

MAS439/MAS6320 - PROBLEMS - WEEK 10

Question 1. Show that the ring \mathbb{Z}/p is regular and \mathbb{Z}/p^2 is not regular (5 marks).

Question 2. Find all parameters $\lambda \in k$ which for which the cubic curves below are singular:

$$X_\lambda = V(y^2 - x(x-1)(x-\lambda)) \subset \mathbb{A}^2$$

(5 marks).