Name:					Stud	lent	No.:	Da	te:			Classic	cal		2. Add your key to each number. (2 pts)												
				_					//_		Cry	/ptogr	aphy	y		Plaintext	I	N	F	0	R	M	A	T	I	0	N
																p + k											
CAESAR CI	PHE	R (10 _I	pts)											Plaintext	T	E	C	Н	N	0	L	0	G	Y	
The Caesar cipher works by substituting each letter of a message									p + k																		
with a new letter after shifting the alphabet over.									3. Apply Modulo 26 (3 pts)																		
		To	encr	ypt:			To de	crypt								Plaintext	Ĩ	N	F	0	R	M	A	T	I	0	N
		(ı) + k	() m	od 2	6	(c ·	- k) n	od 26							(p + k) mod 26											
Step 1: Find \	our	Key	(1 pt	t)										_		Plaintext	T	E	C	Н	N	0	L	0	G	Y	
1. Write down the last two digits of your student number.									(p + k) mod 26																		
2. Use this Step 2: Encry	/pt th	ie M	essa	iges	•		•									Step 3: Convert th	l → .)				
Encryp		•										OGY.															
1. Convert t	СŤ		T			1		table	below.	(2)	ots)					VIGENÈRE CIPH	FR (12 n	te)								
	A	B			F	G	H	<u> </u>	J K	L	M							•		la Isaa		. 1	- 1:cc		0		2022
	0	1 2	2 3		1 5	+	7			11	12					The Vigenère cipl				(E)	158 150 5					r cıpn	er
	N	-	P (-	8 8	+	U	-	V X	Y	Z					to eacl									1er,		
	13	14 1	5 1	6 1	7 18	19	20	21 2	2 23	24	25							5567 (STREET	There are	100.00.0000000	or the	200000	2000000			w	
Plaintex	t	I	I	N	F	0	R	M	A	T	1	0	N			Imagine you are in a sends an encrypted	•										

unique key. Your mission is to decrypt your message and uncover its meaning.

1. Check your Google Classroom for the key: _____

Step 1: Find Your Key (1 pt)

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H

N

0

0

G

C

Number (p)

Plaintext

Number (p)

Step 2: Decrypt the Message 1. Convert the ciphertext to numbers. (2 pts) Ciphertext Number (c) **Ciphertext** Number (c) 2. Write your key under the ciphertext and also convert it to numbers. (2 pts) Number (c) Key Number (k) Number (c) Key Number (k) 3. Subtract the key from the ciphertext. (2 pts) c - k c - k 4. Apply modulo 26. (4 pts) (c - k) mod 26 (c - k) mod 26 Step 3: Convert ciphertext to symbols. (2 pts)

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PLAYFAIR CIPHER (10 pts)

The Playfair cipher **uses a 5x5 letter matrix** created from a keyword.

It treats **digraphs** in the plaintext as single units and converts them into ciphertext digraphs.

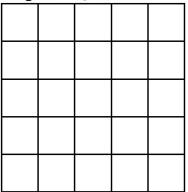
Your military has upgraded to the Playfair Cipher. Follow the steps below to decrypt the message.

Step 1: Find Your Key

1. Use the same key as the Vigenère cipher.

Step 2: Create Your Playfair Square (3 pts)

1. Fill in the square, following the Playfair rules.



Step 3: Break Down the Ciphertext (2 pts)

1. Write the digraphs in each box below.

 0		
	Y S	
1		

Step 4: Decrypt the Digraphs (3 pts)

- 1. Decrypt each digraph using your square and determine its position:
 - A: Same column
 - B: Same row
 - C: Neither in the same row nor column

Plaintext								
Position								
Step 5: Remove Unnecessary Letters and Format the Message Properly (2 pts)								
RAIL FENCE CIPHER (7 pts)								
In Rail Fence cipher, the plaintext is written down as a sequence of								
diagonals and then read off as a sequence of rows.								
Step 1: Find Your Key (1 pt)								
1. Check the last digit of your student number.								
 If 0, 1, 2 → Use key 3 								
• If 3, 4, 5 \rightarrow Use key 4								
• If $6, 7, 8, 9 \rightarrow$ Use key 5								
2. What is your key?								
Step 2: Decrypt the Message (4 pts)								
1. Check your Google Classroom for the ciphertext.								
2. Draw a rail fence based on your key and write the ciphertext in zigzag lines.								
Step 3: Read the Rows (2 pts)								

- 1. Read off each row to get the message.
- 2. What is the message?

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References:

Crypto Corner
Cracking Codes with Python, Sweigart
Cryptography and Network Security, Stallings