

**Math 221A, problem set 03**  
**Due: Wed Sep 15**  
**Last revision due: Wed Oct 20**

**Problems to be turned in:** Problem  $x.y.z$  of Artin denotes problem  $y.z$  in Chapter  $x$ .

1. Artin 2.9.6.
2. Artin 2.10.4.
3. Artin 2.11.4(a,b).
4. Artin 2.11.5.
5. Artin 2.11.7. State a theorem and prove it.
6. Artin 2.12.2.
7. Artin 2.12.4. “Describe explicitly” means give a precise description, either geometric or algebraic, of an arbitrary coset  $aH$ . Also, prove your answer to the last question.