

# Algebra 2010-Aalborg University

**18th Lecture:** Tuesday November 23rd, 8:15-12:00 at room G5-112.

- 8:15-8:45 Repetition from last lecture. Euclidean Domains. Polynomial rings. Degree of a polynomial. (pages 130–133, 143–145 and 147–148).
- 8:45-10:45 Work in groups. Exercises from [Lau], 3.6 (page 138) + 2 exercises + Exercises from [Lau], 4.10 (page 179): 3.28, A, 3.29, 4.3, B, 4.2, 4.15 + some exercises from previous lectures that you did not solved yet or see the proof of some proposition/theorems.

Exercise A: Prove that  $\mathbb{Z}[i]$  is a Euclidean domain (see pages 132 and 133).

Exercise B: Prove Proposition 4.2.2 and Proposition 4.2.3

- 10:45-12:00 Lecture: Division with remainder in  $R[X]$ . Roots of polynomials (pages 148–153). Links: Herwig Hauser and Imaginary

Best regards,

Diego Ruano