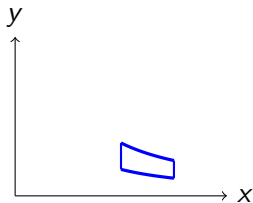


Beräkna

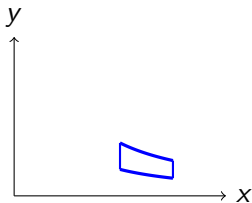
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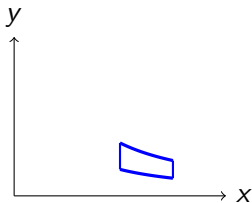


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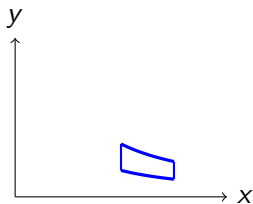
$$\begin{cases} u = xy \\ v = x \end{cases}$$

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$$\begin{cases} u = xy \\ v = x \end{cases} \Leftrightarrow \begin{cases} x = v \\ y = u/v \end{cases}$$

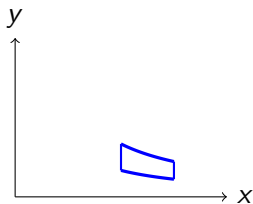
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Området ges nu av olikheterna $1 \leq u \leq 2$, $2 \leq v \leq 3$.

$$\iint_D x^2 y^2 dx dy = \int_2^3 \left(\int_1^2 u^2 \frac{1}{v} du \right) dv$$

$$\begin{aligned}\iint_D x^2 y^2 dx dy &= \int_2^3 \left(\int_1^2 u^2 \frac{1}{v} du \right) dv = \\ \int_2^3 \frac{1}{v} dv \cdot \int_1^2 u^2 du &= \dots = \frac{7 \ln(3/2)}{3}.\end{aligned}$$