

**Math 203B (Algebraic Geometry), UCSD, winter 2020**  
**Problem Set 5 (due Wednesday, February 19)**

Solve the following problems, and turn in the solutions to at least *four* of them.

1. Prove that any finite morphism is proper (a/k/a Hartshorne exercise II.4.1).
2. Hartshorne exercise II.4.2.
3. Hartshorne exercise II.4.8. Note that this applies to properness!
4. Hartshorne exercises II.5.7 and II.5.8 (these count as one problem).
5. Hartshorne exercise II.5.11.
6. Hartshorne exercise II.5.18.