

Math 553, Lesieutre
Problem set #12
due April 17, 2016

1. The main homework for the week is to start to get a handle on the topic for your paper. If you want to meet and discuss a plan, let me know and we can set a time.
2. III.4.7
3. III.5.3
4. Suppose that $D \subset \mathbb{P}^n$ is a degree d hypersurface. Compute the Hilbert polynomial of D .
5. Let $X = \mathbb{P}_k^n$. Compute the dimension of $H^i(X, \Omega_X)$.
6. Compute the groups $H^i(\mathbb{P}^1 \times \mathbb{P}^1, \mathcal{O}(a, a))$ (you can either use Čech groups directly, or try fit it into an exact sequence).