

Class Exercise 2

1. Reverse the order of integration in the iterated integral

$$\int_{-3}^1 \int_{x^2}^{3-2x} f(x, y) dy dx.$$

Sketch the figure first. The answer should be the sum of two integrals.

2. Sketch the region of integration and the solid whose volume is given by the double integral

$$\int_{-4}^4 \int_{-\sqrt{16-x^2}}^{\sqrt{16-x^2}} \sqrt{25-x^2-y^2} dy dx .$$

No need to evaluate the integral.

3. Find the area of the region bounded by the lines $y = 2x$, $y = x/2$ and $y = 3 - x$.