

# Algebra 2 (2014)-Aalborg Universitet

## Spiseseddel 15

**15. gang (A)**, fredag d. 11. april, 8:15-12:00 i lokale G5-112

- 8:15-10:00 Forelæsning: Idealer i polynomiumsringe. (sider 161–166).
- 10:00-12:00 [Lau], 4.10 (side 179): 25, 26, A, 27, B, 33, 28, C + Opgaver, I mangler fra sidst.

Exercise A: Let  $f \in F[X]$  be a reducible polynomial. Show that  $F[X]/\langle f \rangle$  is not a field (hint: one can easily show that it is not a domain). For instance, find a zero divisor in  $\mathbb{F}_2[X]/\langle X^2 + 1 \rangle$ .

Exercise B: Compute the addition and multiplication table of the field  $F$  defined in example 4.6.9.

Exercise C: Read section 4.5.1 and exercise 4.23 (but they will not be part of the pensum).

Med venlig hilsen,

Diego