

MATH 4550: Applicable Geometry

Problem Set 6

Due at 2:54pm before class starts on March 19, 2015

You are allowed to work in groups, but the solutions you hand in should be written by you only. If you work in a group, you must write the names of your collaborators at the top of your assignment. Explain your reasoning to receive full credit. All problems are worth 10 points. You are strongly encouraged to type your solutions in LaTeX. In any case, please staple your psets!

P1 Problem 5.2 from “Computing the continuous discretely” (see link on website)

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P2 Problem 5.4 from “Computing the continuous discretely”

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P3 Problem 5.5 from “Computing the continuous discretely”

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P4 Is $(1, 2, 3, 1)$ the h -vector of some simplicial polytope? If so, of which? If not, why? How about $(1, 3, 3, 1)$? Does $h_2 = 3$ specify the f -vector of a simplicial 3-polytope? Why? If yes, what is it?