

Read Artin, Chapter 1, sections 1 and 2.

From Artin, do problems from:

Section 1.1 (pp.31-33): 2(b), 3, 6, 11, 16, 19, 20.

Section 1.2 (pp.33): 2(a,b).

Also do the following problem:

Let  $A$  be a square matrix satisfying  $A^2 - 2A - I = 0$ . Show that  $A$  is invertible, and find a formula for  $A^{-1}$  in terms of  $A$ . [Hint: By *inspection*, find a matrix  $B$  such that  $AB = BA = I$ .]