

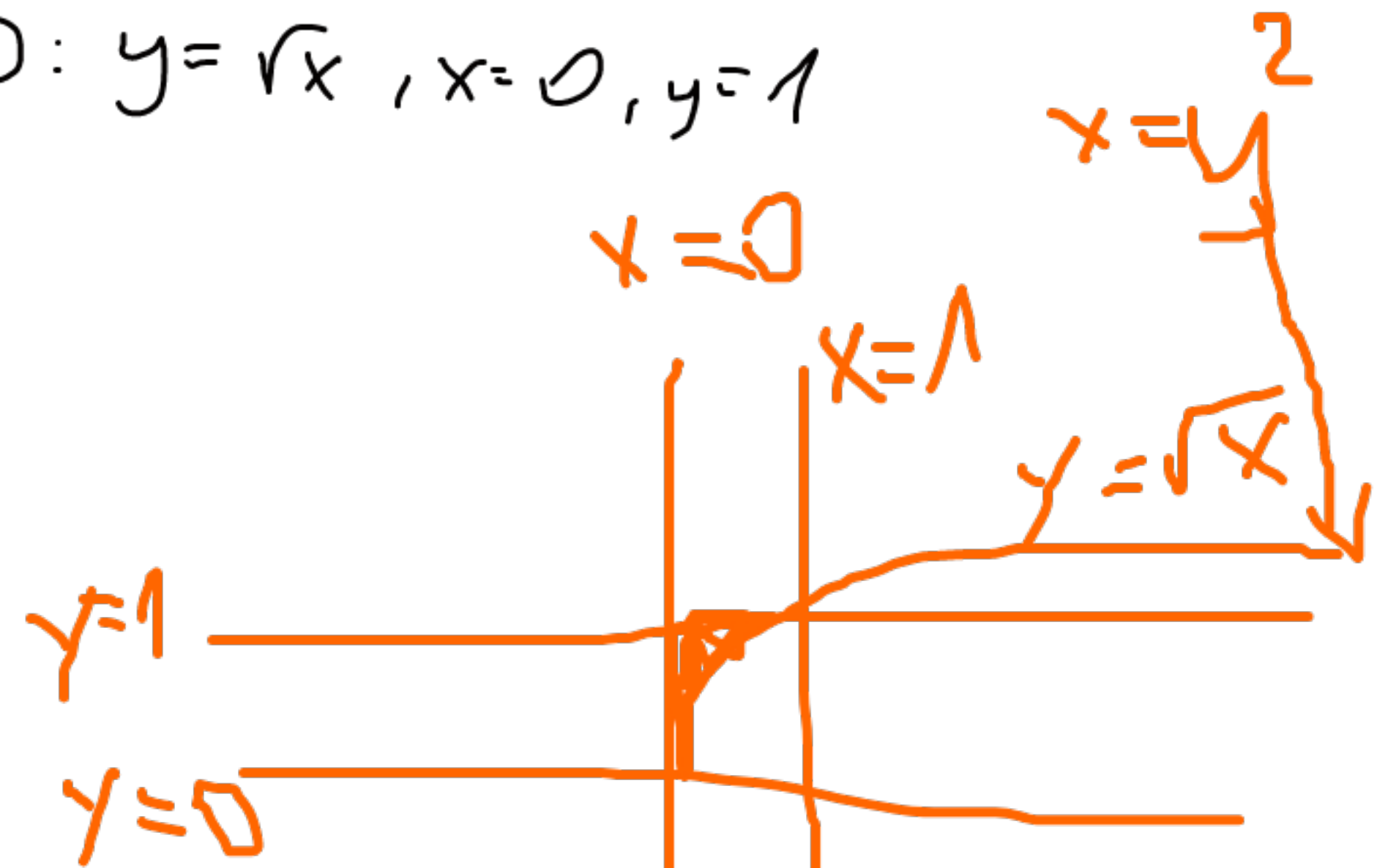
$$\iint e^{\frac{x}{y}} dx dy$$

$$\int_0^1 dy \int_0^{y^2} e^{\frac{x}{y}} dx = \left. \begin{array}{l} t = \frac{x}{y} \\ dt = \frac{1}{y} dx \end{array} \right|$$

$$\int_0^1 dy \left[ y \cdot e^{\frac{x}{y}} \right]_0^{y^2} = \int_0^1 (y e^y - y) dy = \left[ e^y \cdot (y-1) - \frac{y^2}{2} \right]_0^1 =$$

$$= 0 - \frac{1}{2} + 1 = \frac{1}{2}$$

$$D: y = \sqrt{x}, x=0, y=1$$



$$\int_0^1 y e^y dy = \int_0^1 y (e^y)' dy =$$

$$= y e^y \Big|_0^1 - \int_0^1 y' e^y dy =$$

$$y e^y - e^y + C = \cancel{y(e^y - 1)} + C = e^y (y-1) + C$$

$$\int_0^1 dx \int_{\sqrt{x}}^1 e^{\frac{x}{y}} dy = ?$$