

Math 627 Homework #4, Fall 2022

Instructor: Ezra Miller


Solutions by: ...your name...

Collaborators: ...list those with whom you worked on this assignment...

Due: Thursday 27 October 2022

READING ASSIGNMENTS in [Vakil]

- by Thursday 20 October: §7.1–7.3
- by Tuesday 25 October: §8.1
- by Thursday 27 October: §8.2
- by Tuesday 1 November: §8.3

EXERCISES: In [Vakil], exercises have labels C.S.N, for “Chapter C, Section S, Exercise N”, where $C, S \in \mathbb{Z}_+$ and $N \in \mathbb{A}, \dots, \mathbb{Z}$. It is not expected that everyone will complete all of the assigned exercises, but those marked “essential” are essential. 

6.3.C

6.3.I

6.3.J (a)

(b) [essential]

6.3.L (a)

(b) [essential]

6.3.M (a)

(b)

6.4.B

6.4.C [essential]

6.4.F [essential; there are easier, more direct ways to do this than resorting to 6.4.E]

6.5.C

6.5.D [essential]

6.5.E

6.5.H

6.5.J

6.5.K [essential]

1.3.P [essential]

1.3.T

NON-BOOK EXERCISE

1. Is a rational map $X \rightarrow Y$ from an integral scheme X is the same as a $K(X)$ -valued point of Y ?

References

[Vakil] Ravi Vakil, *The Rising Sea: Foundations of Algebraic Geometry*, November 18, 2017