

Basic Information

This assignment is due on Gradescope by **3 PM on Friday, November 15**.

Make sure you understand MHC [honor code](#) and have carefully read and understood the additional information on the [class syllabus](#). I am happy to discuss any questions or concerns you have!

Since this is a 200-level mathematics course, quite a few homework questions will ask you to explain your reasoning or process for solving a problem. Whenever possible, write your explanations in complete sentences and write your answers as if you were explaining to a peer in the class.

The homework problems will be graded anonymously so please do not put your name or other identifying information on the pages.

Turn In Problems

- 13.6: 16 – set up but do not integrate the 6 integrals
- 13.7: 14, 18
- #4. Set up but do not integrate the 6 integrals that could represent the volume of the tetrahedron in the first octant formed by the planes $x + 2y + z = 2$ and $x = 2y$.
- #5. Evaluate $\iiint_R 9 - x^2 - y^2 \, dV$ where R is the *filled in* hemisphere $x^2 + y^2 + z^2 \leq 9$ above the xy -plane.

Here is a Desmos link for pictures from the first and 4th problem:

<https://www.desmos.com/3d/aisv7ke6in>

Additional Problems (to do on your own, not to turn in)

- 13.6: 15 (set up but do not integrate the 6 integrals)
- 13.7: 15, 17
- Evaluate $\iiint_R z \, dV$ where R lies between the spheres $x^2 + y^2 + z^2 = 1$ and $x^2 + y^2 + z^2 = 4$ in the first octant.