

MATH 1A – THE LAST ONE!!!

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Name: _____

Instructions: This is it, you guys!!! Your (almost) final hurdle to freedom! You have 20 minutes to take this quiz, for a total of 10 points. **Show your work!** May your luck be voluminous :)

- (1) (5 points) Find the volume of the donut obtained by rotating the disk of center $(3, 0)$ and radius 2 around the y -axis.

- (2) (5 points) The surface of a bowl is obtained by rotating the curve $x = \ln(y + 4)$, for $y \geq 0$, about the y -axis. Water pours into the bowl at a constant rate of 3 cubic units/min. How fast is the water level rising when the water is $e^3 - 4$ units deep?

You're DONE!!!

Thank you for choosing Peyam Airlines, it was a pleasure having you on board, and I hope you had a safe and enjoyable trip! :D