

Zu berechnen $\int_{\Omega} 1 \, dL_2(x,y)$ mit $\Omega := \{(x,y) \in \mathbb{R}^2 : 2 \leq x \leq 3 \quad x \leq y \leq x^2\}$

$$\int_{\Omega} 1 \, dL_2(x,y) = \int_{[2,3]} \int_{[x, x^2]} 1 \, dL_1(y) \, dL_1(x)$$

stetig

$$= \int_{[2,3]} [y]_x^{x^2} \, dL_1(x)$$

$$= \int_{[2,3]} (x^2 - x) \, dL_1(x)$$

stetig

$$= \left[\frac{1}{3} x^3 - \frac{1}{2} x^2 \right]_2^3$$

$$= \frac{23}{6}$$