Math 380 – Homework 2

Due on Thursday, April 16

You are welcome to talk with other students in the class about problems but should write up solutions on your own. Solutions can be handwritten or typed but need to be legible and submitted via Gradescope by the end of the day on Thursday. You should justify all your answers in order to receive full credit.

Good practice problems (not to be turned in):
CLO Section 1.4, Exercises 2, 3, 6, 8, 16
CLO Section 1.5, Exercises 1, 11, 13, 14, 16
CLO Section 2.1, Exercises 1, 3, 4

Problem 1. CLO §1.4, Exercise 15

You may assume the results of the referenced exercises without proof.

Problem 2. CLO §1.5, Exercise 12 and 15

You may assume the results of Exercise 1, 13, and 14 of this section without proof.

Problem 3. CLO §2.1, Exercise 5

Bonus: Show (c) for rational functions. That is, that any curve in k^2 given parametrically by $x = p_1(t)/q_1(t)$ and $y = p_2(t)/q_2(t)$ where $p_1(t), p_2(t), q_1(t), q_2(t) \in k[t]$ is contained in $V(F)$ for some nonzero $F \in k[x, y]$.