

# MATH 203 Calculus III

## Homework 18

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### Basic Information

This assignment is due on Gradescope by **1:30 PM on Tuesday, April 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

- 13.3: 6, 14 For #6, it might help to know that  $\sin^2 x = \frac{1 - \cos 2x}{2}$ .
- 13.6: 10: set up all 6 integrals, but don't integrate any of them.  
14: set up  $dz$   $dx$   $dy$  and  $dz$   $dy$   $dx$   
Desmos Link: <https://www.desmos.com/3d/ibav15v35y>
- 13.7: 8a and b, 12

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

- 13.3: 7, 13  
13.6: 9, 13: Set up as many as you can for each of these. Don't worry about integrating them unless you feel like you need the practice.  
13.7: 7, 11