

# PROBLEMS ON COMMUTATIVE RING THEORY

TONY FENG

## 1. NOETHERIAN RINGS

- (1) Spring 2012 A6
- (2) Fall 2012 M4

## 2. INTEGRAL EXTENSIONS

- (1) Fall 2011 A4. For the last part, prove the following general lemma: let  $R$  be a Noetherian ring and  $A, B$  algebras over  $R$ . Suppose  $A$  is finite type over  $R$  and finite over  $B$ . Then  $B$  is finite type over  $R$ .
- (2) Spring 2012 A8
- (3) Fall 2013 M4
- (4) Spring 2013 M1
- (5) Spring 2013 A1
- (6) Spring 2014 M4