Kapitola 2.3 Paraboloidy

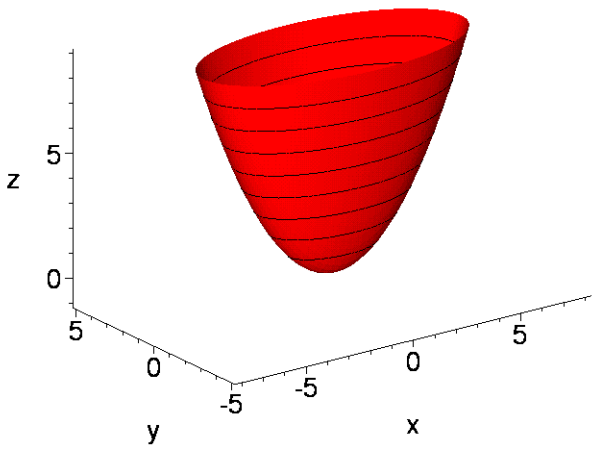
```
> restart;
> plotsetup(inline,plotoptions=`portrait,noborder,shrinkby=0`);
```

Eliptický paraboloid

```
> Par1:=x^2/4+y^2-z=0;
```

$$Par1 := \frac{x^2}{4} + y^2 - z = 0$$

```
> kv:=Par1:
> kvg:=plots[implicitplot3d](lhs(kv),x=-8..8,y=-5..5,z=-1..9,axes=
  frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,l
  ight=[90,-5,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling
  =constrained):
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[-
  126,70]);
```

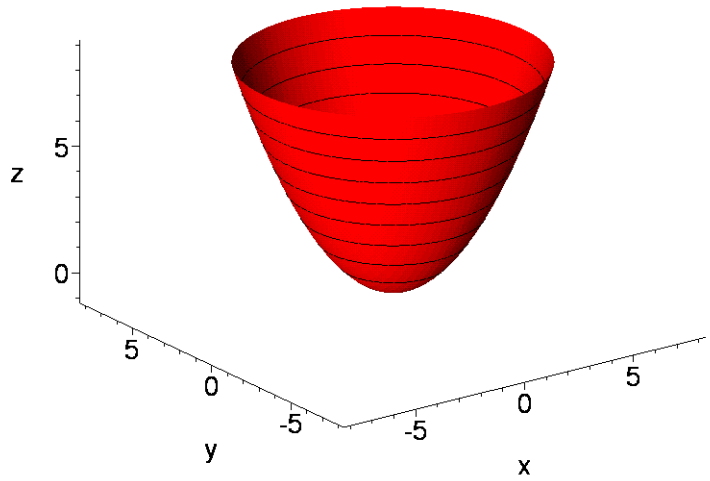


Rotační paraboloid

```
> Par2:=x^2/4+y^2/4-z=0;
```

$$Par2 := \frac{x^2}{4} + \frac{y^2}{4} - z = 0$$

```
> kv:=Par2:
> kvg:=plots[implicitplot3d](lhs(kv),x=-8..8,y=-8..8,z=-1..9,axes=
  frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,l
  ight=[100,-20,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scali
  ng=constrained):
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[-
  126,70]);
```

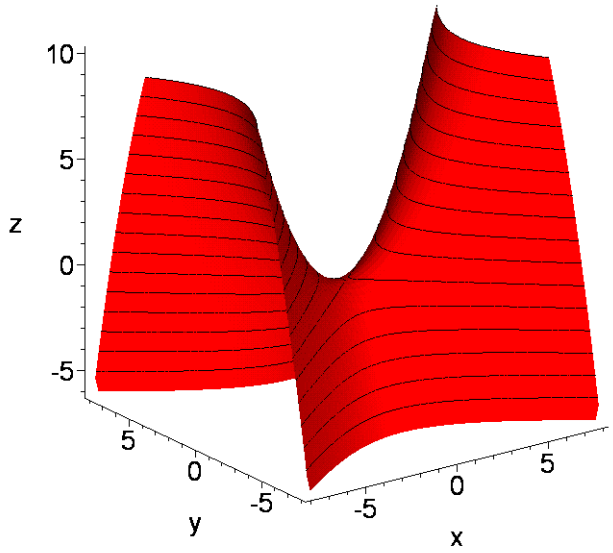


Hyperbolický paraboloid

```
> HypPar:=x^2/4-y^2/3-z=0;
```

$$HypPar := \frac{x^2}{4} - \frac{y^2}{3} - z = 0$$

```
> kv:=HypPar:
> kvg:=plots[implicitplot3d](lhs(kv),x=-8..8,y=-8..8,z=-6..10,axes
  =frame,color=red,style=patchcontour,grid=[50,50,50],contours=10,
  light=[90,5,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling
  =constrained):
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[-
  126,70]);
```




```
> kvg:=plots[implicitplot3d](lhs(kv),x=-8..8,y=-8..8,z=-6..10,axes
  =frame,color=black,style=contour,thickness=2,grid=[50,50,50],con
  tours=10,light=[90,5,1,1,1],tickmarks=[3,3,3],orientation=[52,63
  ],scaling=constrained):
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[9
  0,0]);
```