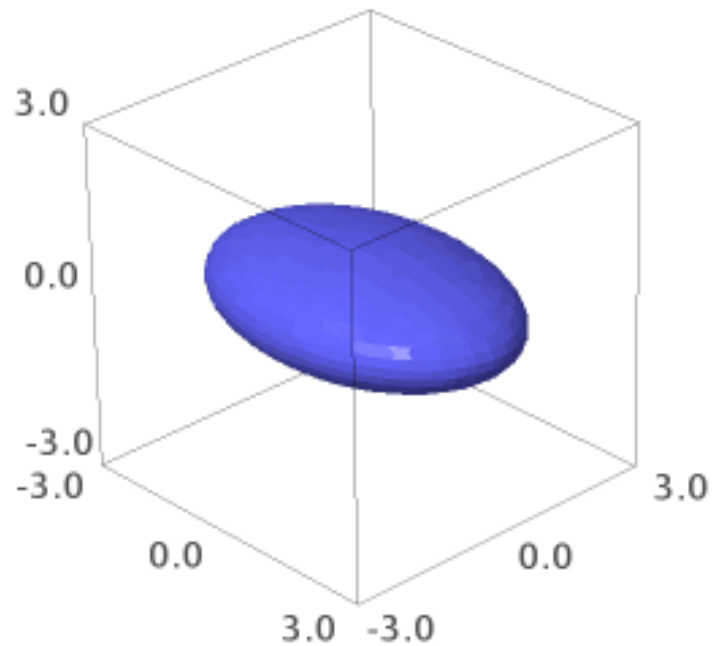


```

1: var('x y z')
2:
3: # Ellipsoid
4: p1 = implicit_plot3d(x^2/9 + y^2/4 + z^2 == 1, (x, -3, 3), (y, -3, 3), (z, -3, 3))
5: p1.show(title="Ellipsoid")

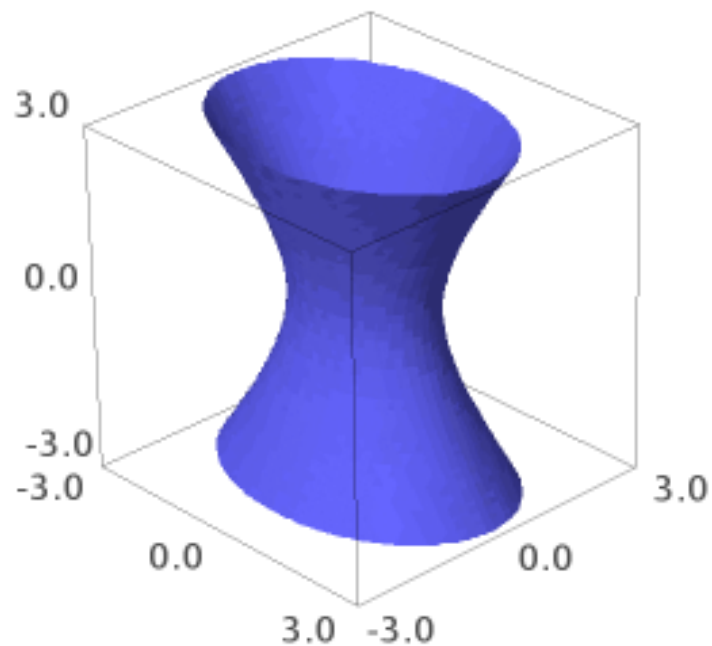
```



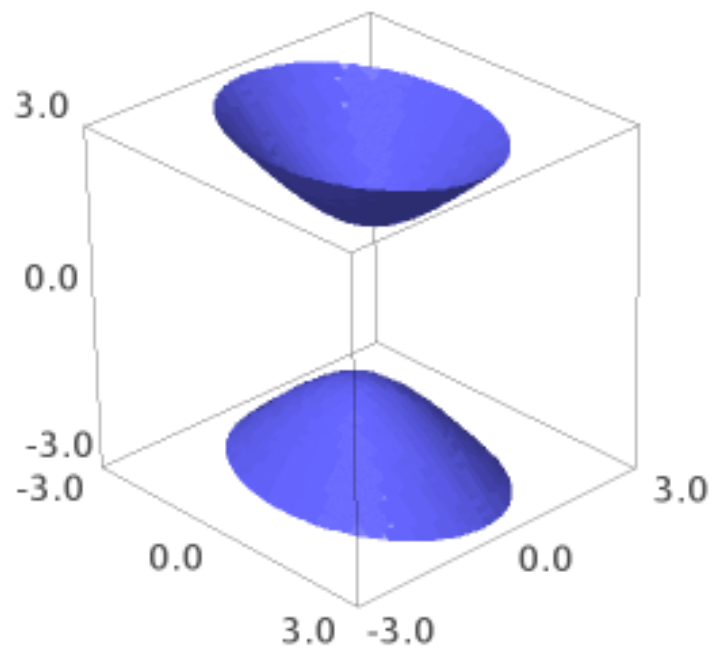
```

1: # Hyperboloid (one sheet)
2: p2 = implicit_plot3d(x^2/2 + y^2 == z^2/3 + 1, (x, -3, 3), (y, -3, 3), (z, -3, 3))
3: p2.show(title="Hyperboloid (one sheet)")

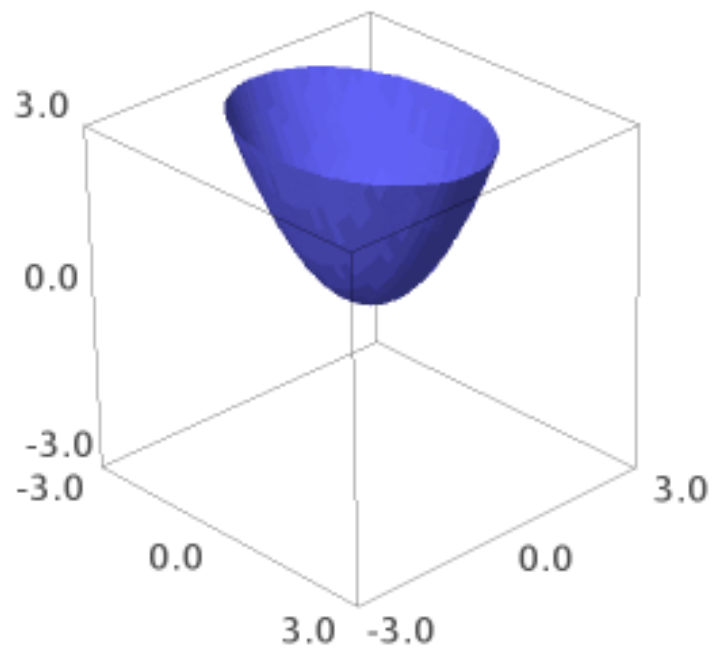
```



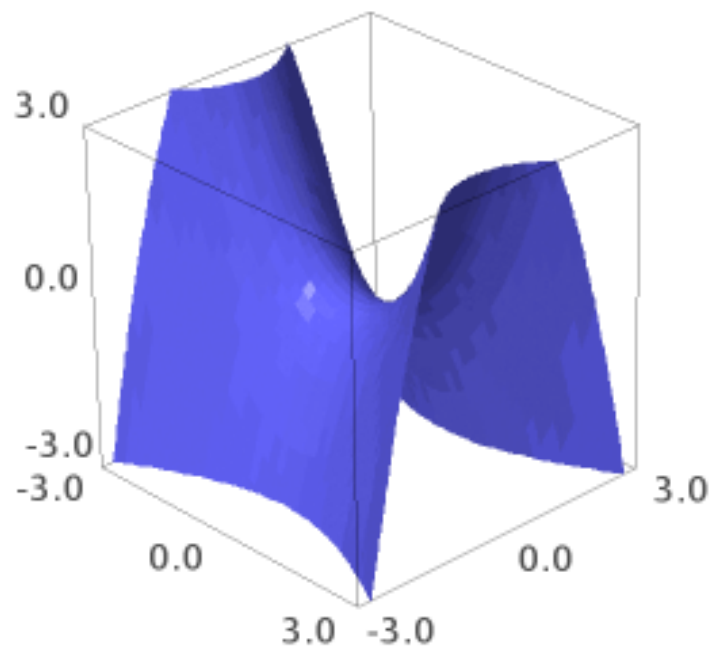
```
1: # Hyperboloid (two sheets)
2: p3 = implicit_plot3d(x^2/2 + y^2 == z^2/2 - 1, (x, -3, 3), (y, -3, 3), (z, -3, 3))
3: p3.show(title="Hyperboloid (two sheets)")
```



```
1: # Paraboloid (elliptic)
2: p4 = implicit_plot3d(x^2/2 + y^2 == z, (x, -3, 3), (y, -3, 3), (z, -3, 3))
3: p4.show(title="Elliptic Paraboloid")
```



```
1: # Paraboloid (hyperbolic)
2: p5 = implicit_plot3d(x^2/2 - y^2 == z, (x, -3, 3), (y, -3, 3), (z, -3, 3))
3: p5.show(title="Hyperbolic Paraboloid")
```



```
1: # Cone (elliptic)
2: p6 = implicit_plot3d(x^2/2 + y^2 == z^2/3, (x, -3, 3), (y, -3, 3), (z, -3, 3))
3: p6.show(title="Elliptic Cone")
```

