

MATH 3375 (Theory of Cryptology) – Fall 2013

Homework Assignment 4

Due: October 10

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1. From Section 2.3 do Exercise 5, 9
2. From Section 2.4 do Exercise 3, 9
3. From Section 2.5 do Exercise 1b, 5b, 9b (on Message 1)
4. Pick another language that uses the same alphabet as the English language, e.g, French. Find the relative frequencies of the letters in this language (provide a reference for your answer). Using this information, what will the index of coincidence be for this language if one uses a mono-alphabetic cipher? Explain why the IC will be approximately 0.038 if a polyalphabetic cipher is used, regardless of what language is used?