QUIZ 3

- Show all your work and indicate your final answer clearly. You will be graded not merely on the final answer, but also on the work leading up to it.

1. (3 points) Find the volume of the solid formed by rotating the region between the curves $y = e^x$ and $y = (e - 1)x + 1$ around the line $x = 2$.

2. (3 points) A box is pushed from $x = 0$ to $x = 10$ by a variable force with value $3x^2$. How much work is done?

3. (4 points) A rectangular tank with a square base of side length 1 meter and a height of 3 meters is full of water. How much work must be done to pump all the water out of a spigot at the top of the tank?