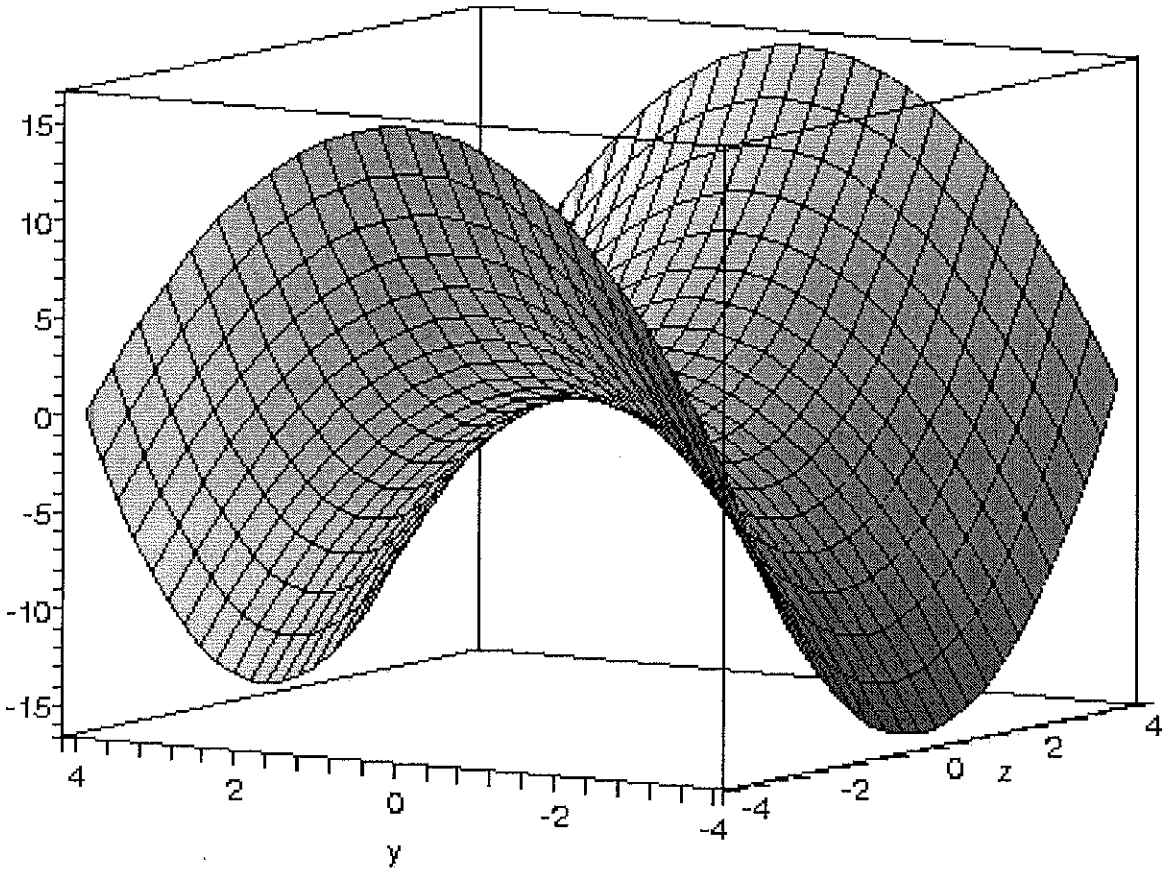
M202 Sept 2008

Feuille 1. Exo 1 (c)

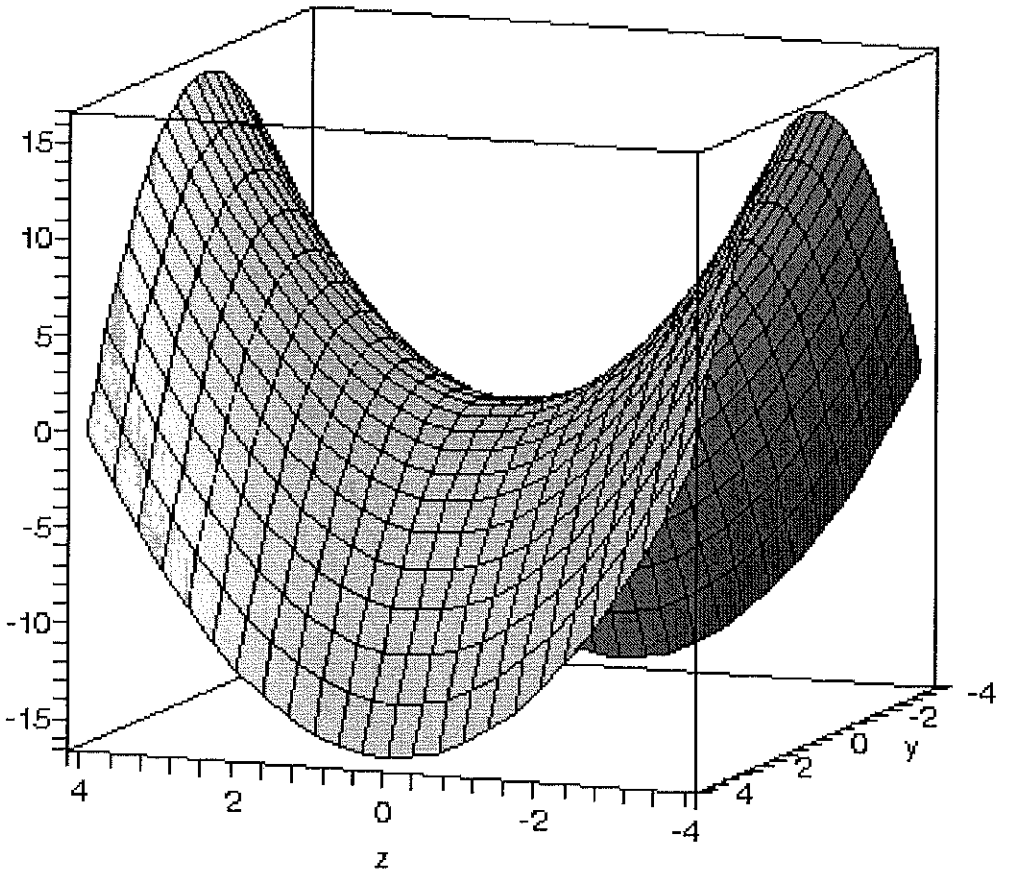

```
> plot3d(z^2-y^2, z=-4..4, y=-4..4, axes=BOXED);
```



La surface $x + y^2 - z^2 = 0$

Quelle est la nature de ses intersections avec les plans $z = d$, $d \in [-4, 4]$?

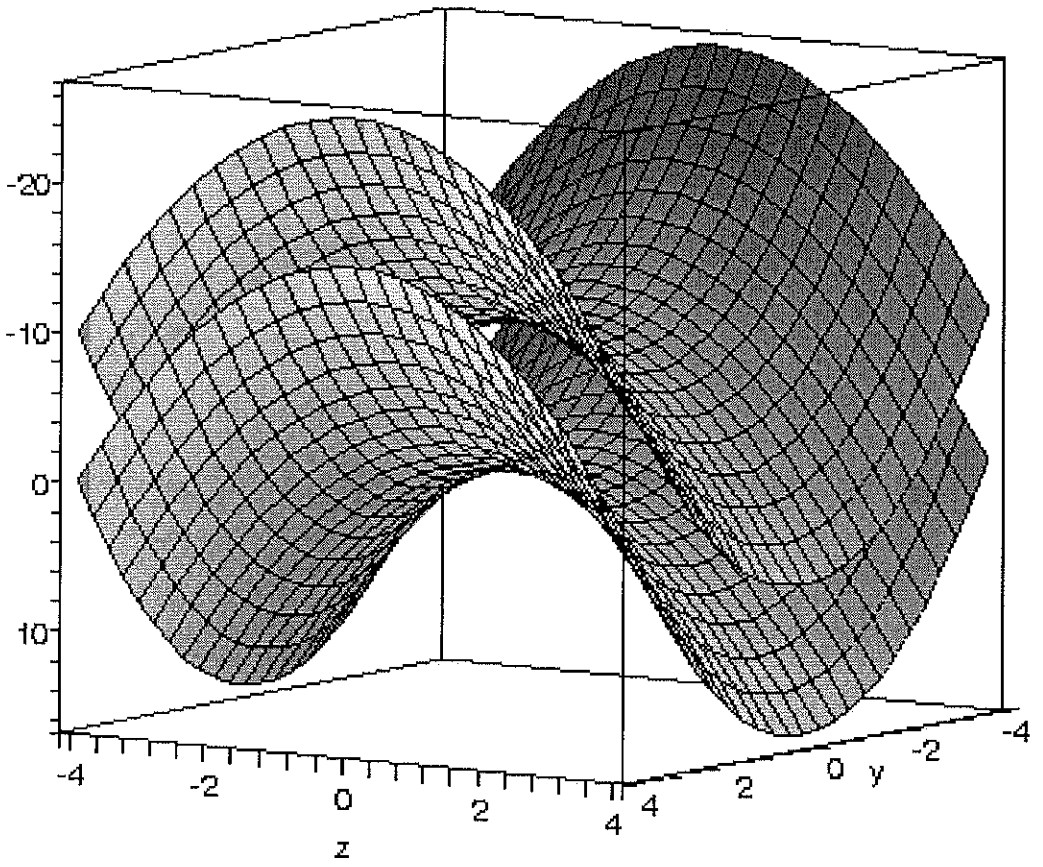
```
> plot3d([z^2-y^2], z=-4..4, y=-4..4, axes=BOXED);
```



La surface $x + y^2 - z^2 = 0$

Quelle est la nature de ses intersections avec les plans $y = d$, $d \in [-4, 4]$?

```
> plot3d([z^2-y^2, z^2-y^2-10], z=-4..4, y=-4..4, axes=BOXED);
```

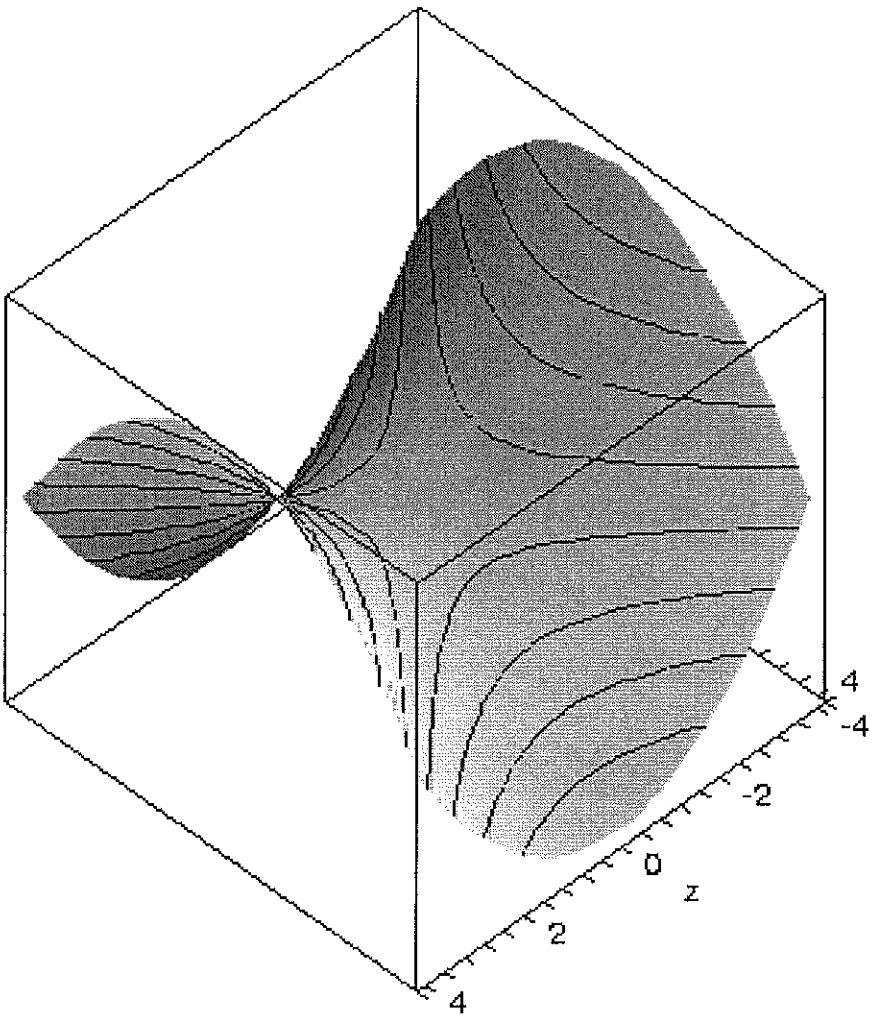


Les surfaces $x+y^2-z^2=0$ et $x+y^2-z^2=-10$

Lequel est au-dessus ?

Où se trouve $x+y^2-z^2=5$? Et $x+y^2-z^2=-5$?

```
> plot3d([z^2-y^2-10], z=-4..4, y=-4..4, axes=BOXED);
```

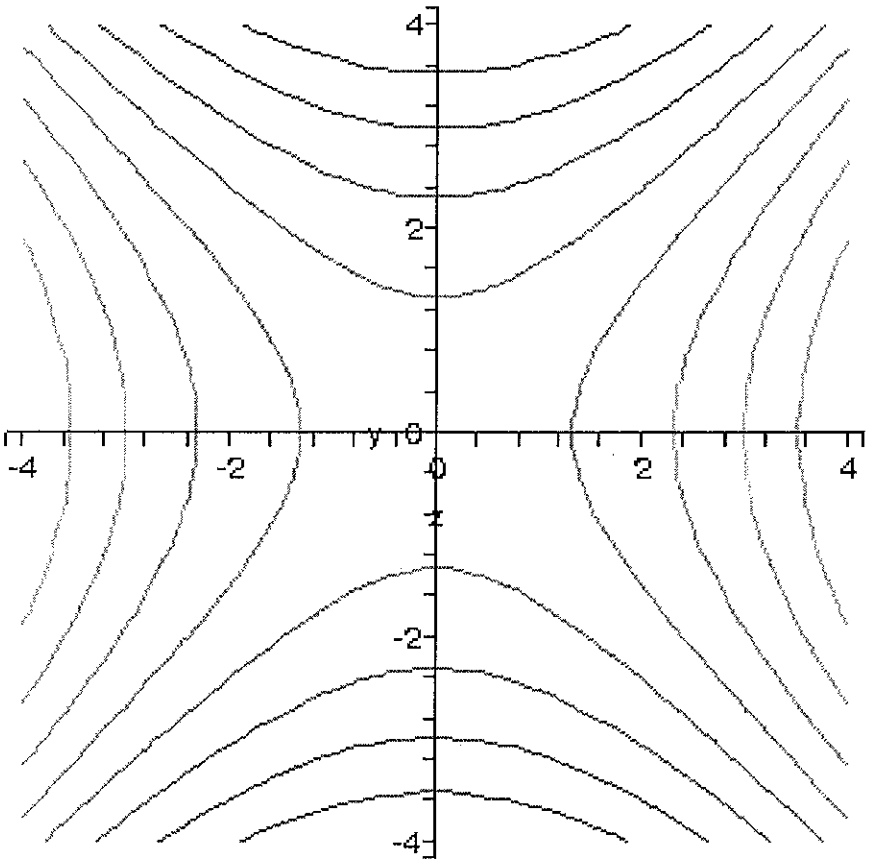


La surface $x + y^2 - z^2 = 0$, encore !

Que représentent les courbes dessinées sur la surface ?

```
> with(plots):
  contourplot(z^2-y^2, z=-4..4, y=-4..4);
```

~~Warning, the name changecoords has been redefined~~




```
>
```

Lignes de niveau de $f(y,z) = z^2 - y^2$.