

Quiz Set 5

For Quiz on Thursday, November 14

Work all of the following problems. A subset of the problems will be on Quiz 5 to be given November 14. 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).

- Section 10 # 4, 8, 9
- If the Caesar cipher produced “kdssbeluwkgdb”, what is the plain text message?
- Decode the message “PDQZPSFA” using the affine cipher whose decoding function is $\delta(x) = (21x + 3)\%26$.
- Find the decoding function δ for the affine cipher whose encoding function is $\epsilon(x) = (3x + 8)\%26$.
- Encode “SEND MONEY” using the block affine cipher given by $\epsilon(x) = (103x + 15)\%10^4$ with blocks of 2.