Math 252, Fall 2020                                          Name:
Quiz 5                                                              Due: Midnight, Sept.28

In **30 minutes** do the following problems, **without help** from any references, computing devices, or people. Write your solutions on either a printout or blank paper. If you use blank paper, do the problems on **1 sheet of paper, in the order given.** Upload a pdf of your solutions to **Gradescope, by midnight.**

Show your work.

1. A 3-dimensional object has a base given by the region in the plane between the graphs of $y = x^2$ and $y = 9$. Its cross sections perpendicular to the $y$-axis are squares. Compute its volume.

2. The region bounded by the curve $y = x^3$, the $y$-axis, and the line $y = 8$ is rotated about the axis $x = -3$. Using the method of cylindrical shells, compute the resulting volume.