## Math 21B: Calculus II Fall 2016, Sections B01-B02 Homework Sheet 6 Due: Tuesday, November 8th, 2016

Submit your solutions to the following problems at the beginning of your discussion section on Tuesday, November 8th. You should present your work in a clean and organized fashion, either on a printed copy of this document or a separate sheet of paper. As stated in the syllabus, late submissions will **not** be accepted.

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1.	Find the volume of the solid obtained by revolving the region bounded by $y=e^x, \ x=0,$ $x=2$ and the x-axis, about the x-axis.
2.	Find the volume of the solid obtained by revolving the region given in the previous problem
	about the $y$ -axis (hint: use the shell method).
3.	Find the volume of the solid obtained by revolving the region given in the previous problem about the line $y=-4$ .

4. Find the volume of the solid obtained by revolving the region bounded by y=x and  $y=x^2$  about the line x=3.

5. Find the volume of the solid whose base is the region bounded by  $y = x^2$ , x = 0, x = 1, and the x-axis, and whose cross-sections perpendicular to the y-axis are squares.

6. Find the volume of the solid whose base is the region bounded by  $y = e^x$ , x = 0, x = 2, and the x-axis, and whose cross-sections perpendicular to the x-axis are half-circles.