April 15, 2011

18.702 Problem Set 7

due friday, April 22

1. sco Chapter 15, Exercise 3.4 b,e,f. *(the irreducible polynomials for some ζ)*

2. Chapter 15, Exercise 3.7b. *($\sqrt[3]{5}$ is not in the field $\mathbb{Q}\big(\sqrt[3]{2}\big)$)*

3. Chapter 15, Exercise 3.8. *(a condition for α and β to be algebraic)*

4. Chapter 15, Exercise 4.2. *(the irreducible polynomial for $\gamma = \sqrt{3} + \sqrt{5}$)*

5. Chapter 15, Exercise 5.2. *(constructing the regular pentagon)*

6. Chapter 15, Exercise 7.6. *(factoring $x^q - x$)*

7. Chapter 15, Exercise M5. *(elements of finite order in $GL_2(\mathbb{Z})$)*

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