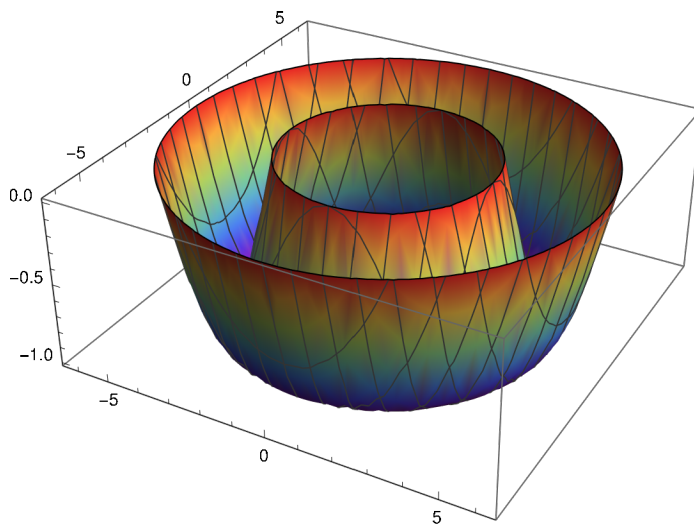


```
In[2]:= SetOptions[Plot3D(*Or whichever plot you desire*),  
          ColorFunction → "Rainbow"(*One of many options*)];
```

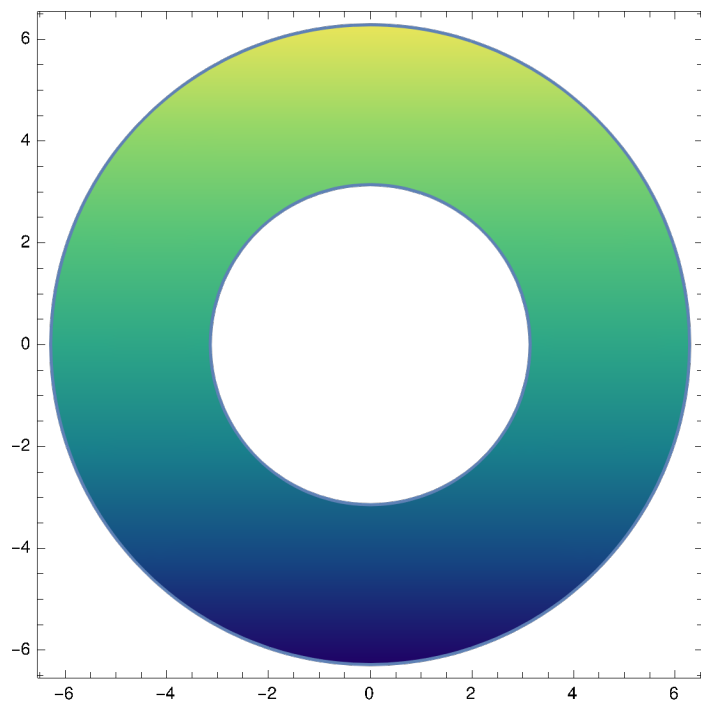
```
In[3]:= SetOptions[RegionPlot(*Or whichever plot you desire*),  
          ColorFunction → "BlueGreenYellow"(*One of many options*)];
```

(\*2a\*)

```
Plot3D[Sin[Sqrt[x^2 + y^2]]], {x, -2 Pi, 2 * Pi}, {y, -2 Pi, 2 * Pi},  
      RegionFunction → Function[{x, y, z}, Pi^2 < x^2 + y^2 < 4 * Pi^2]
```

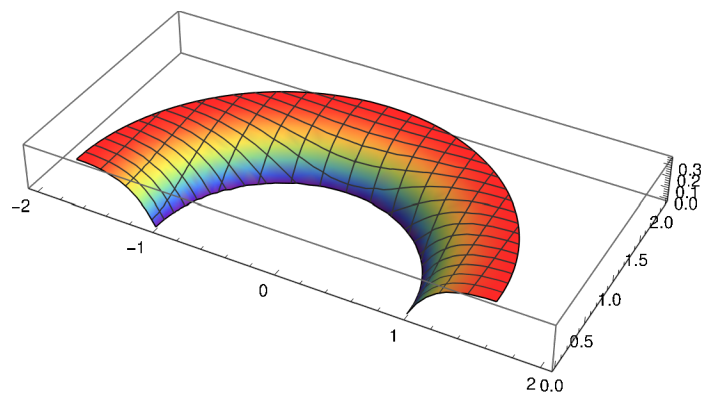


```
RegionPlot[Pi^2 < x^2 + y^2 < 4*Pi^2, {x, -2*Pi, 2*Pi}, {y, -2*Pi, 2*Pi}]
```

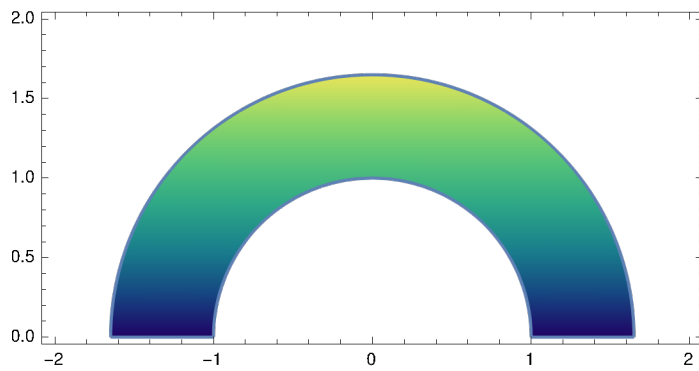


(\*2b\*)

```
Plot3D[Log[x*x+y*y]/(x*x+y*y), {x, -2, 2}, {y, 0, 2},  
RegionFunction -> Function[{x, y, z}, E > x^2 + y^2 > 1], BoxRatios -> Automatic]
```

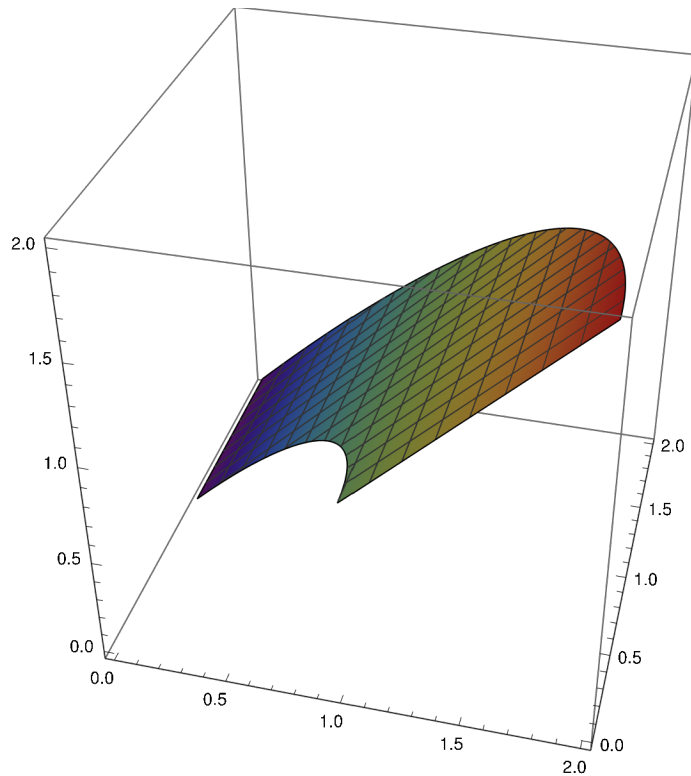


```
RegionPlot[E > x^2 + y^2 > 1, {x, -2, 2}, {y, 0, 2}, AspectRatio → Automatic]
```

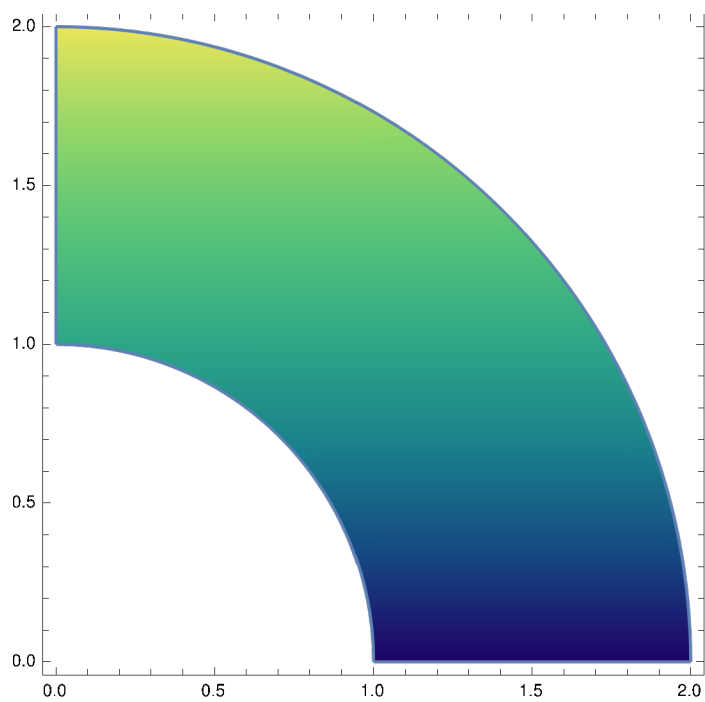


(\*2c\*)

```
Plot3D[{x}, {x, 0, 2}, {y, 0, 2},  
RegionFunction → Function[{x, y, z}, 1 < x^2 + y^2 < 4], BoxRatios → Automatic]
```



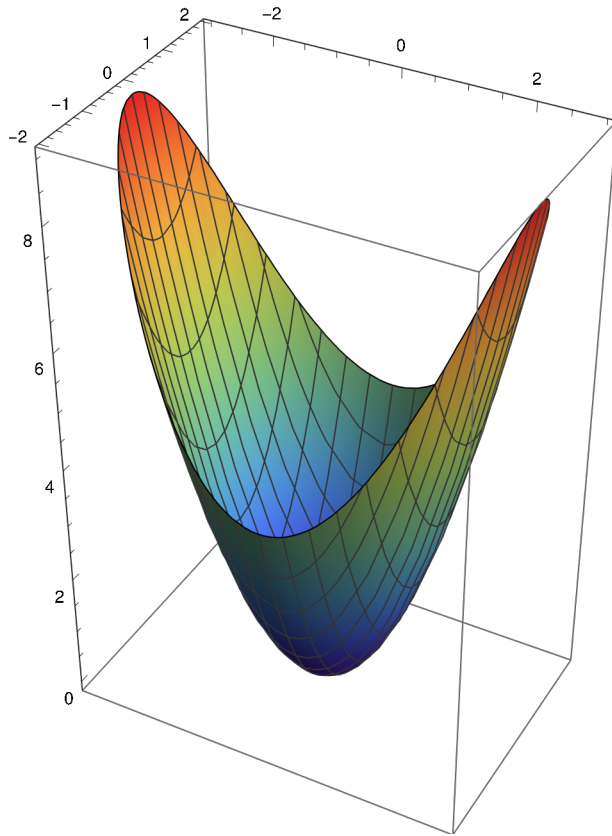
```
RegionPlot[1 < x^2 + y^2 < 4, {x, 0, 2}, {y, 0, 2}]
```



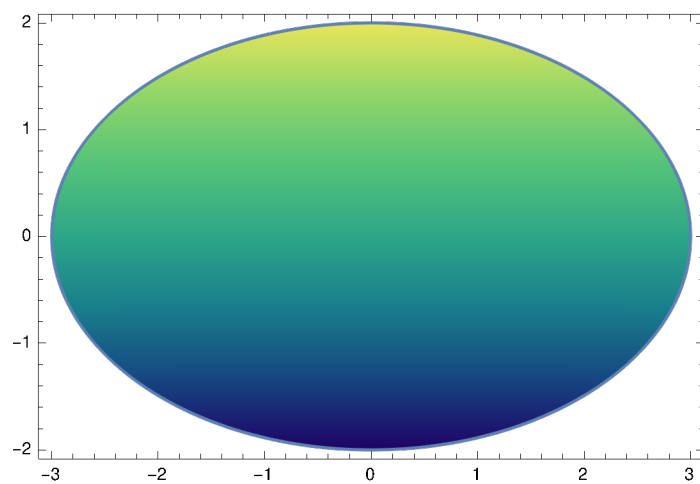
(\*2d\*)

```
Plot3D[{x^2+y^2}, {x, -3, 3}, {y, -2, 2},
```

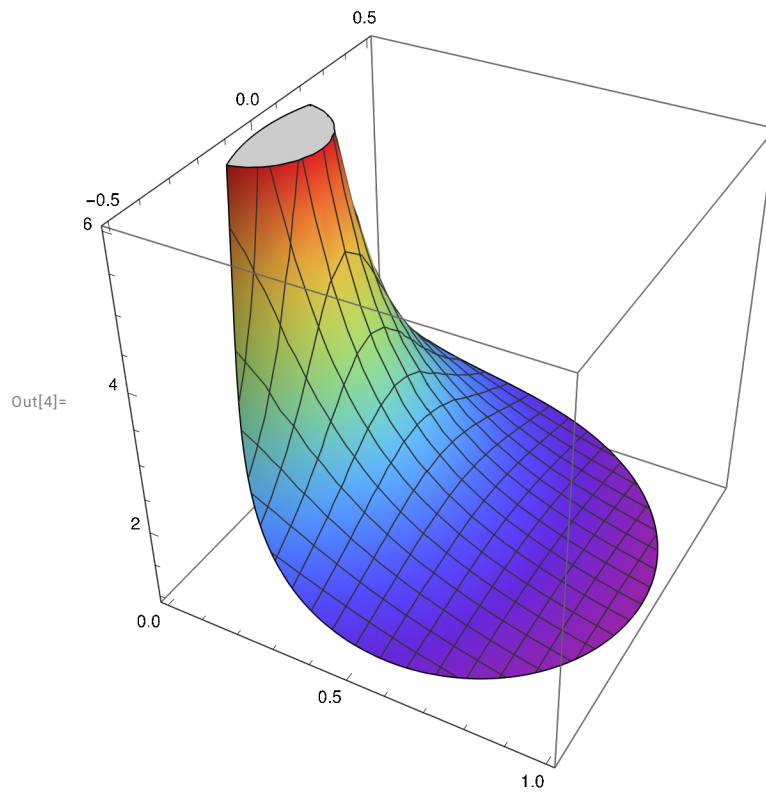
```
RegionFunction -> Function[{x, y, z}, 4 x^2+9 y^2 < 36], BoxRatios -> Automatic]
```



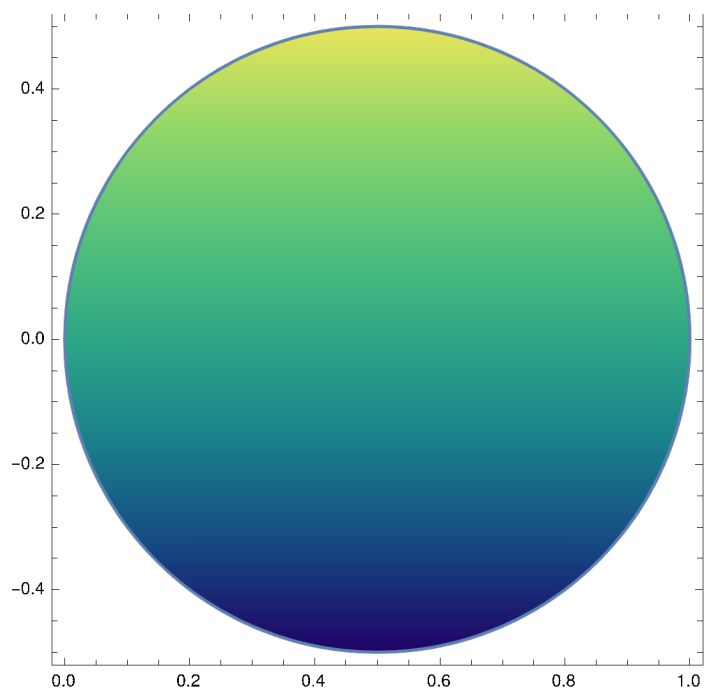
```
RegionPlot[4 x^2 + 9 y^2 < 36, {x, -3, 3}, {y, -2, 2}, AspectRatio -> Automatic]
```



```
In[4]:= (*2e*)
Plot3D[1/Sqrt[{x^2+y^2}], {x, 0, 1}, {y, -0.5, 0.5},
  RegionFunction -> Function[{x, y, z}, x^2+y^2 < x], BoxRatios -> {1, 1, 1}]
```



```
RegionPlot[x^2 + y^2 < x, {x, 0, 1}, {y, -0.5, 0.5}, AspectRatio -> Automatic]
```

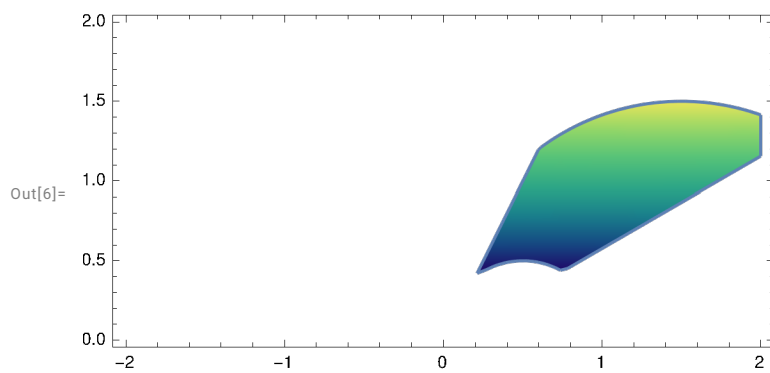
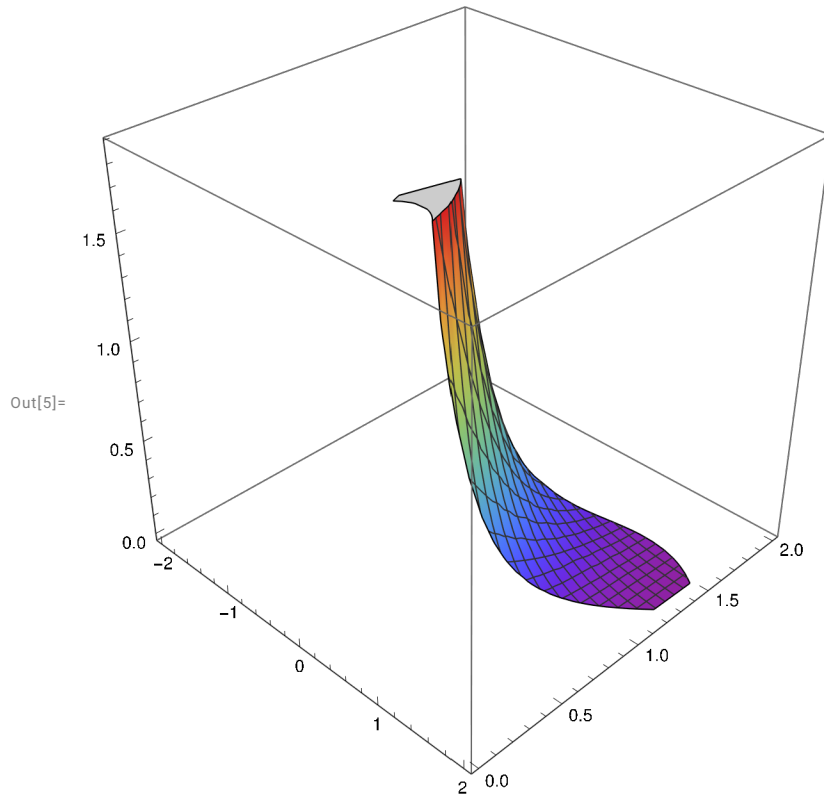




In[5]:=

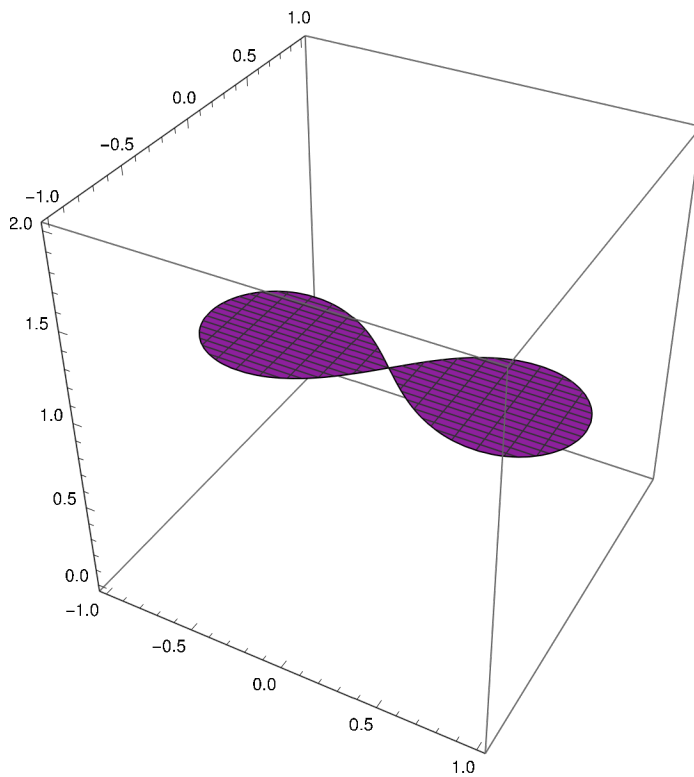
(\*2f\*)

```
Plot3D[1/(x^2+y^2)^2, {x, -2, 2}, {y, 0, 2}, RegionFunction ->
  Function[{x, y, z}, x/Sqrt[3] < y < 2 x && x < x^2+y^2 < 3 x], BoxRatios -> {1, 1, 1}]
RegionPlot[x/Sqrt[3] < y < 2 x && x < x^2+y^2 < 3 x,
  {x, -2, 2}, {y, 0, 2}, AspectRatio -> Automatic]
```

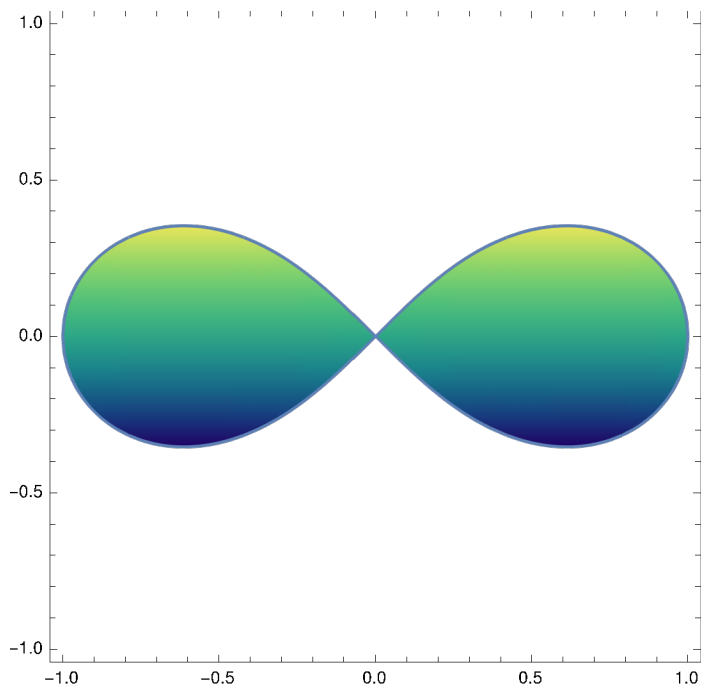


(\*2g\*)

```
Plot3D[1, {x, -1, 1}, {y, -1, 1},
  RegionFunction -> Function[{x, y, z}, (x^2 + y^2)^2 < x^2 - y^2], BoxRatios -> Automatic]
```



```
RegionPlot[(x^2 + y^2)^2 < x^2 - y^2, {x, -1, 1}, {y, -1, 1}]
```

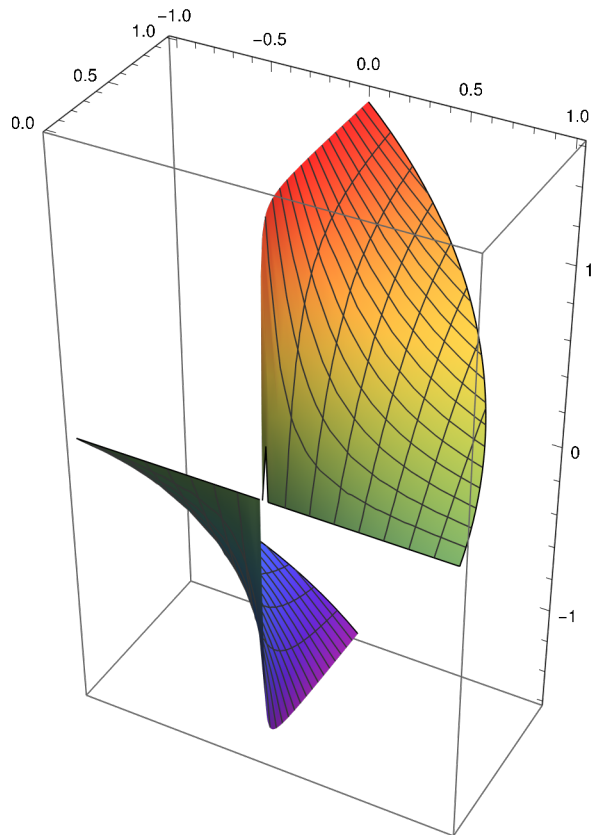


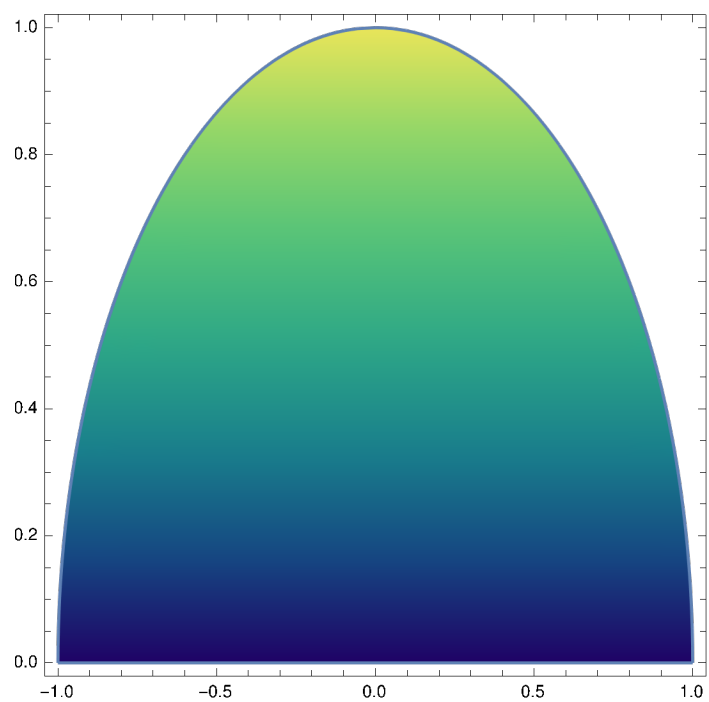
(\*2h\*)

```
Plot3D[{ArcTan[y/x]}, {x, -1, 1}, {y, 0, 1},
```

```
RegionFunction -> Function[{x, y, z}, x^2 + y^2 < 1], BoxRatios -> Automatic]
```

```
RegionPlot[x^2 + y^2 < 1, {x, -1, 1}, {y, 0, 1}]
```

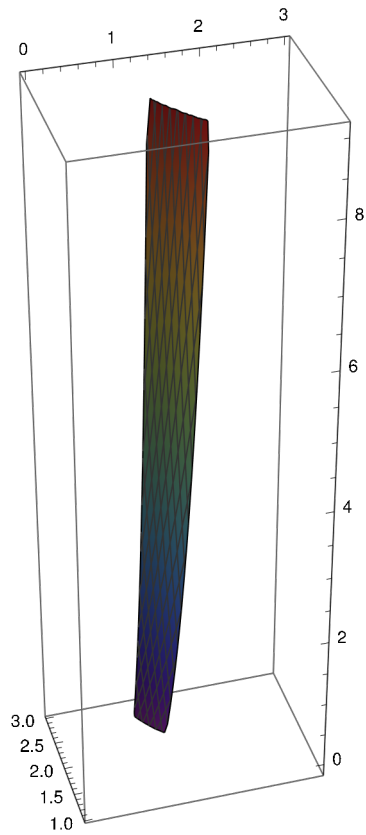




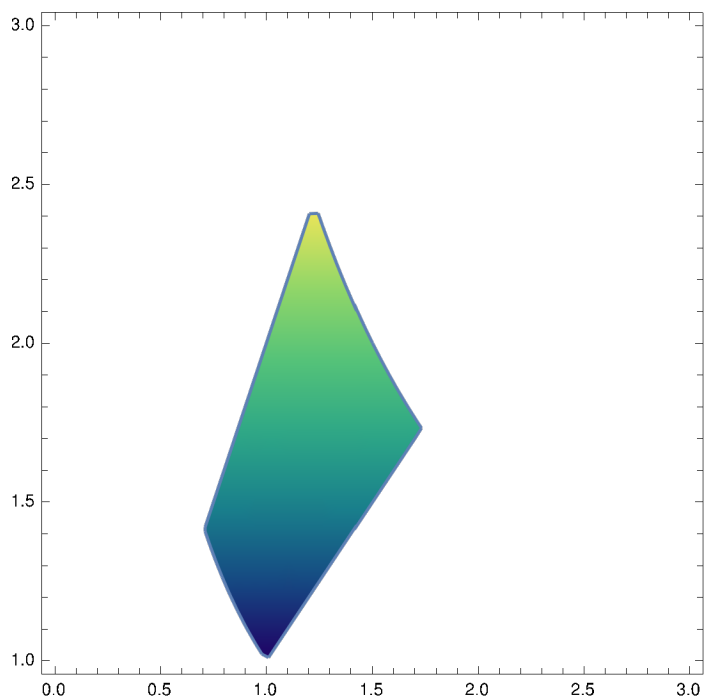
(\*2i\*)

```
Plot3D[{x^2 y^2}, {x, 0, 3}, {y, 1, 3},
```

```
RegionFunction -> Function[{x, y, z}, 1 < x*y < 3 && x < y < 2 x], BoxRatios -> Automatic]
```



```
RegionPlot[1 < x * y < 3 && x < y < 2 x, {x, 0, 3}, {y, 1, 3}]
```

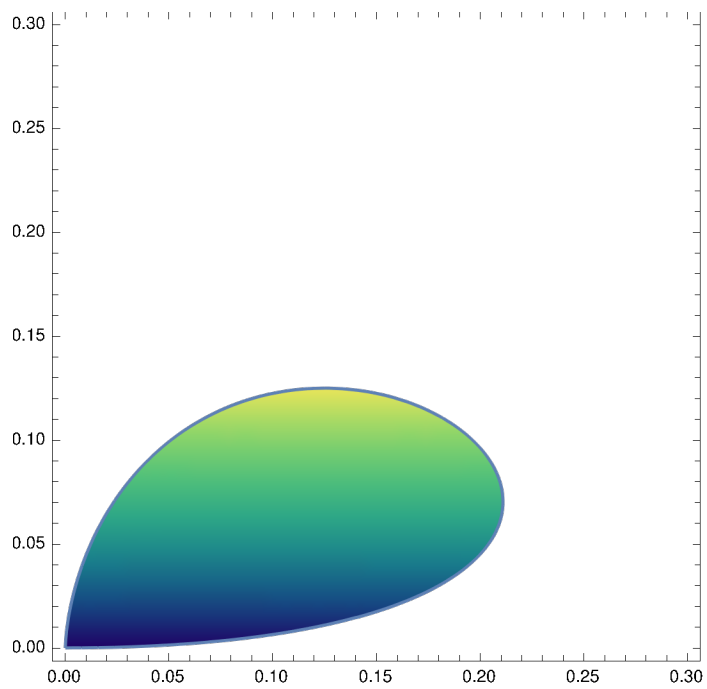
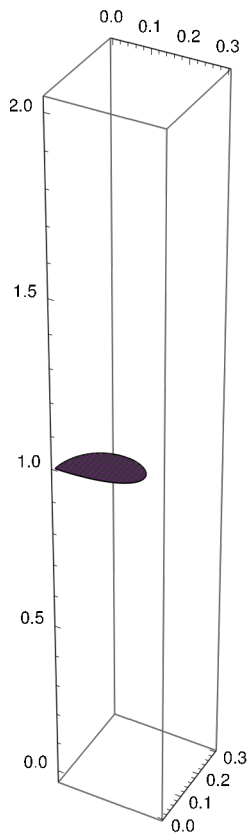


(\*2j\*)

```
Plot3D[1, {x, 0, 0.3}, {y, 0, 0.3},
```

```
RegionFunction -> Function[{x, y, z}, (x + y)^4 < 2 x^2 y], BoxRatios -> Automatic]
```

```
RegionPlot[(x + y)^4 < 2 x^2 y, {x, 0, 0.3}, {y, 0, 0.3}]
```



(\*2k\*)

```
Plot3D[y^3/x^3, {x, 0.5, 2.5}, {y, 1, 2},
```

```
RegionFunction -> Function[{x, y, z}, 1 < x*y < 3 && x < y^2 < 2 x], BoxRatios -> Automatic]
```

```
RegionPlot[1 < x*y < 3 && x < y^2 < 2 x, {x, 0.5, 2.5}, {y, 1, 2}]
```

