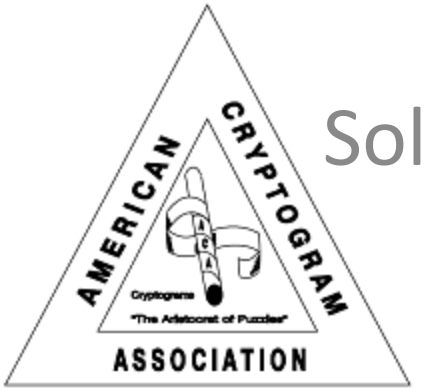
Examples of Solving *Cm* Cons*



Solving E-9, E-10 from Sample *Cm*

Swagman Cipher

* "*Cm* Cons" means "cipher constructions in *The Cryptogram*" -- the bi-monthly publication for members of the American Cryptogram Association (ACA) -- www.cryptogram.org

Examples of Solving

This series shows specific examples of solving ACA ciphers. It tries to give successive hints of what to look at, then follows through by using each hint, building to the solution.

Try to solve the cipher on your own, using as many hints as you need, or just read along.

Please report errors or send suggestions to nudge@cryptogram.org

References

- The ACA and You, Ch. 4, How to Solve a Problem in *The Cryptogram*.

What is a Swagman Cipher?

- Swagman is a transposition cipher, based on a numeric key square. (ACA Guidelines: The key square size is 4 to 8, and the plaintext length should be 3-6 times key square.)
- The numeric key square is filled with numbers from 1 to square-size, and no number is repeated in a row or in a column.

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

Swagman Encipherment

- The message is written horizontally into a rectangle the same height as the key square, adding nulls if necessary to fill out the last row.
- The enciphered message is taken out vertically by columns in the order of the corresponding key column. An example follows.

Swagman Encipherment Example

Pt: “Ciphertext length is a multiple of the square height.” (Length=44)

Key:

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

The ciphertext is an even multiple of the square height. Write it horizontally into 4 rows of 11 columns.

Swagman Encipherment Example

Keysquare at left.

Plaintext at right, written in by rows.

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

C	I	P	H
E	N	G	T
T	I	P	L
Q	U	A	R

E	R	T	E
H	I	S	A
E	O	F	T
E	H	E	I

X	T	L
M	U	L
H	E	S
G	H	T

1				
2				
3				
4				

Swagman Encipherment Example

Fill the line 1 below with the letters in the positions indicated by a 1.

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

C	I	P	H
E	N	G	T
T	I	P	L
Q	U	A	R

E	R	T	E
H	I	S	A
E	O	F	T
E	H	E	I

X	T	L
M	U	L
H	E	S
G	H	T

1	Q	N	P	H
2				
3				
4				

E	I	F	E

G	U	S

Swagman Encipherment Example

Fill the line 2 below with the letters in the positions indicated by a 2.

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

C	I	P	H
E	N	G	T
T	I	P	L
Q	U	A	R

E	R	T	E
H	I	S	A
E	O	F	T
E	H	E	I

X	T	L
M	U	L
H	E	S
G	H	T

1	Q	N	P	H
2	E	I	P	R
3				
4				

E	I	F	E
H	O	T	I

G	U	S
M	E	L

Swagman Encipherment Example

Continue to fill lines 3 & 4 below with the letters in the positions indicated by a 3 & 4.

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

C	I	P	H
E	N	G	T
T	I	P	L
Q	U	A	R

E	R	T	E
H	I	S	A
E	O	F	T
E	H	E	I

X	T	L
M	U	L
H	E	S
G	H	T

1	Q	N	P	H
2	E	I	P	R
3	T	I	A	T
4	C	U	G	L

E	I	F	E
H	O	T	I
E	R	E	A
E	H	S	T

G	U	S
M	E	L
H	T	T
X	H	L

Swagman Encipherment Example

Create the ciphertext by taking letters off by columns from the bottom squares.

Ciphertext = QETCN IIUPP AGHRT LEHEE
IORHF TESEI ATGMH XUETH SLTL

4	3	2	1
2	1	4	3
3	2	1	4
1	4	3	2

C	I	P	H
E	N	G	T
T	I	P	L
Q	U	A	R

E	R	T	E
H	I	S	A
E	O	F	T
E	H	E	I

X	T	L
M	U	L
H	E	S
G	H	T

Q	N	P	H
E	I	P	R
T	I	A	T
C	U	G	L

E	I	F	E
H	O	T	I
E	R	E	A
E	H	S	T

G	U	S
M	E	L
H	T	T
X	H	L

Swagman Crib Location Note

If we were solving this cipher, we would write the ciphertext back into squares like below. Recall that no number in a keysquare is repeated in a row or in a column. Therefore, in a square, a line of text will not repeat a row.
Now how to locate a crib of “this”? That means “this” appears in the plaintext.

Q	N	P	H
E	I	P	R
T	I	A	T
C	U	G	L

E	I	F	E
H	O	T	I
E	R	E	A
E	H	S	T

G	U	S
M	E	L
H	T	T
X	H	L

Swagman Crib Location Note

Now how to locate a crib of “this”?
There are 6 occurrences of “T”.

Q	N	P	H
E	I	P	R
T	I	A	**T**
C	U	G	L

E	I	F	E
H	O	**T**	I
E	R	E	A
E	H	S	**T**

G	U	S
M	E	L
H	**T**	**T**
X	H	L

Swagman Crib Location Note

Now how to locate a crib of “this”?
There are 6 occurrences of “T”.
There are 2 occurrences of “H” following a “T”.

Q	N	P	H
E	I	P	R
T	I	A	**T**
C	U	G	L

E	I	F	E
H	O	T	I
E	R	E	A
E	H	S	**T**

G	U	S
M	E	L
H	T	T
X	H	L

Swagman Crib Location Note

Now how to locate a crib of “this”?
There are 6 occurrences of “T”.
There are 2 occurrences of “H” following a “T”.
There is 1 occurrence of “I” following a “TH”.
This must be the crib location.

Q	N	P	H
E	I	P	R
T	I	A	**T**
C	U	G	L

E	**I**	F	E
H	O	T	I
E	R	E	A
E	H	**S**	T

G	U	S
M	E	L
H	T	T
X	H	L

Swagman: Getting Started

- Consider the length of the cipher. The length is a multiple of the square height. Guess the size.
- Create squares to hold the ciphertext, then copy it in by columns.
- If the crib cannot be found, maybe the square size is incorrect.

Solving E-9 from Sample Cm

```
E-9. Swagman. [44] (swagman) BECASSE
UBARR ANGIM EWAED AAKNE IDVIR SNILN OGGAI PSEAK XEWB.
```

<u>What does the first line tell us?</u>

Cipher ID: E-9.

Type: Swagman.

Title: No title.

Length: 44 letters.

Crib: swagman. (word appears in the plaintext)

Created by ACA member BECASSE

Solving E-9 from Sample Cm

E-9. Swagman. [44] (swagman) BECASSE

UBARR ANGIM EWAED AAKNE IDVIR SNILN OGGAI PSEAK XEWB.

Length of cipher is 44. Factors are 4x11. So square size = 4.

The square on the left is to keep track of where letters are found.

The squares below are for collecting plaintext.

U	R	I	A
B	A	M	E
A	N	E	D
R	G	W	A

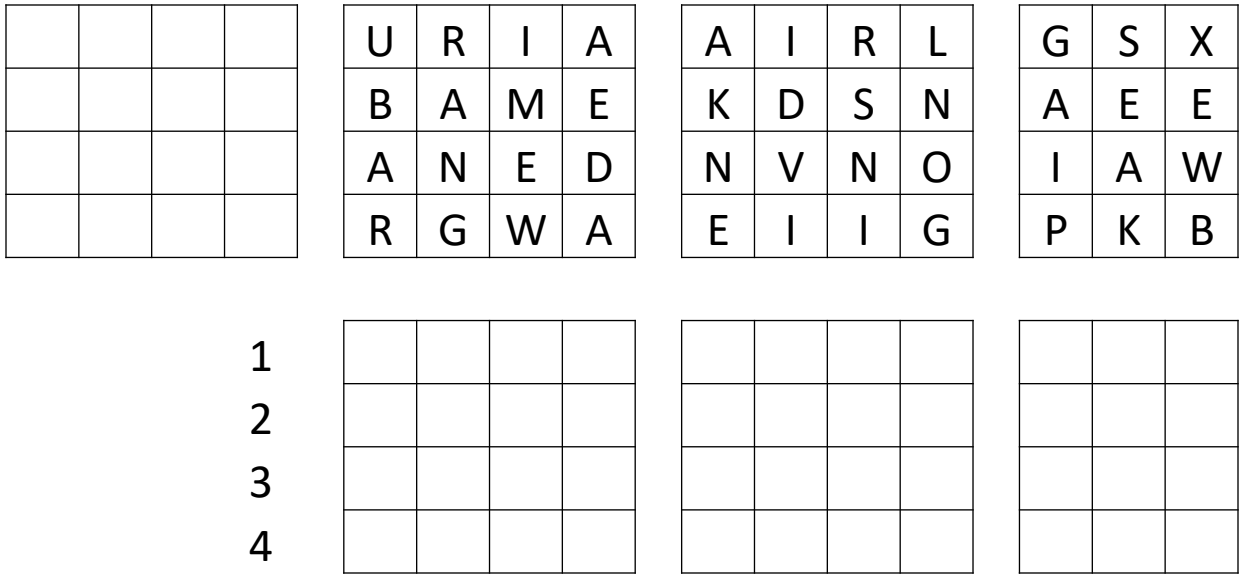
A	I	R	L
K	D	S	N
N	V	N	O
E	I	I	G

G	S	X	
A	E	E	
I	A	W	
P	K	B	

1				
2				
3				
4				

Solving E-9 from Sample Cm

Can the crib (swagman) be located? Hint: “W” occurs 2 times.



Solving E-9 from Sample Cm

The crib (swagman) can be located starting with the last block, then wrapping to the next line. Mark the crib letters using “1“ for the first line, and “2” for the next line. A marked letter means it has been used already. Copy the marked letters below.

	1		2
		2	
2		1	
	2		

U	R	I	A_2
B	A	M_2	E
A_2	N	E	D
R	G_2	W	A

A	I	R	L
K	D	S	N
N_2	V	N	O
E	I	I	G

G	S_1	X
A	E	E
I	A	W_1
P	K	B

1				
2	A	G	M	A
3				
4				

N			

	S	W

Solving E-9 from Sample Cm

Mark the rest of the letters identified by the current keysquare and copy them below.

What might come in line 1 prior to the crib?

	1		2
		2	
2		1	
	2		

U	R_1	I	A_2
B	A	M_2	E
A_2	N	E_1	D
R	G_2	W	A

A	I_1	R	L_2
K	D	S_2	N
N_2	V	N_1	O
E	I_2	I	G

G	S_1	X
A	E	E_2
I_2	A	W_1
P	K_2	B

1		R	E	
2	A	G	M	A
3				
4				

	I	N	
N	I	S	L

	S	W
I	K	E

Solving E-9 from Sample Cm

The two remaining "1" locations are simple to choose.

	1		2
		2	
2		1	
	2		

U	R_1	I	A_2
B	A	M_2	E
A_2	N	E_1	D
R	G_2	W	A

A	I_1	R	L_2
K	D	S_2	N
N_2	V	N_1	O
E	I_2	I	G

G	S_1	X
A	E	E_2
I_2	A	W_1
P	K_2	B

1		R	E	
2	A	G	M	A
3				
4				

	I	N	
N	I	S	L

	S	W
I	K	E

Solving E-9 from Sample Cm

The two remaining "1" locations are simple to choose.
Row 2 (or 4) in column 1, and then row 4 (or 2) in column 4.

	1		2
		2	
2		1	
	2		

U	R_1	I	A_2
B	A	M_2	E
A_2	N	E_1	D
R	G_2	W	A

A	I_1	R	L_2
K	D	S_2	N
N_2	V	N_1	O
E	I_2	I	G

G	S_1	X
A	E	E_2
I_2	A	W_1
P	K_2	B

1		R	E	
2	A	G	M	A
3				
4				

	I	N	
N	I	S	L

	S	W
I	K	E

Solving E-9 from Sample Cm

The two remaining “1” locations are simple to choose.
Row 2 (or 4) in column 1, and then row 4 (or 2) in column 4.
The “1“ line is either “RREE EINN PSW” or “BREA KING ASW”.
Take the latter.

	1		2
1		2	
2		1	
	2		1

U	R_1	I	A_2
B_1	A	M_2	E
A_2	N	E_1	D
R	G_2	W	A_1

A	I_1	R	L_2
K_1	D	S_2	N
N_2	V	N_1	O
E	I_2	I	G_1

G	S_1	X
A_1	E	E_2
I_2	A	W_1
P	K_2	B

1	B	R	E	A
2	A	G	M	A
3				
4				

K	I	N	G
N	I	S	L

A	S	W
I	K	E

Solving E-9 from Sample Cm

Start line 3 arbitrarily with the “U” in the first column. (We can figure out which line comes first, etc., later.)

3	1		2
1		2	
2		1	
	2		1

U_3	R_1	I	A_2
B_1	A	M_2	E
A_2	N	E_1	D
R	G_2	W	A_1

A_3	I_1	R	L_2
K_1	D	S_2	N
N_2	V	N_1	O
E	I_2	I	G_1

G_3	S_1	X
A_1	E	E_2
I_2	A	W_1
P	K_2	B

1	B	R	E	A
2	A	G	M	A
3	U			
4				

K	I	N	G
N	I	S	L
A			

A	S	W
I	K	E
G		

Solving E-9 from Sample Cm

The “W” in column 3 must also be part of line 3.

Now the choice for columns 2 & 4 becomes simple.

3	1		2
1		2	
2		1	
	2	3	1

U_3	R_1	I	A_2
B_1	A	M_2	E
A_2	N	E_1	D
R	G_2	W_3	A_1

A_3	I_1	R	L_2
K_1	D	S_2	N
N_2	V	N_1	O
E	I_2	I_3	G_1

G_3	S_1	X
A_1	E	E_2
I_2	A	W_1
P	K_2	B_3

1	B	R	E	A
2	A	G	M	A
3	U		W	
4				

K	I	N	G
N	I	S	L
A		I	

A	S	W
I	K	E
G		B

Solving E-9 from Sample Cm

The “W” in column 3 must also be part of line 3.

Now the choice for columns 2 & 4 becomes simple.

Line 3 is either “UAWD ADIN GEB” or “UNWE AVIN GAB”

3	1		2
1		2	
2		1	
	2	3	1

U_3	R_1	I	A_2
B_1	A	M_2	E
A_2	N	E_1	D
R	G_2	W_3	A_1

A_3	I_1	R	L_2
K_1	D	S_2	N
N_2	V	N_1	O
E	I_2	I_3	G_1

G_3	S_1	X
A_1	E	E_2
I_2	A	W_1
P	K_2	B_3

1	B	R	E	A
2	A	G	M	A
3	U		W	
4				

K	I	N	G
N	I	S	L
A		I	

A	S	W
I	K	E
G		B

Solving E-9 from Sample Cm

The “W” in column 3 must also be part of line 3.

Now the choice for columns 2 & 4 becomes simple.

Line 3 is either “UAWD ADIN GEB” or “UNWE AVIN GAB”

We take the second choice. This leaves no choices for line 4.

3	1		2
1		2	3
2	3	1	
	2	3	1

U_3	R_1	I	A_2
B_1	A	M_2	E_3
A_2	N_3	E_1	D
R	G_2	W_3	A_1

A_3	I_1	R	L_2
K_1	D	S_2	N_3
N_2	V_3	N_1	O
E	I_2	I_3	G_1

G_3	S_1	X
A_1	E	E_2
I_2	A_3	W_1
P	K_2	B_3

1	B	R	E	A
2	A	G	M	A
3	U	N	W	E
4				

K	I	N	G
N	I	S	L
A	V	I	N

A	S	W
I	K	E
G	A	B

Solving E-9 from Sample Cm

Line 4 has been filled in. What order do the lines go in?

3	1	4	2
1	4	2	3
2	3	1	4
4	2	3	1

U_3	R_1	I_4	A_2
B_1	A_4	M_2	E_3
A_2	N_3	E_1	D_4
R_4	G_2	W_3	A_1

A_3	I_1	R_4	L_2
K_1	D_4	S_2	N_3
N_2	V_3	N_1	O_4
E_4	I_2	I_3	G_1

G_3	S_1	X_4
A_1	E_4	E_2
I_2	A_3	W_1
P_4	K_2	B_3

1	B	R	E	A
2	A	G	M	A
3	U	N	W	E
4	R	A	I	D

K	I	N	G
N	I	S	L
A	V	I	N
E	D	R	O

A	S	W
I	K	E
G	A	B
P	E	X

Solving E-9 from Sample Cm

Lucky day! The lines are already in the correct order.
Record the solution so you could later submit it for credit.

E-9 breaking a swagman is like unweaving a braided rope (x)

3	1	4	2
1	4	2	3
2	3	1	4
4	2	3	1

U_3	R_1	I_4	A_2
B_1	A_4	M_2	E_3
A_2	N_3	E_1	D_4
R_4	G_2	W_3	A_1

A_3	I_1	R_4	L_2
K_1	D_4	S_2	N_3
N_2	V_3	N_1	O_4
E_4	I_2	I_3	G_1

G_3	S_1	X_4
A_1	E_4	E_2
I_2	A_3	W_1
P_4	K_2	B_3

1	B	R	E	A
2	A	G	M	A
3	U	N	W	E
4	R	A	I	D

K	I	N	G
N	I	S	L
A	V	I	N
E	D	R	O

A	S	W
I	K	E
G	A	B
P	E	X

Solving E-9 from Sample Cm

Solving a Swagman is a process of identifying the different threads of text that are woven together.

Now let’s try E-10.

Solving E-10 from Sample Cm

```
E-10. Swagman. [64] (resistance) BECASSE
OOCNC FFOFU EFRTE EAAAO FRRGM EENIA OATRS RMAKR TEABS SSWEA ITENI
SNTRC AYEX.
```

<u>What does the first line tell us?</u>

Cipher ID: E-10.

Type: Swagman.

Title: No title.

Length: 64 letters.

Crib: resistance. (word appears in the plaintext)

Created by ACA member BECASSE

Solving E-10 from Sample Cm

E-10. Swagman. [64] (resistance) BECASSE
OOCNC FFOFU EFRTE EAAAO FRRGM EENIA OATRS RMAKR TEABS SSWEA ITENI
SNTRC AYEX.

Length of cipher is 64. Too short for 8x8, so try square size = 4.
Fill in the ciphertext by columns.

O	C	F	R
O	F	U	T
C	F	E	E
N	O	F	E

A	F	M	I
A	R	E	A
A	R	E	O
O	G	N	A

T	M	T	S
R	A	E	S
S	K	A	S
R	R	B	W

E	E	N	A
A	N	T	Y
I	I	R	E
T	S	C	X

Solving E-10 from Sample Cm

The crib is “resistance” – can a location for it be found? Start by trying to find locations for “res”

O	C	F	R
O	F	U	T
C	F	E	E
N	O	F	E

A	F	M	I
A	R	E	A
A	R	E	O
O	G	N	A

T	M	T	S
R	A	E	S
S	K	A	S
R	R	B	W

E	E	N	A
A	N	T	Y
I	I	R	E
T	S	C	X

Solving E-10 from Sample Cm

The crib is “resistance” – can a location for it be found? “Res” can only start in column 2 of the third square. Mark “resista” as part of line 1 (we can adjust line order afterwards).

			1
		1	
1			
	1		

O	C	F	R
O	F	U	T
C	F	E	E
N	O	F	E

A	F	M	I
A	R	E	A
A	R	E	O
O	G	N	A

T	M	T	S_1
R	A	E_1	S
S	K	A	S
R	R_1	B	W

E	E	N	A_1
A	N	T_1	Y
I_1	I	R	E
T	S_1	C	X

	R	E	S

I	S	T	A

Solving E-10 from Sample Cm

Mark the rest of the letters for line 1 and copy them below.

			1
		1	
1			
	1		

O	C	F	R_1
O	F	U_1	T
C_1	F	E	E
N	O_1	F	E

A	F	M	I_1
A	R	E_1	A
A_1	R	E	O
O	G_1	N	A

T	M	T	S_1
R	A	E_1	S
S_1	K	A	S
R	R_1	B	W

E	E	N	A_1
A	N	T_1	Y
I_1	I	R	E
T	S_1	C	X

C	O	U	R

A	G	E	I

S	R	E	S

I	S	T	A

Solving E-10 from Sample Cm

Mark “nce” in line 2 to complete the crib of “resistance” and copy them below.

	2		1
		1	2
1		2	
2	1		

O	C_2	F	R_1
O	F	U_1	T
C_1	F	E_2	E
N_2	O_1	F	E

A	F	M	I_1
A	R	E_1	A
A_1	R	E	O
O	G_1	N	A

T	M	T	S_1
R	A	E_1	S
S_1	K	A	S
R	R_1	B	W

E	E	N	A_1
A	N	T_1	Y
I_1	I	R	E
T	S_1	C	X

C	O	U	R
N	C	E	

A	G	E	I

S	R	E	S

I	S	T	A

Solving E-10 from Sample Cm

Mark the rest of the letters for line 2 and copy them below.

	2		1
		1	2
1		2	
2	1		

O	C_2	F	R_1
O	F	U_1	T_2
C_1	F	E_2	E
N_2	O_1	F	E

A	F_2	M	I_1
A	R	E_1	A_2
A_1	R	E_2	O
O_2	G_1	N	A

T	M_2	T	S_1
R	A	E_1	S_2
S_1	K	A_2	S
R_2	R_1	B	W

E	E_2	N	A_1
A	N	T_1	Y_2
I_1	I	R_2	E
T_2	S_1	C	X

C	O	U	R
N	C	E	T

A	G	E	I
O	F	E	A

S	R	E	S
R	M	A	S

I	S	T	A
T	E	R	Y

Solving E-10 from Sample Cm

Start line 3 arbitrarily with the “O” in the first row.

3	2		1
		1	2
1		2	
2	1		

O_3	C_2	F	R_1
O	F	U_1	T_2
C_1	F	E_2	E
N_2	O_1	F	E

A	F_2	M	I_1
A	R	E_1	A_2
A_1	R	E_2	O
O_2	G_1	N	A

T	M_2	T	S_1
R	A	E_1	S_2
S_1	K	A_2	S
R_2	R_1	B	W

E	E_2	N	A_1
A	N	T_1	Y_2
I_1	I	R_2	E
T_2	S_1	C	X

C	O	U	R
N	C	E	T
O			

A	G	E	I
O	F	E	A

S	R	E	S
R	M	A	S

I	S	T	A
T	E	R	Y

Solving E-10 from Sample Cm

Take the “F” from row 2 in column 2 (line 4 would otherwise be left with two letters in the same row of that square).

3	2		1
	3	1	2
1		2	
2	1		

O_3	C_2	F	R_1
O	F_3	U_1	T_2
C_1	F	E_2	E
N_2	O_1	F	E

A	F_2	M	I_1
A	R	E_1	A_2
A_1	R	E_2	O
O_2	G_1	N	A

T	M_2	T	S_1
R	A	E_1	S_2
S_1	K	A_2	S
R_2	R_1	B	W

E	E_2	N	A_1
A	N	T_1	Y_2
I_1	I	R_2	E
T_2	S_1	C	X

C	O	U	R
N	C	E	T
O	F		

A	G	E	I
O	F	E	A

S	R	E	S
R	M	A	S

I	S	T	A
T	E	R	Y

Solving E-10 from Sample Cm

Next, take the “F” from row 4 in column 3 (line 3 already has a letter from row 1). That leaves row 3 of column 4 to complete line 3.

3	2		1
	3	1	2
1		2	3
2	1	3	

O_3	C_2	F	R_1
O	F_3	U_1	T_2
C_1	F	E_2	E_3
N_2	O_1	F_3	E

A	F_2	M	I_1
A	R	E_1	A_2
A_1	R	E_2	O
O_2	G_1	N	A

T	M_2	T	S_1
R	A	E_1	S_2
S_1	K	A_2	S
R_2	R_1	B	W

E	E_2	N	A_1
A	N	T_1	Y_2
I_1	I	R_2	E
T_2	S_1	C	X

C	O	U	R
N	C	E	T
O	F	F	E

A	G	E	I
O	F	E	A

S	R	E	S
R	M	A	S

I	S	T	A
T	E	R	Y

Solving E-10 from Sample Cm

Mark the rest of the letters for line 3 and copy them below.

3	2		1
	3	1	2
1		2	3
2	1	3	

O_3	C_2	F	R_1
O	F_3	U_1	T_2
C_1	F	E_2	E_3
N_2	O_1	F_3	E

A_3	F_2	M	I_1
A	R_3	E_1	A_2
A_1	R	E_2	O_3
O_2	G_1	N_3	A

T_3	M_2	T	S_1
R	A_3	E_1	S_2
S_1	K	A_2	S_3
R_2	R_1	B_3	W

E_3	E_2	N	A_1
A	N_3	T_1	Y_2
I_1	I	R_2	E_3
T_2	S_1	C_3	X

C	O	U	R
N	C	E	T
O	F	F	E

A	G	E	I
O	F	E	A
A	R	N	O

S	R	E	S
R	M	A	S
T	A	B	S

I	S	T	A
T	E	R	Y
E	N	C	E

Solving E-10 from Sample Cm

That leaves no other choice for letters of line 4. Flag them and copy them below. Now what about line order?

3	2	4	1
4	3	1	2
1	4	2	3
2	1	3	4

O_3	C_2	F_4	R_1
O_4	F_3	U_1	T_2
C_1	F_4	E_2	E_3
N_2	O_1	F_3	E4

A_3	F_2	M_4	I_1
A_4	R_3	E_1	A_2
A_1	R_4	E_2	O_3
O_2	G_1	N_3	A_4

T_3	M_2	T_4	S_1
R_4	A_3	E_1	S_2
S_1	K_4	A_2	S_3
R_2	R_1	B_3	W_4

E_3	E_2	N_4	A_1
A_4	N_3	T_1	Y_2
I_1	I_4	R_2	E_3
T_2	S_1	C_3	X_4

C	O	U	R
N	C	E	T
O	F	F	E
O	F	F	E

A	G	E	I
O	F	E	A
A	R	N	O
A	R	M	A

S	R	E	S
R	M	A	S
T	A	B	S
R	K	T	W

I	S	T	A
T	E	R	Y
E	N	C	E
A	I	N	X

Solving E-10 from Sample Cm

Still a lucky day – the lines seem to be in the correct order.
Record the solution so you could later submit it for credit.

E-10 courage is resistance to fear, mastery of fear, and not

3	2	4	1
4	3	1	2
1	4	2	3
2	1	3	4

O_3	C_2	F_4	R_1
O_4	F_3	U_1	T_2
C_1	F_4	E_2	E_3
N_2	O_1	F_3	E4

A_3	F_2	M_4	I_1
A_4	R_3	E_1	A_2
A_1	R_4	E_2	O_3
O_2	G_1	N_3	A_4

T_3	M_2	T_4	S_1
R_4	A_3	E_1	S_2
S_1	K_4	A_2	S_3
R_2	R_1	B_3	W_4

E_3	E_2	N_4	A_1
A_4	N_3	T_1	Y_2
I_1	I_4	R_2	E_3
T_2	S_1	C_3	X_4

C	O	U	R
N	C	E	T
O	F	F	E
O	F	F	E

A	G	E	I
O	F	E	A
A	R	N	O
A	R	M	A

S	R	E	S
R	M	A	S
T	A	B	S
R	K	T	W

I	S	T	A
T	E	R	Y
E	N	C	E
A	I	N	X

Solving E-10 from Sample Cm

- Identifying a thread of reasonable text reduces the number of choices for finding the next thread.
- Watch to make sure no row in a square is used more than once in a thread.

Good Solving!

Thank you. Try another. Try the ACA!

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