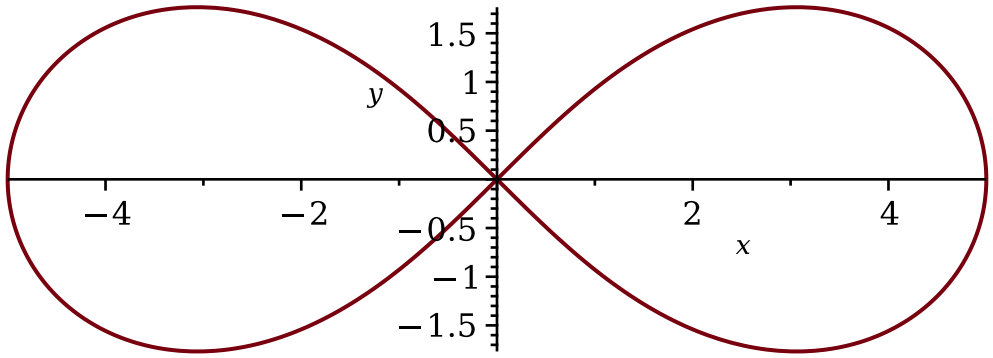
```
> restart
> with(plottools):
> with(plots):
```

1)

```
> implicitplot((x**2+y**2)**2=25*(x**2-y**2), scaling=constrained)
```

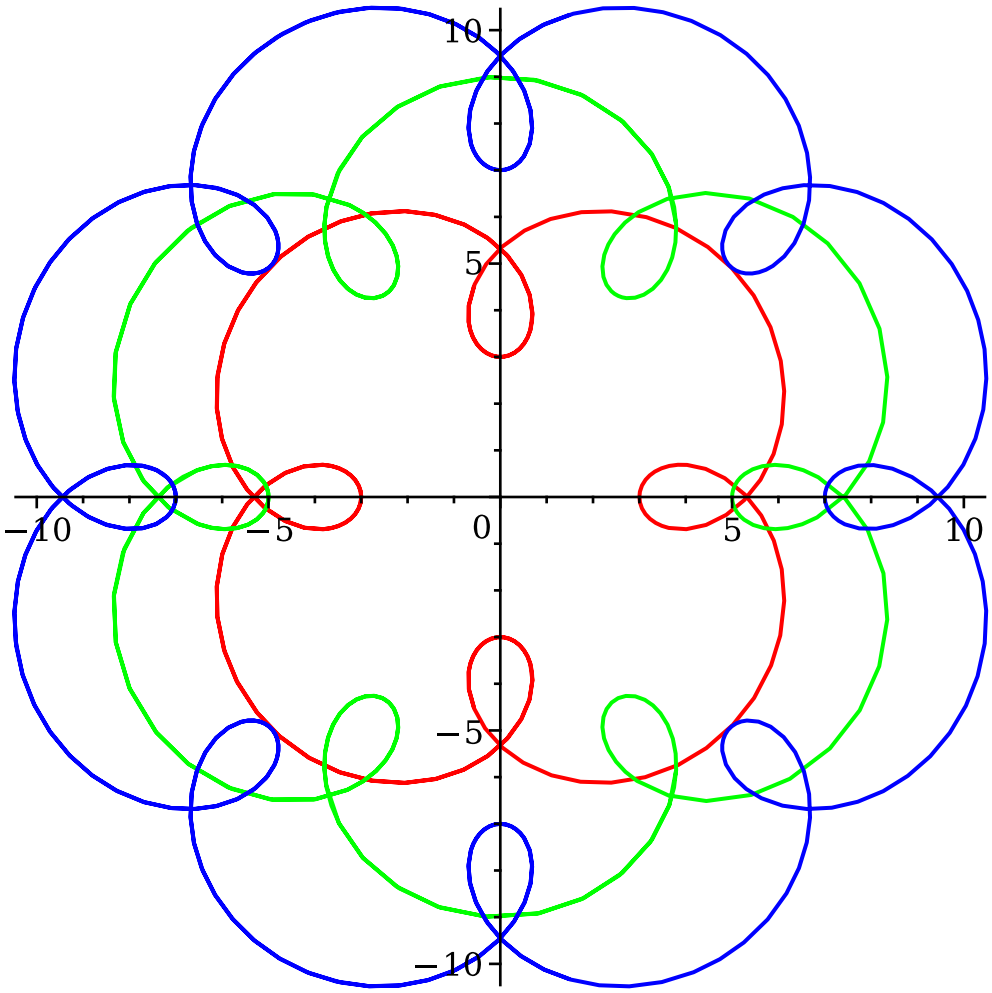


2)

```
> c := seq([n*cos(t) -2*cos(n*t), n*sin(t) - 2*sin(n*t), t=-5..5],
  n=5..9, 2)
```

$$c := [5\cos(t) - 2\cos(5t), 5\sin(t) - 2\sin(5t), t = -5..5], [7\cos(t) - 2\cos(7t), \quad (1)$$
$$7\sin(t) - 2\sin(7t), t = -5..5], [9\cos(t) - 2\cos(9t), 9\sin(t) - 2\sin(9t), t$$
$$= -5..5]$$

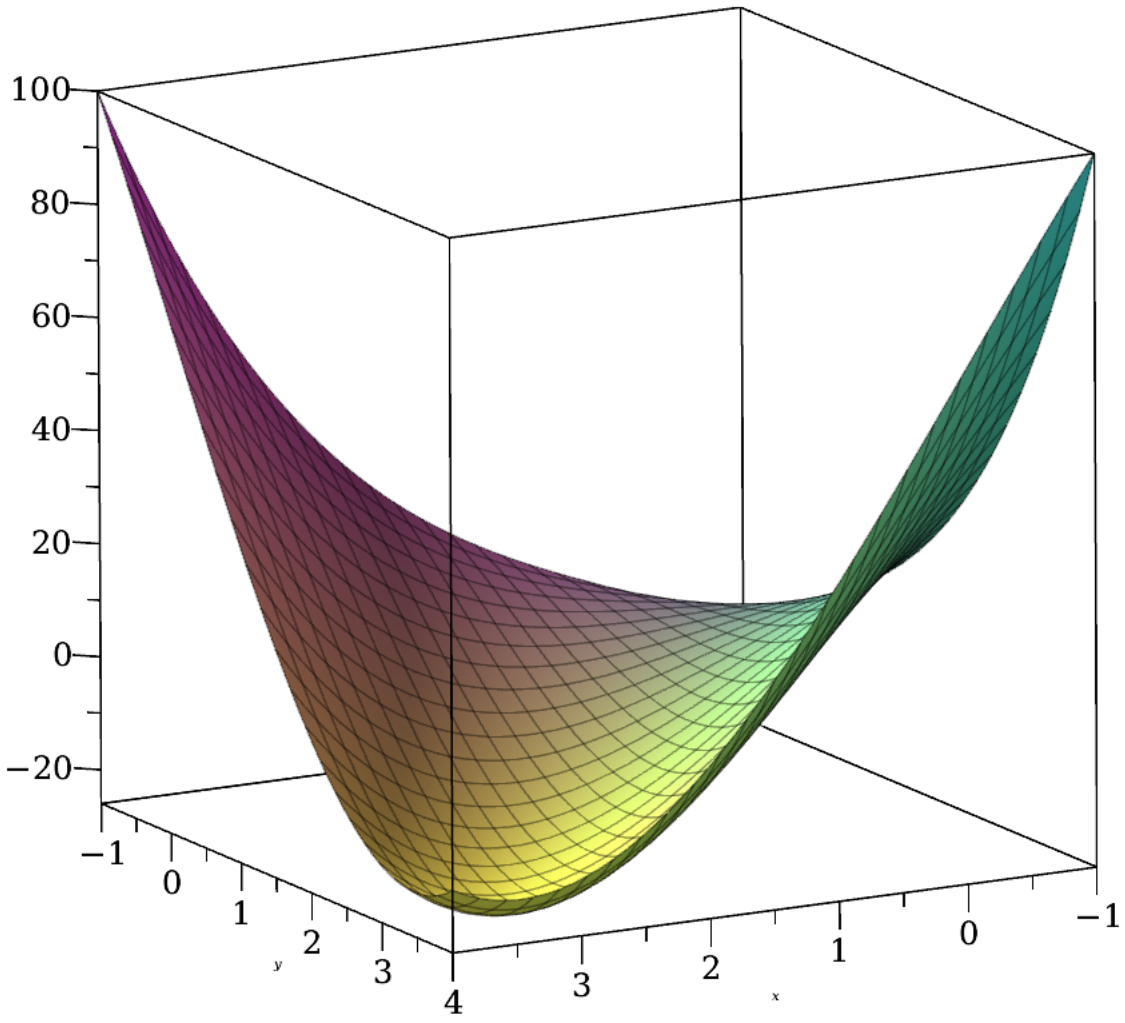
```
> plot([c], color=["red", "green", "blue"])
```



3)

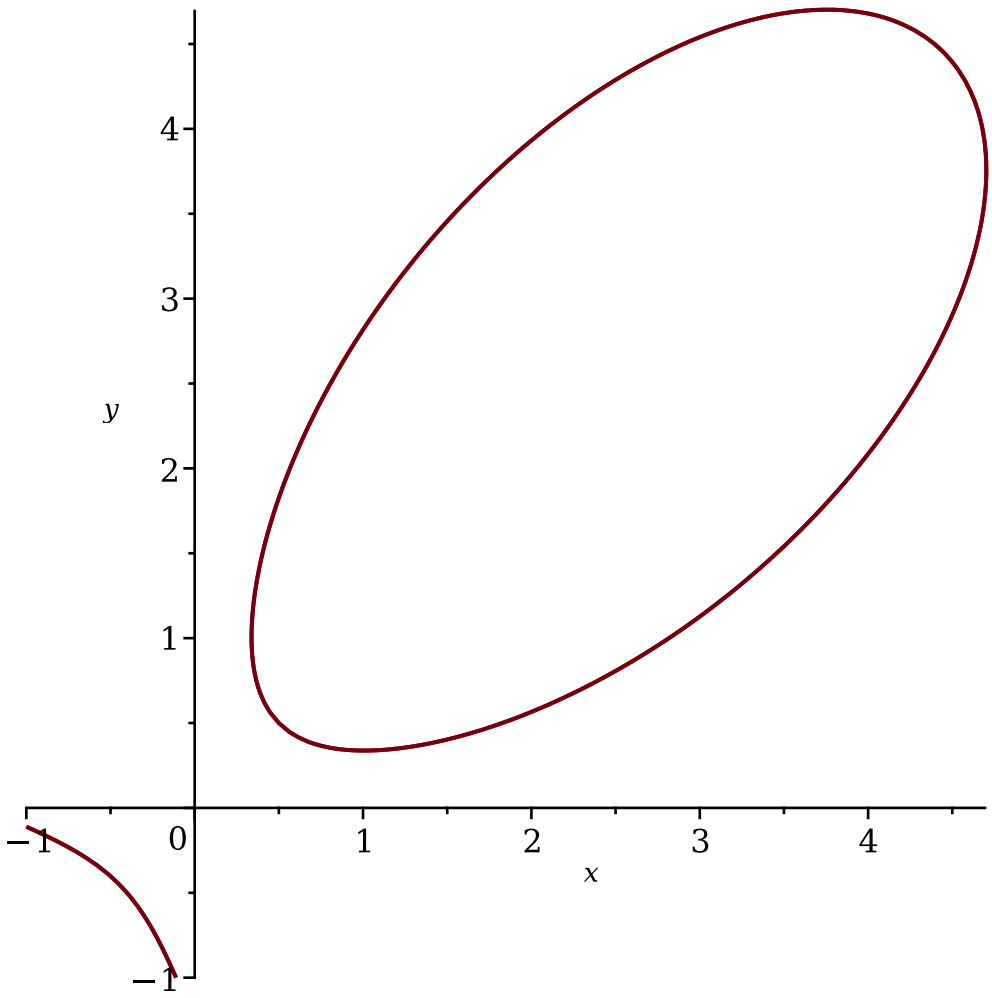
a)

```
> plot3d(y**3+x**3-9*x*y+1)
```



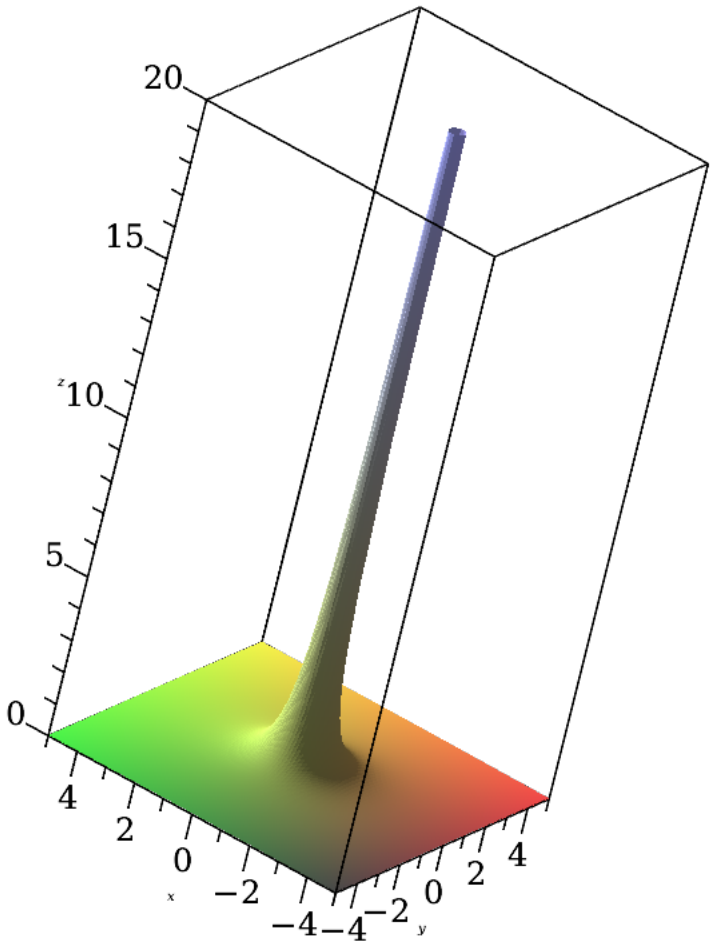
b)

```
> vr1 := implicitplot(y**3+x**3-9*x*y+1=-1):
> vr2 := implicitplot(y**3+x**3-9*x*y+1=-1):
> display(vr1, vr2)
```



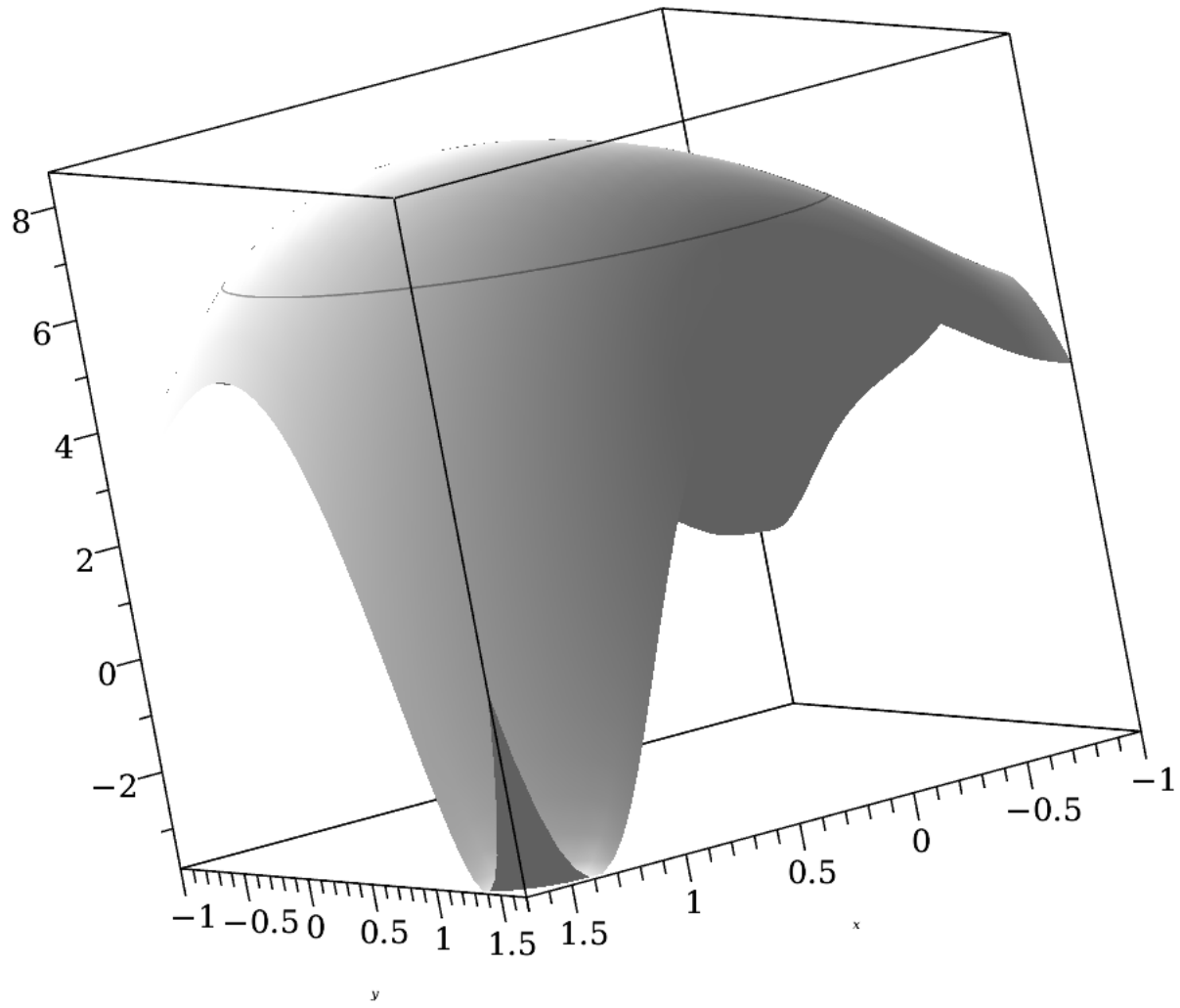
4)

```
> implicitplot3d(z=1/(x**2+y**2), y=-5..5, x=-5..5, z=0..20, grid=
  [100,100,100], scaling=constrained, style=surface)
```



5)

```
> plot3d(5/2*(x+y)*sin(x**2+y**2)+4, x=-1..1.7, y=-1..1.7, color=
  gray, style=surfacecontour, contours = [6.5])
```


8
6
4
2
0
−2
−1
−0.5
0
0.5
1
1.5
y
1.5
1
0.5
0
−0.5
−1
x