

NAME(print in CAPITAL letters, first name first): _____

NAME(sign): _____

ID#: _____

Instructions: There are five problems. Some questions are easier than others so you are encouraged to read the entire exam before beginning your work. Make sure that you have all 5 problems.

Points received:

1

2

3

4

5

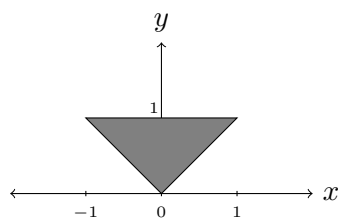
TOTAL

1. (20 points.) Find the area of the region bounded by the graphs of $y = 0$, $y = x^2$, and $x + y = 2$.

2. (20 points.) Find the area of the region bounded by the graphs of $y = x^3$, $y = (x - 1)^3$, $y = 1$ and $y = 2$.

3. (20 points.) The region bounded by the graphs of $y = x$ and $y = x^2$ is revolved about the x -axis. Find the volume of the resulting solid.

4. (20 points.) Find the mass of the triangular region below. All lengths are in meters, and the density of the region is given by $\delta(y) = e^{y^2}$ grams/m².



5. (20 points.) The region bounded by the graphs of $y = \sqrt{x+1}$, $x = 0$, $x = 3$ and the x -axis is revolved about the line $x = -2$. Find the volume of the resulting solid.