The following tables might be useful during the event.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
B	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A
C	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
D	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
E	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
F	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
G	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
H	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
I	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
J	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
K	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
L	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
M	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
N	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
O	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
P	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
R	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
S	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
T	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
U	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
V	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
W	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
X	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Y	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Z	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

AAAAA	A		**ABBAA**	N
AAAAB	B		**ABBAB**	O
AAABA	C		**ABBBA**	P
AAABB	D		**ABBBB**	Q
AABAA	E		**BAAAA**	R
AABAB	F		**BAAAB**	S
AABBA	G		**BAABA**	T
AABBB	H		**BAABB**	U/V
ABAAA	I/J		**BABAA**	W
ABAAB	K		**BABAB**	X
ABABA	L		**BABBA**	Y
ABABB	M		**BABBB**	Z

Frequency Table of English letters:

E	12.51%	S	6.54%	C	3.06%	G	1.96%	K	0.67%
T	9.25%	R	6.12%	U	2.71%	W	1.92%	X	0.19%
A	8.04%	H	5.49%	M	2.53%	Y	1.73%	J	0.16%
O	7.60%	L	4.14%	F	2.30%	B	1.54%	Q	0.11%
I	7.26%	D	3.99%	P	2.00%	V	0.99%	Z	0.09%
N	7.09%								

Frequency Table of Spanish letters:

E	14.08%	I	5.98%	M	3.08%	Y	1.09%	Z	0.47%
A	12.16%	L	5.24%	P	2.89%	V	1.05%	Ñ	0.17%
O	9.20%	D	4.67%	B	1.49%	G	1.00%	X	0.14%
S	7.20%	T	4.60%	H	1.18%	F	0.69%	K	0.11%
N	6.83%	U	4.69%	Q	1.11%	J	0.52%	W	0.04%
R	6.41%	C	3.87%						

For the purposes of cryptograms it is customary to treat n and ñ as distinct letters, but a and á are the same letter. Likewise for e and é, and i and í. In other words, all the accent marks get amputated when working with cryptograms. Also, while some older Spanish dictionaries consider ch, ll, and rr, to be their own letters—this has fallen out of modern usage. Accordingly, "burro" is considered as five letters: "b-u-r-r-o" and not as four letters "b-u-rr-o."

Famous Phrases

Gettysburg address:

```
FOUR SCORE AND SEVEN YEARS AGO OUR FATHERS BROUGHT FORTH ON THIS
CONTINENT, A NEW NATION, CONCEIVED IN LIBERTY, AND DEDICATED TO THE
PROPOSITION THAT ALL MEN ARE CREATED EQUAL.
```

Declaration of Independence:

```
WHEN IN THE COURSE OF HUMAN EVENTS IT BECOMES NECESSARY FOR ONE PEOPLE
TO DISSOLVE THE POLITICAL BANDS WHICH HAVE CONNECTED THEM WITH ANOTHER
AND TO ASSUME AMONG THE POWERS OF THE EARTH, THE SEPARATE AND EQUAL
STATION TO WHICH THE LAWS OF NATURE AND OF NATURE'S GOD ENTITLE THEM,
A DECENT RESPECT TO THE OPINIONS OF MANKIND REQUIRES THAT THEY SHOULD
DECLARE THE CAUSES WHICH IMPEL THEM TO THE SEPARATION.
```

Constitution of United States of America:

```
WE THE PEOPLE OF THE UNITED STATES, IN ORDER TO FORM A MORE PERFECT
UNION, ESTABLISH JUSTICE, INSURE DOMESTIC TRANQUILITY, PROVIDE FOR THE
COMMON DEFENSE, PROMOTE THE GENERAL WELFARE, AND SECURE THE BLESSINGS
OF LIBERTY TO OURSELVES AND OUR POSTERITY, DO ORDAIN AND ESTABLISH
THIS CONSTITUTION FOR THE UNITED STATES OF AMERICA.
```

MAGNA CARTA (In Latin):

```
JOHANNES DEI GRACIA REX ANGLIE, DOMINUS HIBERNIE, DUX NORMANNIE,
AQUITANNIE ET COMES ANDEGAVIE, ARCHIEPISCOPIS, EPISCOPIS, ABBATIBUS,
COMITIBUS, BARONIBUS, JUSTICIARIIS, FORESTARIIS, VICECOMITIBUS,
PREPOSITIS, MINISTRIS ET OMNIBUS BALLIVIS ET FIDELIBUS SUIS SALUTEM.
```

Sample Test 10

Timed question **[100 Points]**: Solve this Aristocrat which is a quote by J. B. S. Haldane. When you have solved it, raise your hand so that the time can be recorded and the solution checked.

YDXVX AM IL EVXJY AIUXIYALI, BVLN BAVX YL BFQAIE,

RDAHD DJM ILY GXXI DJAFXW JM JI AIMSFY YL MLNX ELW.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	8	3		5	3	3	1	1	9	5		8	5	2			1	1	1		1	4	2	9	7	
Replacement																											

1) **[250 Points]** Solve this K1 key encoded Patristocrat which is a quote by Isaac Asimov and begins with **THE**.

```
YRIGU XYIBM SYSTQ VRJLX IYURI LJSTX MSITM IYRIU


TIYRL YRIJL EOXTI AOSXM UZIJS IXSXT UYIFJ INLHF


YYRLY XPFTT C
```

K1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	1	1	1		1	3	1	1	14	5		6	4	1	2	1	1	7	7	8	5	1		8	11	1
Replacement																										

2) **[250 Points]** Google Voice had fun transcribing this quote from Kurt Vonnegut before it was encrypted. What does it say?

```
KBK LRE JUWO IRNKUI DWSH TACKUAK. OLRI ORT


CUDCUCIKNB OWHTK: RON ZB DHRIKHUCIB GHWILKHT OLCH


KUQCUKKHT
```

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	2	4	7	3	1		1	8	7	1	12	4		3	6		1	6	1	5	8		4			1
Replacement																										

3) **[125 Points]** A quote by Wilson Mizner has been encoded using the Affine Cipher. The 3rd and 4th letters decode to be **TI**. What does it say?

B	C	W	D	Z	Z	V	D	P	O	V	P	R	B	S	P	V	U	P	B	C

4) **[250 Points]** Solve this Patristocrat which is a quote from a Alexander Graham Bell and has the word **STEP** in it twice.

YNYUN WJOLM RWFGL KJDBP PQLAX LMGJU UNJHE QUNJH

RWFYU EFBMA NFUBG GJJAY MNWJZ KJLNJ UNAJZ KJJ

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	4	3		1	2	4	4	2		13	3	5	4	8	1	2	2	2			7		4	1	4	2
Replacement																										

5) **[250 Points]** Solve this K1 key encoded Patristocrat which is a quote by Colin Morgan and ends with **FOR ME**.

VNSVE CMEKP ETISP SMQMR MQQVP EZPUI SMNNS TKDPH

TNPYP MEYIS PRGUQ GTVNV QVEQR VUMNV PEMDZ PUOT

K1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency			1	2	7		2	1	3		2		8	6	1	10	6	3	6	5	4	8			2	2
Replacement																										

6) **[75 Points]** A quote by James Mark Baldwin has been encoded against a famous document. What did he say?

QWEV SNZ JGIRQUI, KWLALOCGGE WG EETWELHXW;

BER FORX XQZXUQR TNIAP, WG BA XRBPLRHCR

OY I RRHWAKXM OLLVT, EPF QZGB.