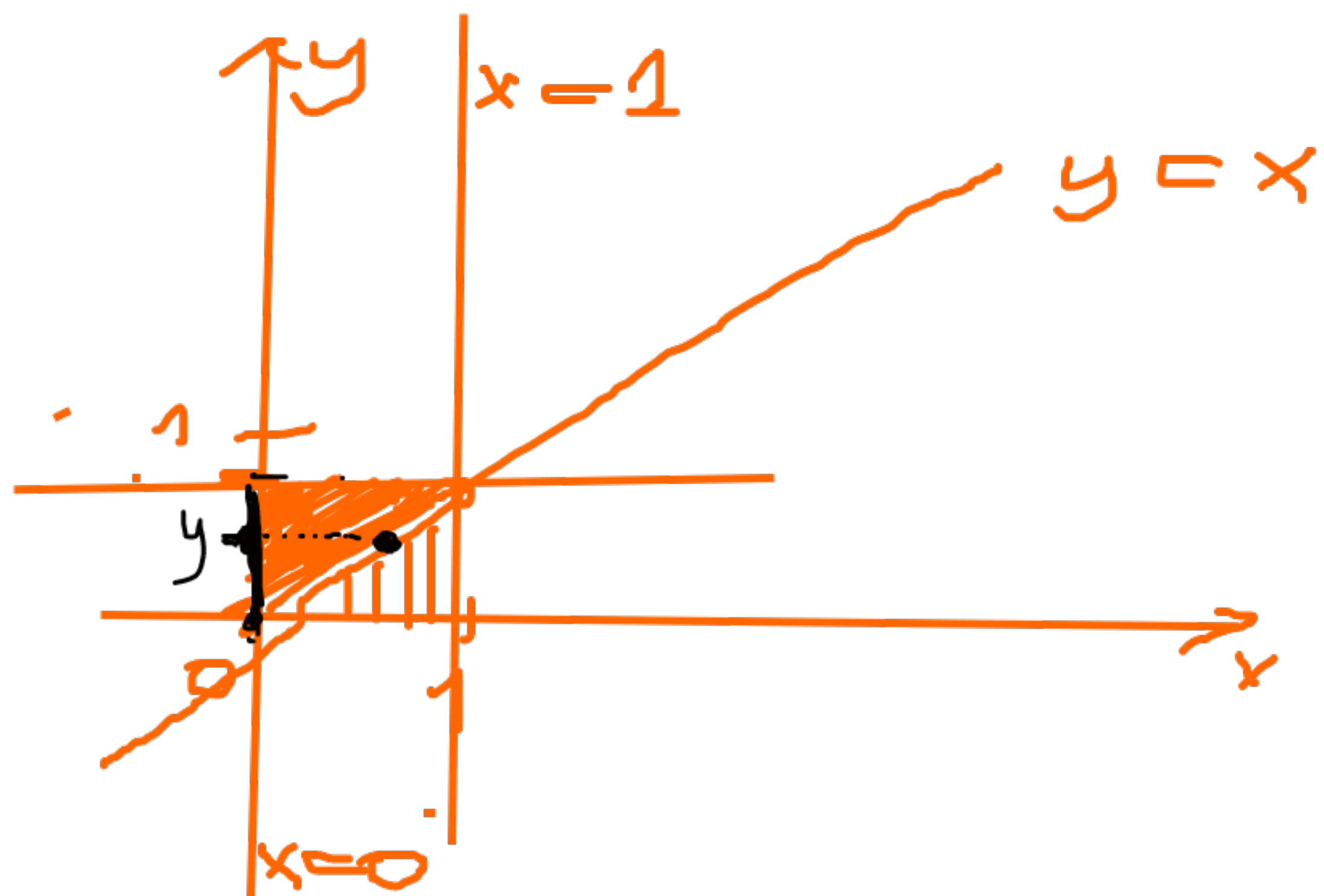


$$\int_0^1 dx \int_x^1 \sqrt{1 + \frac{x}{y}} dy$$



$$\int_0^1 dy \int_0^y \sqrt{1 + \frac{x}{y}} dx$$

$$\int \sqrt{1 + \frac{x}{y}} dx =$$

$$= \left| t = 1 + \frac{x}{y} \right|$$

$$dt = \frac{1}{y} dx$$

$$= \int y \sqrt{t} dt = \frac{1}{2} y \int t^{1/2} dt$$

$$= y \left[\frac{2}{3} t^{3/2} + c \right] = y \left(\frac{2}{3} \left(1 + \frac{x}{y} \right)^{3/2} + c \right)$$

$$= \int_0^1 y \left[\frac{2 \left(1 + \frac{x}{y} \right)^{3/2}}{3} \right]_0^y dy = \int_0^1 y \left[\frac{2(1+2)^{3/2}}{3} - \frac{2}{3} \right] dy$$

$$= \frac{2^{3/2} - 2}{3} \left. \frac{y^2}{2} \right|_0^1$$