

Warm up problems; **do not turn them in;**
Read all the statements.

1. Apostol II, **2.20** : 5, 11.
2. Apostol II, **2.21** : 1, 2.
3. Apostol II, **3.6** : 5, 11.
4. Apostol II, **3.11** : 6, 7.
5. Apostol II, **3.17** : 1.

Due in class February 5, 2009.

Read on book: Section 3.4, 3.16.

1. Apostol II, **2.20** : 9.
2. Apostol II, **2.21**: 7, 8.
3. Apostol II, **3.6** : 1, 2, 3.
4. Apostol II, **3.17** : 2, 3.

- 5.** An elementary matrix E is the matrix corresponding to the following transformations:
- (1) Add a multiple of one row to another,
 - (2) Interchange rows,
 - (3) Multiply a row by a non-zero constant.
- Compute $d(E)$ in each of the above cases.
- 6.** Show that $d(E_i \cdot E_j) = d(E_i)d(E_j)$, for any two elementary matrices
- 7.** If A is any matrix and U its Gauss-Jordan form, show that $d(A) = d(E_1) \cdots d(E_k)d(U)$.
- 8.** Using (6)-(8) conclude that $\det(AB) = \det(A) \det(B)$.