

### 392 HOMEWORK 4

- Keep re-reading sections 4.1 and 4.2 in the book. Its quite theoretical but you should by now be getting used to all this new mathematical language!
- Take a look at Theorem 2.7 and the proof of Corollary 2.8. This gives the easiest known example of a real number that is transcendental, i.e. not a root of a polynomial with rational coefficients.
- Exercises 4.1 4(f), 10, 12, 13(a), 15(a)(e).
- Exercises 4.2 3(a)(b)(c)  
6(a)
- Finally one true or false question: IS  $\mathbb{Z}_2[x]/(x^2) \cong \mathbb{Z}_4$ ?