

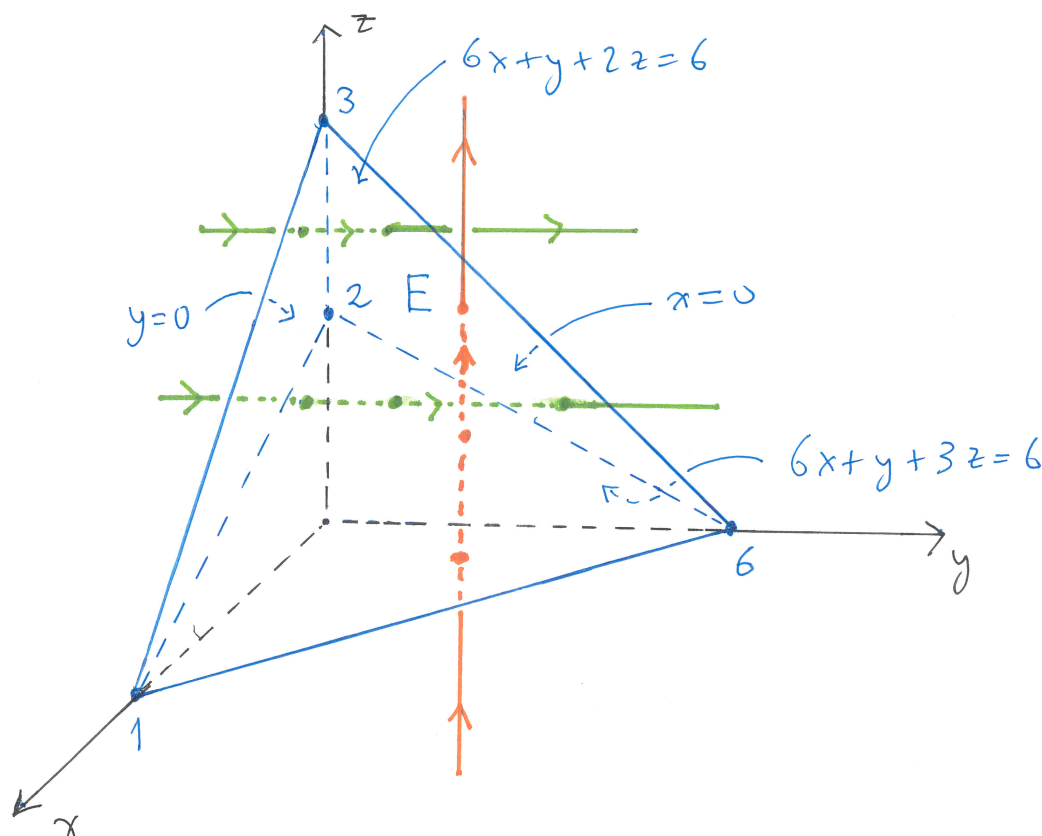
3. Consider the iterated integral:

$$I = \int_0^6 \int_0^{1-y/6} \int_{2-2x-y/3}^{3-3x-y/2} f(x, y, z) dz dx dy$$

a. The iterated integral I corresponds to a triple integral

$$\iiint_E f(x, y, z) dV$$

where E is a region in space. Draw a picture of the region E , and clearly label the surfaces bounding it with their equations and clearly label the important points with their coordinates.



b. Express the iterated integral I in terms of iterated integrals with the order of integration $dy dz dx$.

$$I = \int_0^1 \int_{2-2x}^{3-3x} \int_0^{6-6x-2z} f(x, y, z) dy dz dx$$

$$+ \int_0^1 \int_0^{2-2x} \int_{6-6x-3z}^{6-6x-2z} f(x, y, z) dy dz dx$$