

Homework 1: Due Friday by 4:30 pm.

Instructions – show work and clearly explain your solution path. You may use a computer program or website applet for frequency analysis, but cite your source and show results. You must solve these ciphers by hand otherwise!

1. The following was enciphered using a columnar transposition cipher (no codeword) of width 5 (i.e. 5 columns). The message was not padded – i.e. the rectangle has some blank spaces in the bottom. Decipher the message.

WETYNUYETHRHOOCOREYIURAITONCYNAGHUKAOTRH

2. The following was enciphered using a columnar transposition cipher (no codeword). The message was not padded (i.e. the column width is not a factor of the number of letters in the message). Guess the column width and decipher the message. Hint: the plaintext contains a double s.

SNEERTVTOASAOARTSSTBLITUBHEUVOCUEOEEBCTRF

3. The ciphertext on the back was enciphered using a pigpen cipher with a codeword. For a reminder on how the pigpen cipher works see Wikipedia. Determine the codeword used and decipher the message.
4. Encipher “Mathematics is fun” using the Polybius Checkerboard cipher and the codeword “Cryptology” (see page 5 in your book for a reminder of how this works)
5. The following was enciphered using the Playfair cipher with the codeword “Western”. For a reminder on how the Playfair cipher works see your text page 166 or look it up on Wikipedia. Decipher the message.

SLMUSTTBDERAYNHR

נפלארם סארפ. ל

הטנ סרפסם כרפכ

אזל כרפכ כסלשא

הטנ סרפסם, נטרל

אזל כרפכ כסלשא

סרפסם כאח, נטרל

כסלשא ססמל הטנ

חספכ סנרה אזל נאפ

הסמא