

Math 273 Homework #3, Fall 2010

Instructor: Ezra Miller

Solutions by: ...your name...

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

Due: Thursday 14 October 2010

READING ASSIGNMENTS in [Vakil]

- by Thursday 30 September: Chapter 6 (should be mostly review)
- by Tuesday 5 October: Chapter 12, §13.1–§13.3; this plus Chapter 6 is a lot of material, but most of it is review (skip any item mentioning morphisms of schemes)
- by Thursday 7 October: §7.1–§7.3
- by Thursday 14 October: The rest of Chapter 7
- by Thursday 21 October: §8.1 and §8.3; review §8.2

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 “[required]” are essential.

5.5.B [required—and it’s not that tricky]

5.5.C

5.5.F

5.5.K [required]

6.1.B [required]

6.2.A

6.2.D

6.3.C

6.3.D

6.3.E [required]

6.4.H

6.5.B

7.2.E [required]

7.3.E [required]

7.3.F [required]

7.3.J

Additional exercise.

1. [required] Prove that a scheme X is quasiseparated if and only if the intersection of any two affine open subsets is a finite union of affine open subsets.

References

[Vakil] Ravi Vakil, *Foundations of algebraic geometry*, notes dated August 26, 2010.