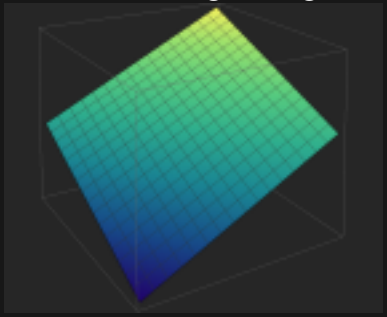
Outline

Ruimtecoördinaten

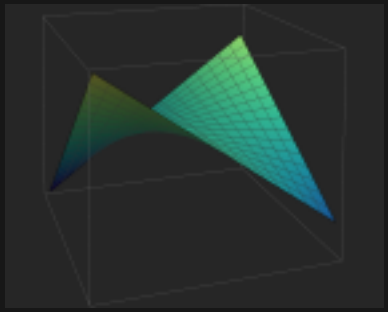
Welke vergelijking?

In alle hierna volgende figuren wijst de positieve z-as omhoog.



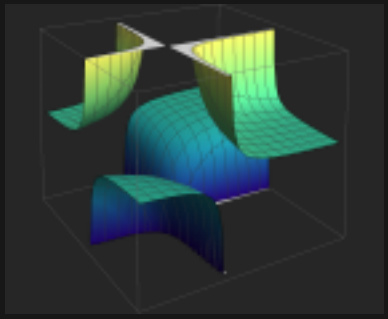
- $x + y + z = 3$
- $xy + z = 3$
- $xyz = 3$

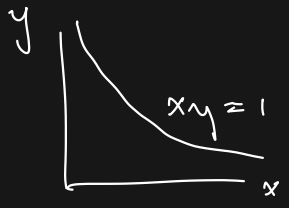
Welke vergelijking?



- $x + yz = 3$
- $xy + z = 3$
- $xyz = 3$

Welke vergelijking?

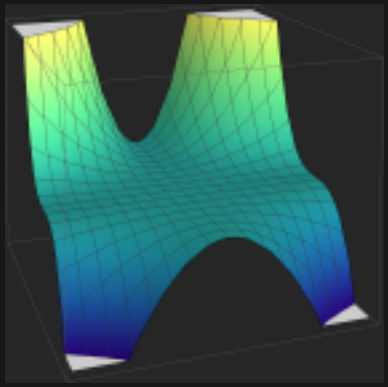




- $(x+y)z = 3$
- $xy + xz + yz = 3$
- $xyz = 3$ ⟶ Kies z const. Kies xy const

xy = const
xz = const
yz = const.

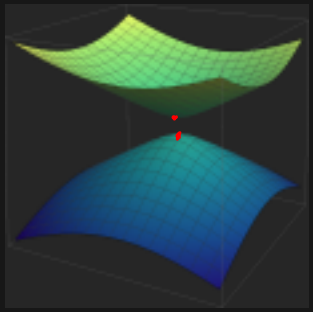
Welke vergelijking?



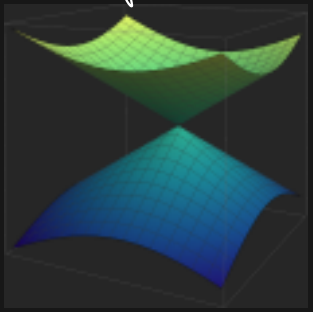
- $z + x^2y = 3$
- $z + x^2y^2 = 3$
- $z + x^2y^3 = 3$

Welke vergelijking?

kegel



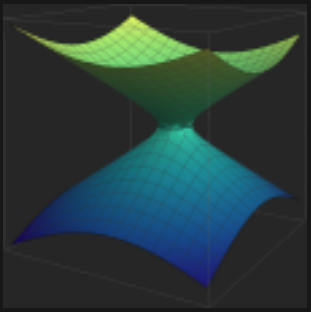
- $x^2 - y^2 - z^2 = -3$
- $x^2 + y^2 - z^2 = 3$
- $x^2 + y^2 - z^2 = -3$



$x^2 - y^2 - z^2 = 0$

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

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



$x^2 - y^2 - z^2 = 3$

$x^2 + y^2 - z^2 = -3$

$x^2 + y^2 - z^2 = 3$

rechte lijn

Welke parametrisering beweegt *niet* langs een rechte lijn?

- $x = 1 - t^2, \quad y = 2 + 4t^2, \quad z = 3 - 8t^2$ in rechthoekcoord.
- $r = 1 - t, \quad \theta = \pi/7, \quad z = t$ in cylindercoord.
- $r = 2, \quad \varphi = 1 + t, \quad \theta = 1 - t$ in bolcoord.
- $\varphi = t, \quad \theta = 0, \quad r = \frac{1}{\cos t + \sin t}$ in bolcoord.