

Math F113X: Homework Set 10

- Complete problems #13-18 from the Encryption section.
- Complete problems A and B on Encryption.
- Complete problems #1-10 from Section 2.1.6 from the version of the text linked here:
https://spot.pcc.edu/math/mathinsociety/chap_two_intro_spreadsheet.html
- Next, answer the **reflection question**: What did you learn from checking your homework answers against the provided solutions?

Problem A Vegenère Cipher

- (a) Encrypt the plaintext below using a Vegenère cipher with keyword NUMBER.
plaintext: WHY WAS MATH PROF LATE

- (b) Decrypt the plaintext below using a Vegenère cipher with keyword NUMBER.
ciphertext: GBQZ XFBE FII IUIYCYJ

Problem B Double Transposition

- (a) Encrypt the plaintext below using double transposition and first keyword WARM and second keyword MUSHY.
plaintext: WE PREDICT THE TRIPOD WILL FALL

- (b) Decrypt the ciphertext below assuming double transposition was used where the first keyword was WARM and second keyword was MUSHY.
ciphertext: TAADP ENEBM TYNNR HEFES DEMEO UNCOW OR

Remember to write up your homework solutions according to the homework writeup guidelines.

Homework is graded using the following rubric for each problem (or problem part):

2 points: You provided a complete answer, with supporting work, written up clearly

1 point: Some attempt at a solution, but incomplete writeup / unclear / illegible / no answer

1 point: Only an answer, with no supporting work

0 points: Missing.

After you do the homework, you need to check your answers against the solutions! Then figure out your errors (if any) and revise your homework before you submit it. Finally, answer the reflection question.

Homework must be submitted on Gradescope.