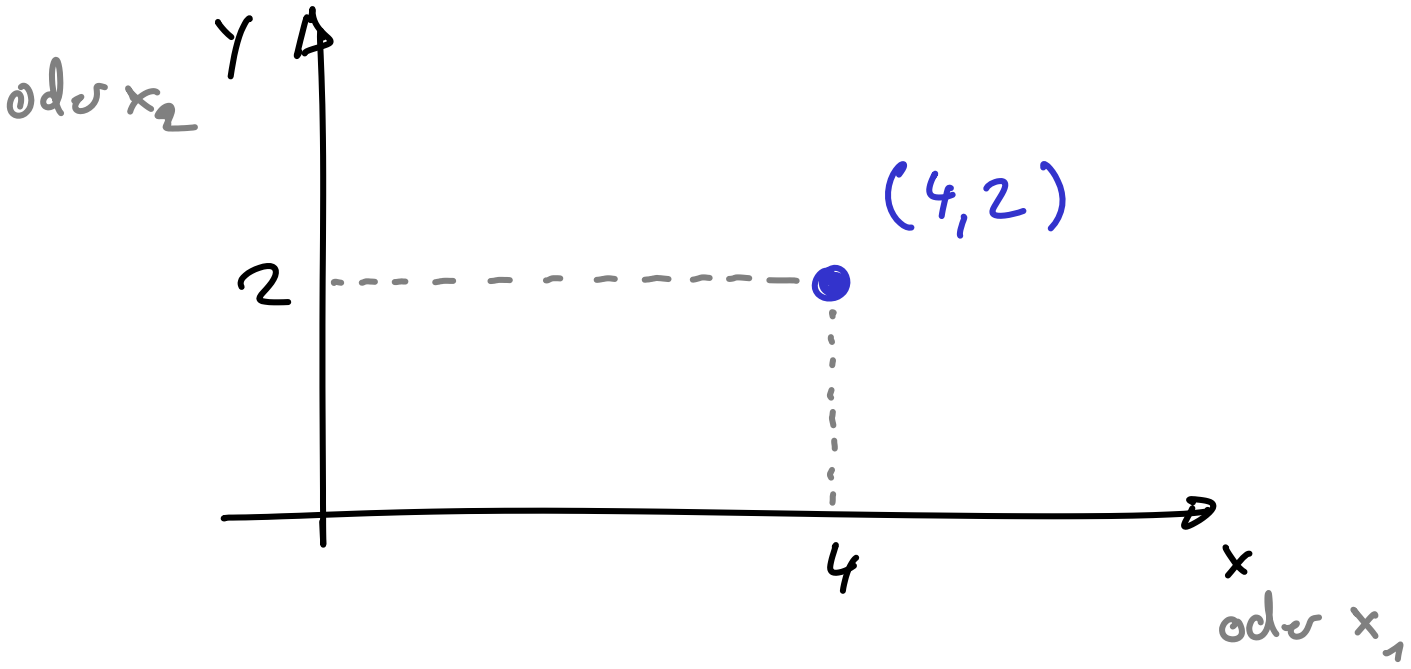
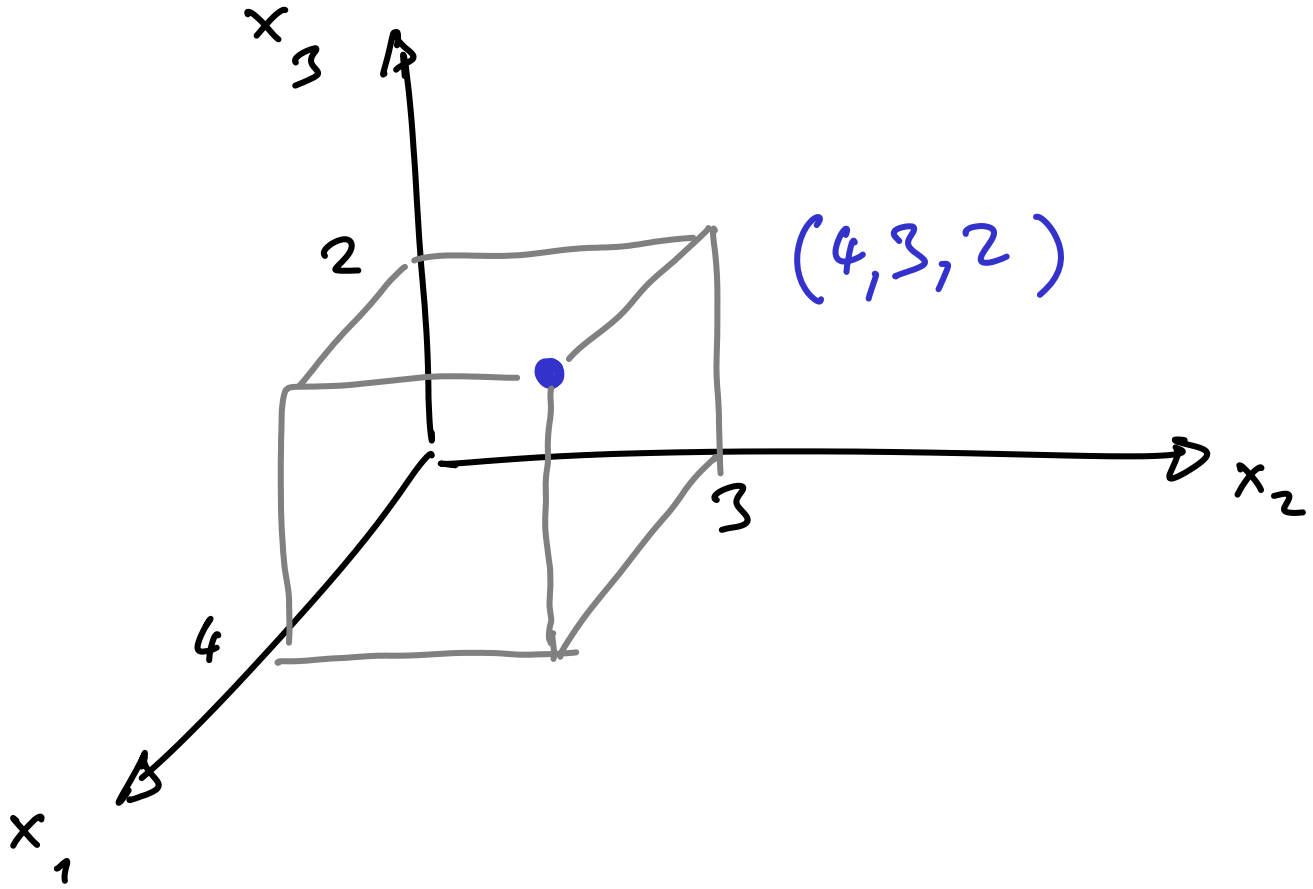
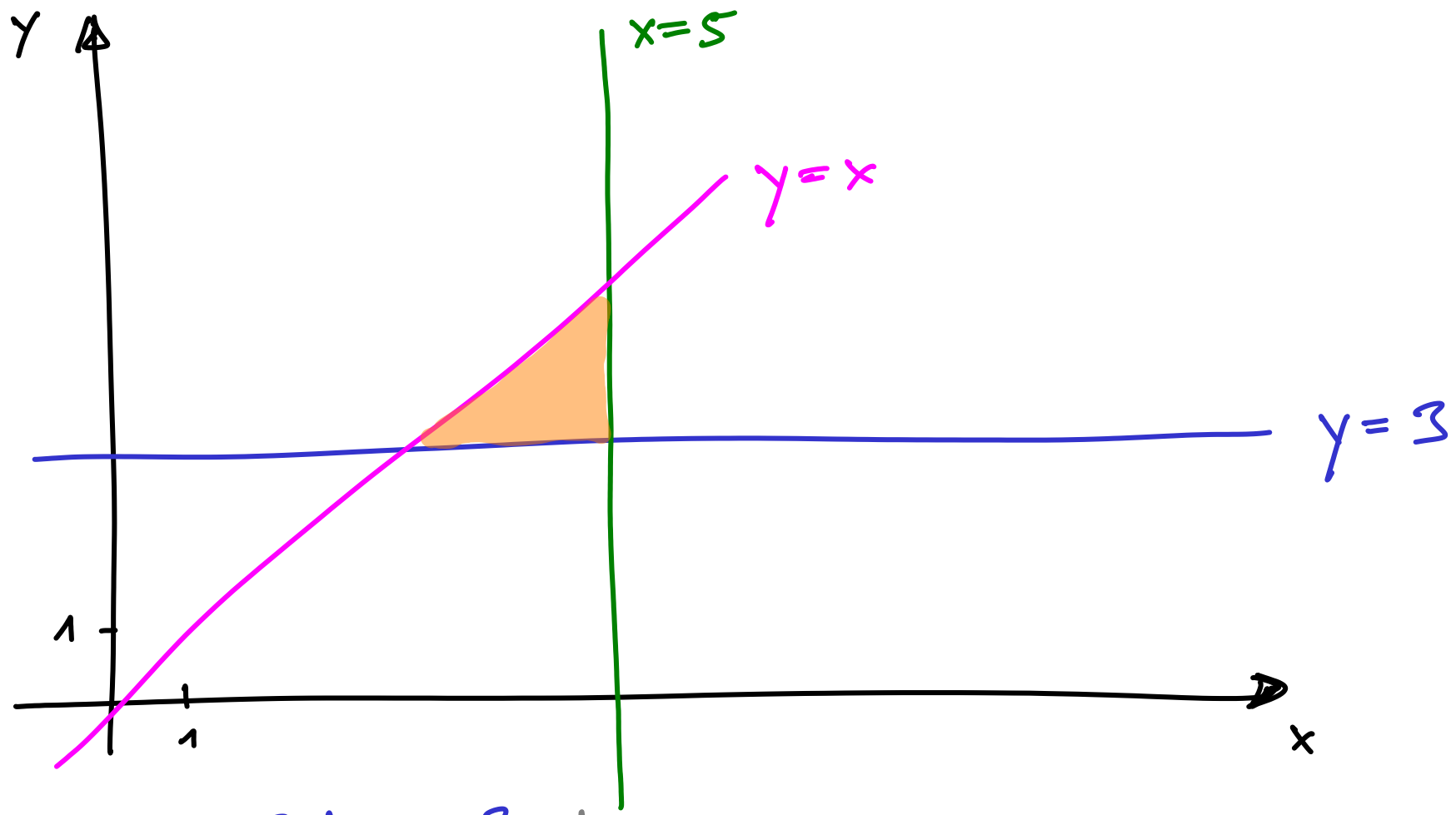

Y
oder x_2
(4, 2)
2
4
X
oder x_1


x_3
2
(4,3,2)
x_2
3
4
x_1



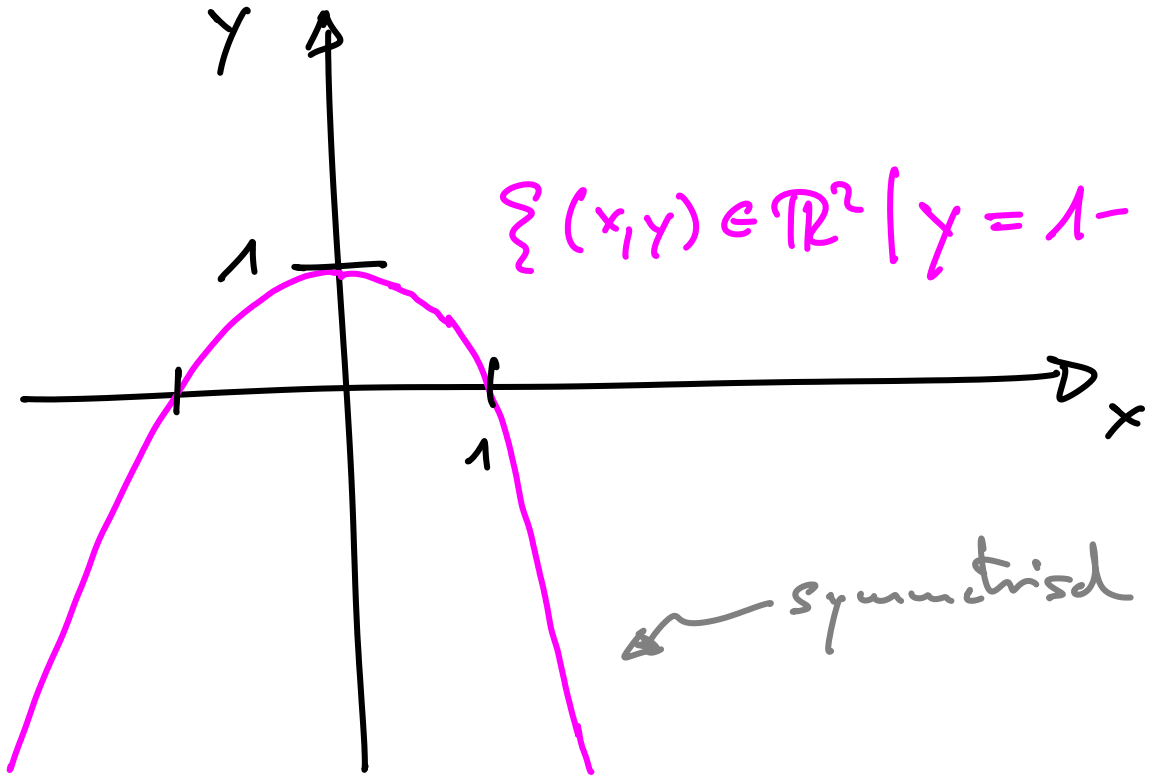
$\{(x,y) \in \mathbb{R}^2 \mid y = 3\}$

$\{x,y, \in \mathbb{R}^2 \mid x = 5\}$

$\{(x,y) \in \mathbb{R}^2 \mid y = x\}$

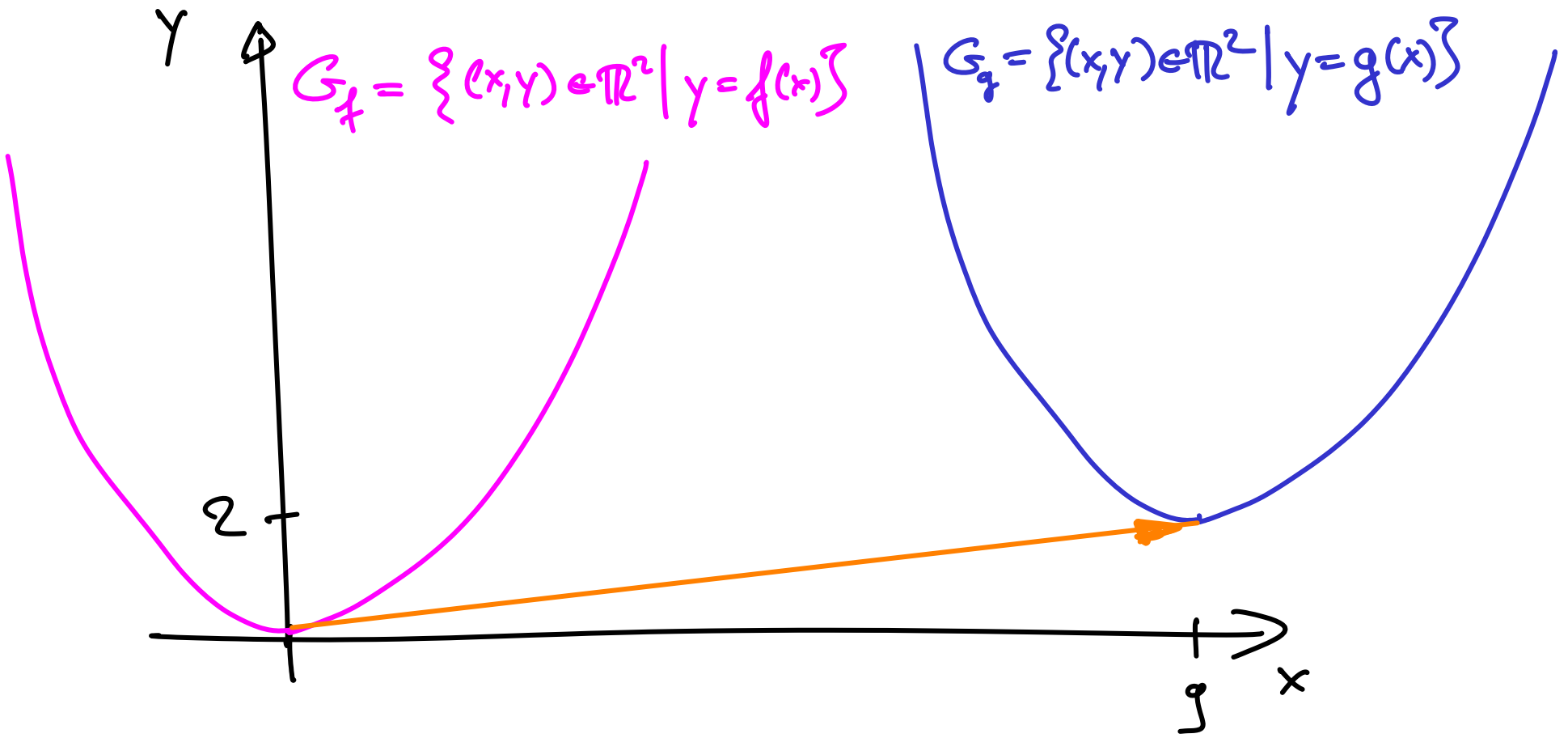
$\{(x,y) \in \mathbb{R}^2 \mid x \leq 5\} \cap \{(x,y) \in \mathbb{R}^2 \mid y \geq 3\} \cap \{(x,y) \in \mathbb{R}^2 \mid y \leq x\}$

$= \{(x,y) \in \mathbb{R}^2 \mid x \leq 5 \text{ und } y \geq 3 \text{ und } y \leq x\}$



$\{(x,y) \in \mathbb{R}^2 \mid y = 1 - x^2\}$

← symmetrisch



$$g(x) = f(x-g) + 2$$

$$G_f = \{(x,y) \in \mathbb{R}^2 \mid y = f(x)\}$$

in Skizze $u = 9,\ v = 2$

Translation: $(x,y) \longmapsto (x+u, y+v) = (\tilde{x}, \tilde{y})$

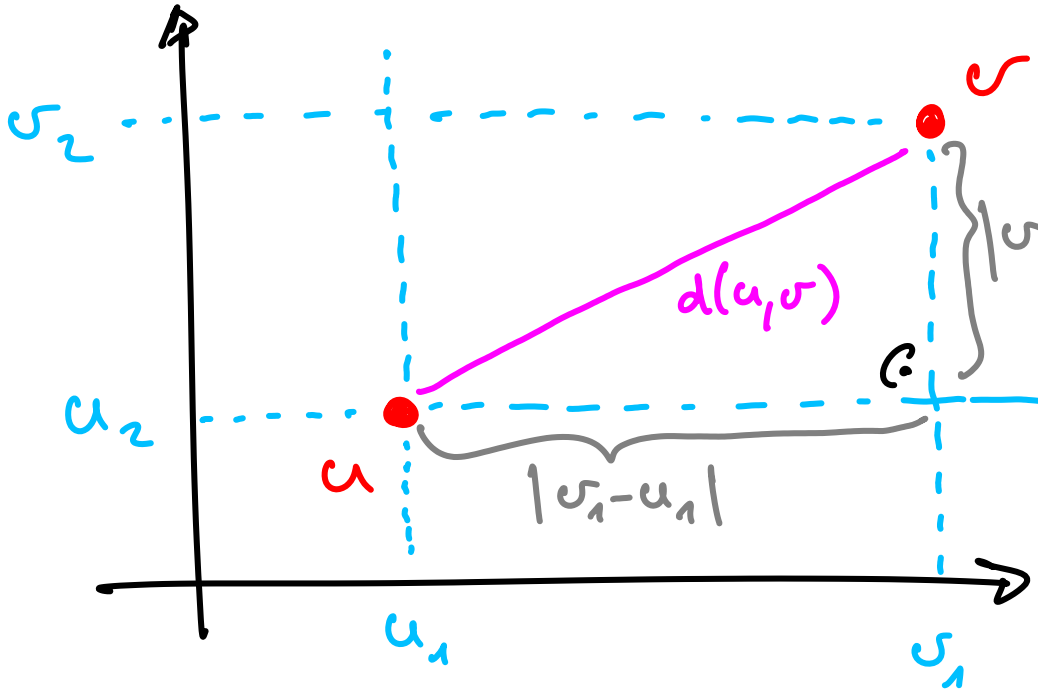
$$G_f \longmapsto \{(\tilde{x},\tilde{y}) \in \mathbb{R}^2 \mid y = f(x)\}$$

$$= \{(x+u, y+v) \in \mathbb{R}^2 \mid y = f(x)\} \quad \begin{matrix} x = \tilde{x} - u \\ y = \tilde{y} - v \end{matrix}$$

$$= \{(\tilde{x},\tilde{y}) \in \mathbb{R}^2 \mid \tilde{y} - v = f(\tilde{x} - u)\}$$

$$= \{(\tilde{x},\tilde{y}) \in \mathbb{R}^2 \mid \tilde{y} = f(\tilde{x} - u) + v\}$$ nenne $\tilde{x}$ wieder x und $\tilde{y}$ wieder y

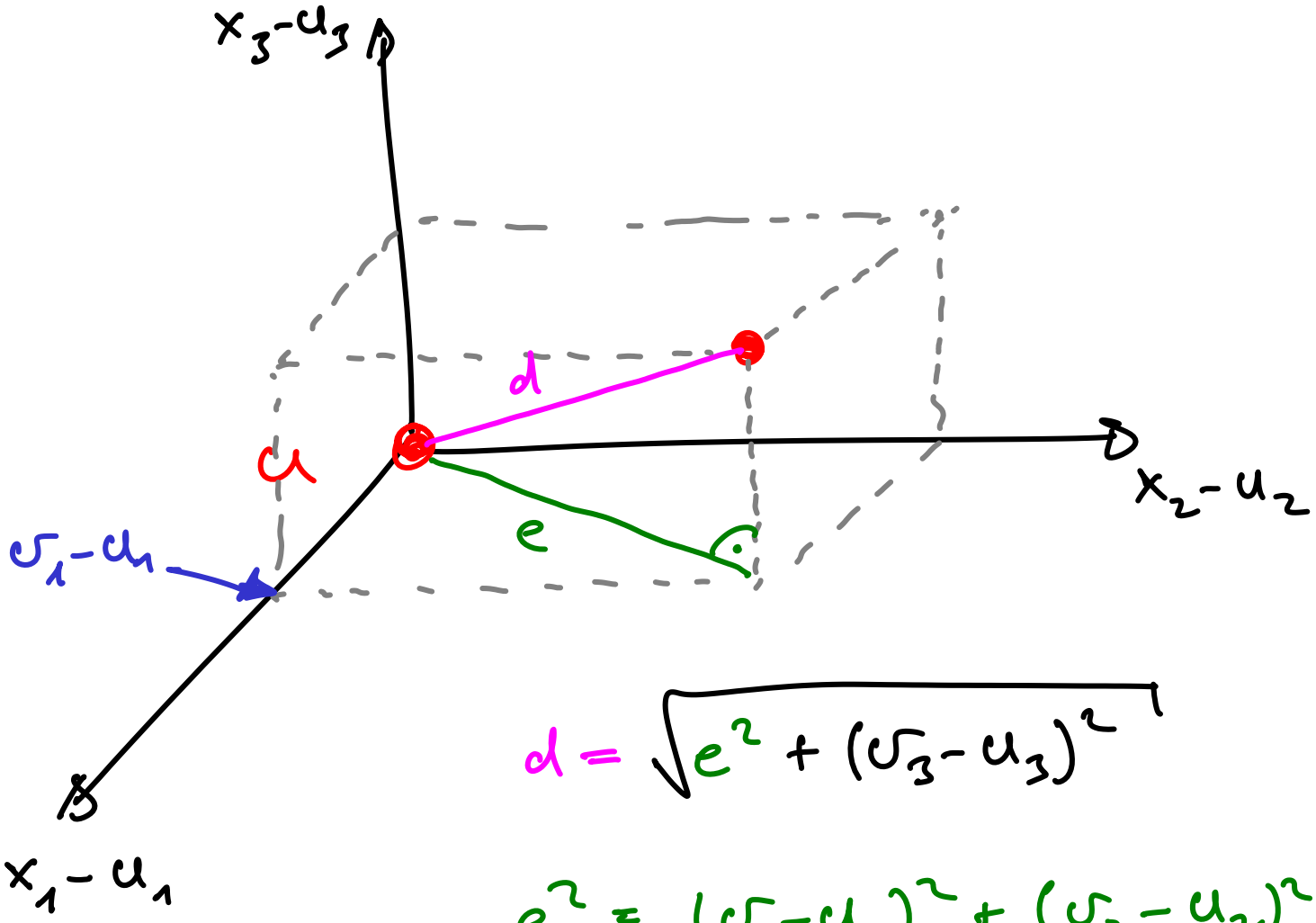
$$= \{(x,y) \in \mathbb{R}^2 \mid y = \underbrace{f(x-u) + v}_{= g(x)}\}$$



$$d(u,v) = \sqrt{(u_1-v_1)^2 + (u_2-v_2)^2}$$

Pythagoras

$d : \mathbb{R}^4 \to \mathbb{R}$ bzw. $d : \mathbb{R}^2 \times \mathbb{R}^2 \longrightarrow \mathbb{R}$



$$d = \sqrt{e^2 + (v_3 - u_3)^2}$$

$$e^2 = (v_1 - u_1)^2 + (v_2 - u_2)^2$$

@ Bergmannsche Regel:

Wärmeproduktion prop. zum Volumen V

Wärmeverlust prop. zur Oberfläche O

} im Wesentlichen

Quotient:

$$\frac{O}{V} \xrightarrow[\text{zentr. Streckung}]{\alpha > 1} \frac{\alpha^2 O}{\alpha^3 V} = \frac{1}{\alpha}\frac{O}{V}$$

Kragebär

Eisbär

Kreislinie u & r gegeben

$$\{ v \in \mathbb{R}^2 \mid d(u,v) = r \}$$

$$= \{ v = (v_1, v_2) \in \mathbb{R}^2 \mid (v_1 - u_1)^2 + (v_2 - u_2)^2 = r^2 \}$$

Mittelpunktskoordinate