1. Evaluate $\int\int_D y^3 \, dA$ where D is the triangle in the (x, y)-plane with vertices $(0,2)$, $(1,1)$, and $(3,2)$.

2. Sketch the region D of integration and change the order of integration for the iterated integral

$$\int_0^4 \int_0^{\sqrt{x}} f(x, y) \, dy \, dx$$