

Math 476 Homework 1 (Due: Monday, March 5, 2018, 5:30 PM)

- 1. (4 pts)** Let $I = (y^2 - x^2, y^2 + x^2) \subset \mathbb{C}[x, y]$. Find $Z(I)$ and $\dim_{\mathbb{C}}(\mathbb{C}[x, y]/I)$.

2. (4 pts) Let $X = \{(t, t^2, t^3) \in \mathbb{A}^3 \mid t \in \mathbb{C}\}$. Find $I(X)$ and show that X is irreducible.