

Math 128a, problem set 11
Outline due: Wed May 06
Due: Mon May 11
Last revision due: TBA

Problems to be done, but not turned in: (Ch. 13) 3, 9, 13, 23, 31, 37, 41, 43, 53;
(Ch. 14) 5, 9, 15, 23, 27, 35, 39, 47, 51, 59.

Fun: (Ch. 13) 56.

Problems to be turned in:

1. (Ch. 13) 20. See (Ch. 13) 16 for the definition of idempotent and see (Ch. 13) 13 for the definition of nilpotent.
2. Let D be an integral domain with unity 1, and let S be the set of all elements of D that are their own inverses under multiplication. List all elements of S , and prove your answer.
3. (Ch. 13) 36.
4. (Ch. 13) 38.
5. Find a subring of $\mathbf{Z} \oplus \mathbf{R}$ that is not an ideal of $\mathbf{Z} \oplus \mathbf{R}$. (Prove your answer.)
6. (Ch. 14) 12.
7. (Ch. 14) 24.