1. Use iterated integrals to find the area of the region bounded by
   $y = 1 - x$ and $y = 3x^2 - 1$

2. Sketch the region determined by the bounds and reverse the order of
   integration

   (a) $\displaystyle\int_0^3 \int_{x-3}^{-x+3} 1 \, dy \, dx$

   (b) $\displaystyle\int_0^1 \int_y^{\sqrt[3]{y}} 1 \, dx \, dy$

   (c) $\displaystyle\int_{-\sqrt{2}}^0 \int_0^{-x^2+2} 1 \, dy \, dx \; + \; \int_0^4 \int_0^{-\frac{1}{2}x+2} 1 \, dy \, dx$

   (You can combine this to one integral!)