

Kapitola 2.3 Paraboloidy

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

Eliptický paraboloid

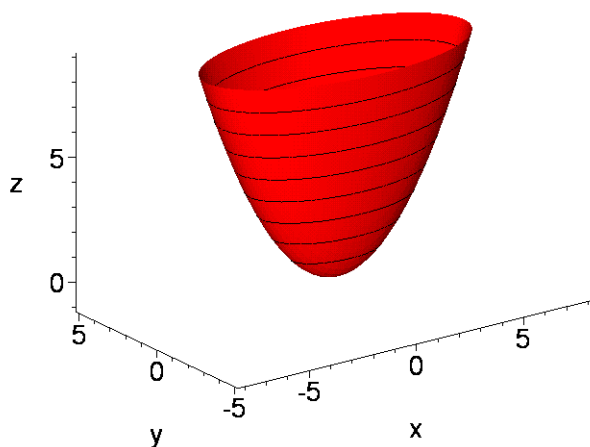
```
[ > Par1:=x^2/4+y^2-z=0;
```

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

```
[ > 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,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]);
```



Rotační paraboloid

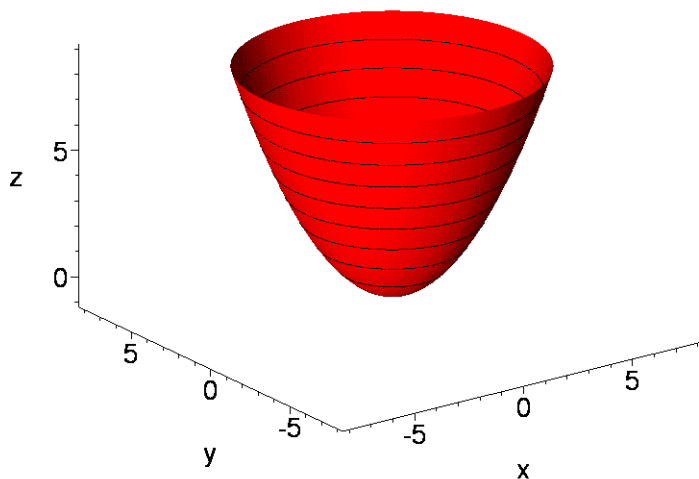
```
[ > Par2:=x^2/4+y^2/4-z=0;
```

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

```

> 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,light=
[100,-20,1,1,1],tickmarks=[3,3,3],orientation=[52,63],scaling=constrained):
> plots[display](kvg,axes=frame,scaling=constrained,orientation=[-
126,70]);

```



Hyperbolický paraboloid

```

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

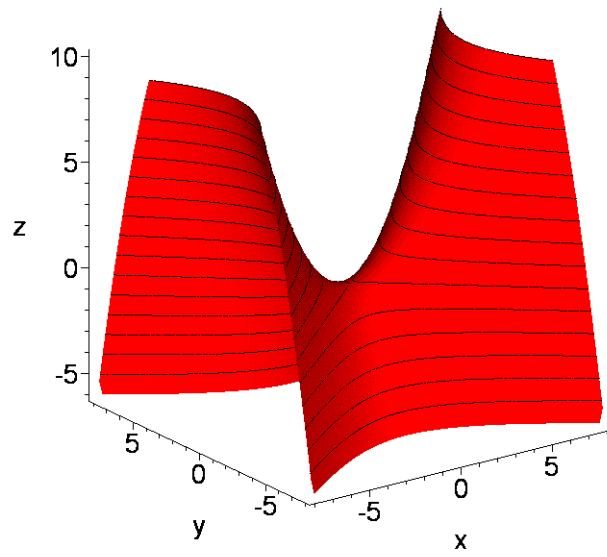
```

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

```

> 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]);
```

