MATH 203 Calculus III
Homework 4

Basic Information

This assignment is due on Gradescope by **3 PM on Tuesday, September 17**.

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

10.3: 20, 24
10.4: 12, 36
10.5: 6
#6. DO NOT use Desmos or any other graphing program on this problem. On the next page are the graphs of six space curves. Each of them matches with one of the following six vector-valued functions. Determine which space curve matches which function. Give reasons for each choice.[1]

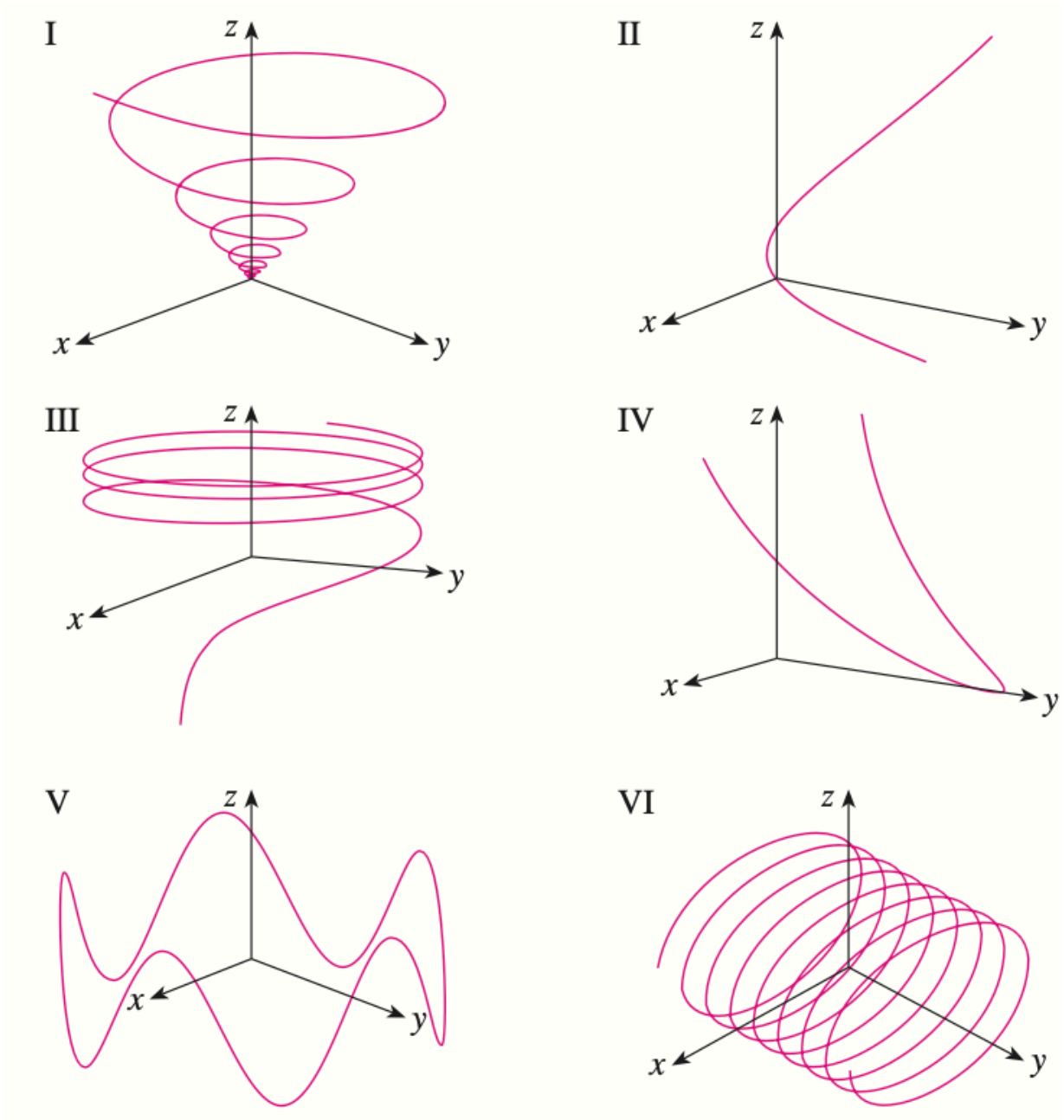
(a) $\langle \cos 4t, t, \sin 4t \rangle$ (b) $\langle t, t^2, e^{-t} \rangle$ (c) $\langle t, \frac{1}{1+t^2}, t^2 \rangle$

(d) $\langle e^{-t}\cos 10t, e^{-t}\sin 10t, e^{-t} \rangle$ (e) $\langle \cos t, \sin t, \sin 5t \rangle$ (f) $\langle \cos t, \sin t, \ln t \rangle$

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

- 10.3: 19
- 10.4: 13, 35
- 10.5: 5

[1] Problem and pictures below from Stewart's Calculus: Early Transcendentals 6th Edition, pg 823.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