Homework 10
Due: Monday, November 14

1. [F] 2.10.1

2. [F] 2.10.6

3. [F] 3.1.1

4. [F] 3.1.2

5. Consider the function $F(x, y) = y^2 - x^3 - x^2$.

    (a) Sketch the set of points (a, b) such that $F(a, b) = 0$.

    (b) Near $(0, 0)$, does the implicit function theorem let you solve for y as a function of x, or for x as a function of y?

    (c) Give a short (few sentence) heuristic explanation why there can be no function $f : (-\delta, \delta) \to (-\epsilon, \epsilon)$ such that $F(c, d) = 0 \iff d = f(c)$.