

HOMEWORK 3, DUE FEB 20.

1. The following is an English sentence encrypted by means of a general substitution cipher (with spaces eliminated). Using frequency analysis, decrypt it:

RSZWO RSZCK CSGPS GVRTP CKCSG PRSJP YOGVR NPZND ZWOCH  
ZCROC GZWOR SZWOR SZCKS XQNHX VNDWJ YNZWO PCPSG VHOSP  
NGBTZ ZWOCG GOHXC DONDZ WOCHS HZPCP CGZWO QNHXV NDDNH  
RPCGZ WOYHN KOPPN DVCSX OKZCK SGVCZ PSHLT ROGZB JROZS  
YWNH

2. The following is an English sentence encrypted by means of a Vigenere cipher.

IYMEC GOBDO JBSNT VAQLN BIEAO YIOHV XZYZY LEEVI PWOB  
OEIVZ HWUDE AQALL KROCU WSWRY SIUYB MAEIR DEFYY LKODK  
OGIKP HPRDE JIPWL LWPFR KYMBM AKNGM RELYD PHRNP ZHBYJ  
DPMMW BXEYO ZJMYX NYJDQ WYMEQ GPYBC XSXXY HLBEL LEPRD  
EGWXL EPMNO CMRTG QQOUP PEDPS LZOJA EYWNM KRFBL PGIMQ  
AYTSH MRCKT UMVST VDBOE UEEVR GJGGP IATDR ARABL PGIMQ  
DBCWF XDEAW UWPPM RGJGN OETGD MCIIM EXTBE ENBNI CKYPW  
NQBLP GIMQO ELICM RCLAC MV

(i) Compute its index of coincidence.

(ii) Use this to estimate the length of the keyword.

(iii) Use Kasiski's method to estimate the length of the keyword.

Find the Vigenere keyword (which need not be an English word) and find the plaintext.