

Fall, 2009

MATH 3500(H)
PROBLEM SET #13

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DUE Wednesday, November 18, 2009.

Problems to work but not hand in:

§5.2: #1a,g,i, 3, 4, 6.

§5.3: #1a,g,i, 6c.

Problems to turn in:

WeBWork Homework 13

§5.2: #5 (3), 9* (4), 11 (4), 14 (4).

N.B. For full credit, be sure to justify existence of a global maximum or minimum. You will have to resort to the technique of Example 5 when the obvious domain is non-compact.

§5.3: #2 (3), 4 (3), 5 (2).

Challenge problems (Turn in separately):

§5.2: #15[†] (5).

§5.3: #8 (3).

*Clearly, in order for us to get finite volume, the plane cannot go through the origin, so you can write its equation as $x_1/x + x_2/y + x_3/z = 1$ for some positive x , y , and z .

[†]This is one of my all-time favorites.