

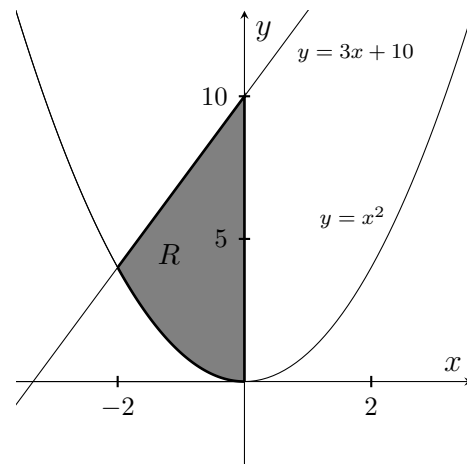
1. (2ea) Sketch the region of integration of the following.

(a) $\int_0^5 \int_{-2}^{x+1} (x^2 + y^2) dy dx$

(b) $\int_{-1}^2 \int_0^{\sqrt{4-x^2}} \sin(x-y) dy dx$

2. (5) Evaluate the integral $\int_T 3xy dA$, where T is the triangle with vertices $(1, 1)$, $(2, 2)$, and $(3, 1)$.

3. (6) Let R be the region bounded between the y -axis and the graphs of $y = 3x + 10$ and $y = x^2$. Compute the value of $\int_R 4xy + 10x^2 dA$.



4. (5) Evaluate the integral $\int_0^1 \int_{2x}^2 4e^{y^2} + 3x \, dy \, dx$.