(1) Simplify 127 (mod 6)

(2) Simplify 49 (mod 2)

(3) If 16^4 (mod 7) $= 2$, what is 16^{12} (mod 7)?

(4) If 11^6 (mod 4) $= 1$, what is 11^{13} (mod 4)?

(5) Find the additive inverse for 19 (mod 26).

(6) Find the additive inverse for 37 (mod 26).

(7) Simplify -13(mod 29)

(8) Simplify -127 (mod 5)

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

(9) A Vigenère Cipher is being used with the following shifts:
$\Delta_1 = 2, \Delta_2 = 12, \Delta_3 = 21, \Delta_4 = 5$
What Keyword is being used for this Vigenère Cipher?

(10) A Vigenère Cipher is being used with the following shifts:
$\Delta_1 = 18, \Delta_2 = 5, \Delta_3 = 4, \Delta_4 = 2, \Delta_5 = 9, \Delta_6 = 18, \Delta_7 = 4$
What Keyword is being used for this Vigenère Cipher?

A	B	C	D	E	F	G	H	I	J	K	L	M
1	2	3	4	5	6	7	8	9	10	11	12	13
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
14	15	16	17	18	19	20	21	22	23	24	25	26

(11) Use the Keyword WILD to encrypt the following words using a Vigenère Cipher.

(a) GIRAFFE

(b) WARTHOG

(12) Use the Keyword CODES to decrypt the following using a Vigenère Cipher.

FGCUMRVVFIKN OJXSH WJVUTXX