Homework 7 **Due February 19, 2026**
Calculus II **Prof. Nollet**

Section 6.6 #1, #4, #9 + volumes of revolution about (a) $x = 0$, (b) $x = -1$, (c) $x = -10$, (d) $y = 1$, (e) $y = -1$ (f) $y = 1/4$, #20.
A. Find the centroid of the region between $y = x^2$ and $y = -3x$, also find the volume of revolution about the x-axis and y-axis.

Hints:
#1 Straightforward.
#4 Straightforward.
#9 Use the formulas to find the mass=area, the y-moment, x-moment and center of mass. Then use Pappus theorem from class to quickly find the volumes of revolution about the axes given.
#20 Your answers will be in terms of the number $a > 1$. Symmetry suggests $\overline{y} = 0$. The limit question at the end should be easy enough.
#A. The region is in the 4th quadrant, to the left of the y-axis. Find the centroid with the usual formulas, then use Pappus' theorem to easily find the two volumes of revolution.