

Name _____ Student number _____ Quiz
section: _____

There are two problems in this quiz (the other one is on the back of this page), total of 20 points. Write legibly and show your work fully.

1. (10 points) The region is bounded by $y = x^2 - x - 2$ and $y = 0$. Find the volume of the resulting solid by rotating it about the line $x = -2$.

2. (10 points) An aquarium 3 meters long, 2 meters wide, and 1 meter deep is full of water. Find the work needed to pump one third of the water out of the aquarium. The density of water is 1000 kg/m^3 .