

## Code Busters

### Division C

School name:

Names:

Team number:

#### Notes:

Points are awarded for the decryption key, not for the complete decryption of the ciphertext. For cryptograms, a small example of how to record answers is given:

Ciphertext: ABC (given as the problem)

Plaintext: CAT (what you will figure out when you solve the problem. This counts for no credit.)

Decryption key (the answer, what counts for credit):

A	C
B	A
C	T
D	

If a letter does not appear in the ciphertext, then you should leave its box blank.

Partial credit will be given for partial decryption keys.

Different problems have different difficulties, and are worth different numbers of points. You will probably not be able to solve all of the problems in 50 minutes.

All of the quotations on this test are by one person. For absolutely no credit, what is his name? \_\_\_\_\_

Nope, nothing here

Problem 1 (Cryptogram):

“sokk mj sbvuok” rm u qubbko js frtkobi, gj b norwk. bj xgpkombugp  
bhk wj gwknb, ij x mhj xfp bhrgl js “sokk” um rg “sokk mnkkwh,” gj b  
um rg “sokk tkko.”

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

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Problem 2 (Cryptogram):

ms me mzufi stxs sf vxawiestxa scts wlwx mb qfv rtxxfs rctxhw scw  
efvirw rfaw bfi t hmlwx uifhi tz, fi amiwrsyq vew tyy scwew sffye,  
ms me iwytsmlwyq wteq sf bmx aefzwxw gcf rtx. scwiwbfiw, dq  
ctlmxh scw efvirw rfaw sf t uifhi tz qfv tiw vevtyyq hmlwx scw  
ufgwi sf rctxhw, bmp, rvesfzmow, txa ywtix tdfvs t uifhi tz--scme  
me t ufgwi scts qfv af xfs ctiw mb qfv tiw xfs hmlwx scw efvirw  
rfaw. efvirw rfaw me fxw fb scw iwnvmiwxwxse scts ztkwe t umwrw  
fb efbsgti w biww.

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

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Problem 3 (cryptogram with minor typos):

“iomaopeexov qxxd nm epgx p uybyqa vmexcmj.” yq ncx vcmon osq,  
ncyv yv nosx. cmj xbxo, ncxox pox iuxqnt mr jptv ncpn iomaopeexov  
zmsud epgx p ybyqa jyncmsn vxuuyqa ncx yoach nm svx p i aopme.  
ncyv jpt yv zsvnmepot qmj fxzpsvx yn foyqav iomaopeexov pqd  
fsvyqxvvexq ncx emvn emqxt, qmn fxzpsvx yn yv ncx mqut jpt nm  
epgx p uybyqa. yn yv xpvt nm ryqd mncxo jptv yr tms jpqn nm ryqd  
ncxe. cxox pox p qsefxo mr xkpei uxv.

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

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Problem 4: (Caesar cipher):

Qdphv frqyhb phdql qj v; rxu fkr l fh ri qdphv ghwhupl qhv wkh phdql qj  
ri zkdw zh vdb. Dq l qdssursul dwh qdph j l yhv shrsbh wkh zurqj  
lghd. D urvh eb dqb rwkhu qdph zrxog vphoo dv vzhhw--exw l i brx  
fdoo l w d shq, shrsbh zl oo eh udwkhu gl vdssrl qwhg zkhq wkhb wub  
wr zulwh zlwk l w.

Shift:

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Problem 5 (Hill cipher--**HARD**):

X?ZK?RLI GMJX?JAXMPJXJBI ZWXTBN??  
N URELBXI RJNLI V?HJFBQWXUUEWTWL?

0 corresponds to " " (space)

1-26 corresponds to A-Z (alphabet)

27 corresponds to "." (period)

28 corresponds to "?" (question mark)

The ciphertext is encoded up-down then left-right, so the first 4 characters are "XN? "

Hint: The first word is "open"

Both the decryption and encryption keys are acceptable answers.

They can be written as numbers or symbols.


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