Written Homework 4

Online November 22, 2016. Due: November 29, 4pm

Please write your UNI neatly and staple your work.

Exercise 1 ........................................................................................................ 8 points
Exercise 14.5.43. One side of a triangle is increasing...

Exercise 2 ........................................................................................................ 10 points
(a) (6 points) Exercise 14.5.55. A function f is called homogeneous...
    Part (a) 2 points, Part (b) 4 points.
(b) (4 points) Exercise 14.5.56. If f is homogeneous of degree n...

Exercise 3 ........................................................................................................ 8 points
Exercise 14.6.67. Two surfaces are called orthogonal at a point...
    Part (a) 4 points, Part (b) 4 points.

Exercise 4 ........................................................................................................ 8 points
Exercise 14.7.47. Find the maximum volume of a rectangular box that is inscribed in a sphere of radius r.

Exercise 5 ........................................................................................................ 8 points
Exercise 14.7.21. Show that \( f(x, y) = x^2 + 4y^2 - 4xy + 2 \) has an infinite number...

Exercise 6 ........................................................................................................ 8 points
Exercise 14.7.60. Find an equation of the plane...