

Quiz Set 3

For Quiz on Thursday, October 17

Work all of the following problems. A subset of the problems will be on Quiz 3 to be given October 17. Quizzes will be graded for correctness and clarity.

Unless otherwise stated, all problems can be found in the appropriate *Problems* section of the textbook (*Elementary Number Theory* by U. Dudley, 2nd Edition).

- Is there a positive value of k such that performing k perfect in-shuffles on a standard 54-card deck will return the deck to its original order? If so, what is the smallest such k ?
- Section 7 # 2, 4, 5, 10, 14
- Graduate Students: Section 7 # 18