

Basic Information

This assignment is due on Gradescope by **1:30 PM on Tuesday, February 25**.

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

- 12.3: 2, 6, 8
- On the next page you will find six graphs of functions of two variables, as well as six level curves. Match each of the six equations below with a graph and a level curve picture *without using Desmos*. **Make sure to briefly explain all of your choices.**¹

$$f(x, y) = \sin(xy)$$

$$f(x, y) = e^x \cdot \cos y$$

$$f(x, y) = \sin(x - y)$$

$$f(x, y) = \sin x - \sin y$$

$$f(x, y) = (1 - x^2)(1 - y^2)$$

$$f(x, y) = \frac{x - y}{1 + x^2 + y^2}$$

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

- 12.3: 5, 7

¹Problem and pictures below from Stewart's Calculus: Early Transcendentals 6th Edition, pg 868-869.

