HOMEWORK 3, DUE SEP 28.

Note that for credit you need to explain your methods in detail.

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 Vigenère cipher.

IYMEC GOBDO JBSNT VAQLN BIEAO YIOHV XZYZY LEEVI PWOBB OEIVZ HWUDE AQALL KROCU WSWRY SIUYB MAEIR DEFYY LKODK OGIKP HPRDE JIPWL LWPHR KYMBM AKNGM RELYD PHRNP ZHBYJ DPMMW BXEYO ZJMYX NYJDQ WYMEO GPYBC XSXXY HLBEL LEPRD EGWXL EPMNO CMRTG QQOUP PEDPS LZOJA EYWNM KRFBL PGIMQ AYTSH MRCKT UMVST VDBOE UEEVR GJGGP IATDR ARABL PGIMQ DBCFW XDFAW 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 Vigenère keyword (which need not be an English word) and find the plaintext.