Basic Information

This assignment is due on Gradescope by **3 PM on Tuesday, September 24**.

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

- 10.5: 10, 20
- 10.6: 14, 18
- 11.2: 24
- 12.1: 20
- 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.**

$$f(x, y) = \sin\sqrt{x^2 + y^2} \qquad f(x, y) = x^2 y^2 e^{-x^2 - y^2} \qquad f(x, y) = \frac{1}{x^2 + 4y^2}$$

$$f(x, y) = x^3 - 3xy^2 \qquad f(x, y) = (\sin x)(\sin y) \qquad f(x, y) = \sin^2 x + \frac{1}{4}y^2$$

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

- 10.5: 9, 21
- 10.6: 13, 17
- 11.2: 24
- 12.1: 19