MATH 203 Calculus III
Homework 18

Basic Information
This assignment is due on Gradescope by **3 PM on Friday, November 22**.

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.

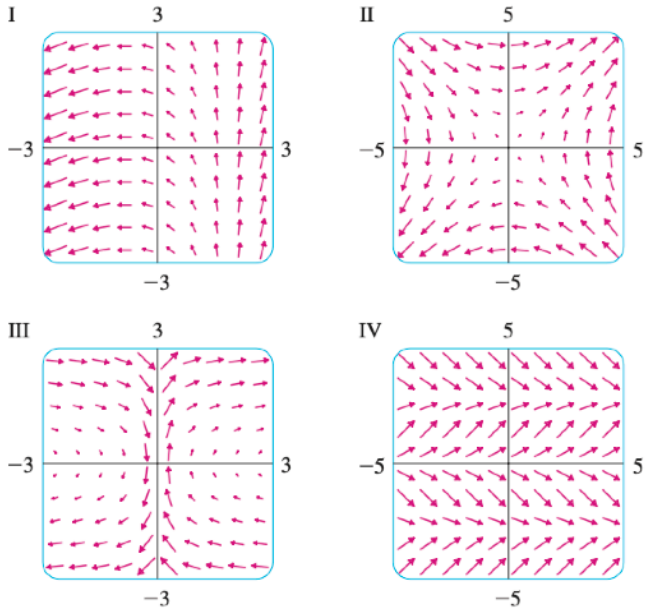
The homework problems will be graded anonymously so please do not put your name or other identifying information on the pages.

Turn In Problems
9.3 : 36
14.1: 6, 8

#4[1]. Evaluate the line integral $\int_C (2x + 9z)\, ds$ where C is the curve defined as $x = t, y = t^2, z = t^3$ for $0 \le t \le 1$.

#5. To the right are plots of 4 vector fields. Match those with the vector fields listed below:

(a) $\vec{F}(x, y) = \langle y, x \rangle$
(b) $\vec{F}(x, y) = \langle 1, \sin y \rangle$
(c) $\vec{F}(x, y) = \langle x - 2, x + 1 \rangle$
(d) $\vec{F}(x, y) = \langle y, 1/x \rangle$



Additional Problems (to do on your own, not to turn in)
9.3 : 35
14.1: 5, 7

Evaluate the line integral $\int_C x^2 y\sqrt{z}\, ds$ where C is the curve defined as $x = t^3$, $y = t, z = t^2$ for $0 \le t \le 1$.

[1] #4 and 5, and the last problem in the additional problems section are from Stewart Calculus 6th edition, pages 1032 and 1043.