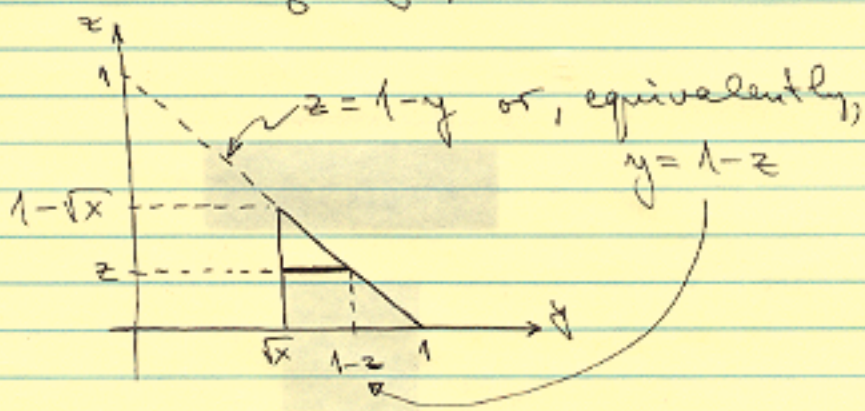


$$I_2 = \int_0^1 dx \int_0^{1-\sqrt{x}} dy \int dy f(\dots)$$



For a given  $z \in [0, 1 - \sqrt{x}]$ , the allowed range for  $y$  is  $[\sqrt{x}, 1 - z]$ , so the integral becomes

$$I_2 = \int_0^1 dx \int_0^{1-\sqrt{x}} dz \int_{\sqrt{x}}^{1-z} dy f(x, y, z)$$

3) Now I will take  $z$  to be the "outside" variable, and will write the integral in the form

$$I_3 = \int dz \int dy \int dx f(\dots)$$

The variable  $z$  takes all values between 0 and 1, so

$$I_3 = \int_0^1 dz \int dy \int dx f$$

For a fixed value of  $z \in [0, 1]$ , we have