Aalto university
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Homework 1, due Monday 8th March 2021 at 23:59.
Differential and integral calculus 3, MS-A0311.

The solutions will be presented Tuesday 9.3 or Wednesday 10.3.

(1) Find the volume of the solid under $z = 1 - x^2$ and above the region in the plane given by the inequalities $0 \leq y \leq 1$, $0 \leq x \leq y$. (4p)

(2) Calculate

$$\int_3^4 \int_1^2 \frac{1}{(x+y)^2} \, dy \, dx.$$

(4p)

(3) Write down the equations for the curves that bound the domain of integration in

$$\int_0^4 \int_y^{10-y} f(x,y) \, dx \, dy.$$

Sketch the domain. (4p)