MATH 510 HOMEWORK 2
FALL 2023
Due Tuesday, September 12

Read Miranda, Sections 1.3–2.2

Problems. Problems to be turned in for a grade

1. Problem I.3.D
2. Consider the local complete intersection curve $X \subset \mathbb{P}^3$ defined by

$$x_0 + x_1 = x_0^2 + x_1^2 + x_2^2 + x_3^2 = 2x_1^2 + x_0x_2 + x_2^2 + x_1x_2 + x_3^2 = 0.$$

   Prove that X is actually a (smooth) complete intersection.
3. Problem II.1.H
4. Problem II.2.B

Additional Problems. These problems are also to be done, but will neither be collected nor graded.

1. Problem I.3.E
2. Problem I.3.G
3. Problem II.1.C
4. Problem II.1.D
5. Problem II.1.I

6. Problem II.2.A

7. Problem II.2.F