

# Homework 7

Math 232 section 006

Due: Thursday, November 8th

1. Find the area between the curves  $y = \frac{1}{x+2}$  and  $y = \sqrt{x+1}$ , bounded by  $x = 0$  and  $x = 10$ .

2. Find the volume obtained by rotating the curve  $y = \frac{3}{x+1} - 1$ , bounded by the y-axis, about the x-axis.

3. Find the volume obtained by rotating the curve  $y = \cos(x)$ , bounded by  $x = 0$  and  $x = \pi$ , about the y-axis.

4. Find the volume of the following solids:

- (a) Rotate the area between the curves  $y = 4x + 5$  and  $y = x^2$ , bounded by  $x = 0$ , about the x-axis.
- (b) Rotate the same area about the y-axis.

Bonus: Sketch the parametric curve traced out by

$$x = 5 \cos(t)$$

$$y = 2 \sin(t)$$

where  $t \in [0, 2\pi]$ . Then find the volume enclosed by it.