## **Math 3593H**

## **Honors Mathematics II Spring Semester 2013**

**Assignment 13** - Due Thursday 5/2/2013. The third mid-term exam will be held on this date, on the topics of sections 4.9, 4.10, 5.1, 5.3, 6.1 - 6.7

**Read:** Hubbard and Hubbard Sections 6.8 and 6.9.

## **Exercises:**

Section 6.8 (pages 633-635): 1, 2, 3, 5\*, 6, 8, 9\*, 10\*. Section 6.9 (page 642-643): 1, 2\*, 3\*, 4, 5, 6, 7.

Extra Question\*: (a) Find a function f(x,y) such that  $\nabla f(x,y) = (2xy + y^3 + 1, x^2 + 3xy^2)$ . (b) Explain why you cannot find an f(x,y) such that  $\nabla f(x,y) = (x^2 + 3xy^2, 2xy + y^3 + 1)$ .