Gathering 4 Gardner X

(Another pot pourri by Laurie Brokenshire CBE)

G4GX Knight's (GG's!) Tour

A “Gee-Gee”'s Tour on (2x ten) squares arranged as 4 arms of an “X” (=10) rotate 45deg!

G	4	1	2	G	4
G	X	3	4	G	X
5	6	7	8	9	10
11	12	13	14	15	16
G	4	17	18	G	4
G	X	19	20	G	X

It is possible to achieve many shorter non-tours:

(“tour” simply denoted by sequential numbers; 1->15 here):

G	4	1		G	4
G	X	6	11	G	X
7	12		2	5	12
	15	8	13	10	3
G	4		4	G	4
G	X	14	9	G	X

What is the “worst possible attempt”; ie when the tour becomes “blocked” earliest?

Here's a “near miss” where 19 cells are visited:

G	4		1	G	4
G	X	15	6	G	X
16	5	2	11	14	7
3	10	17	8	19	12
G	4	4	13	G	4
G	X	9	18	G	X

Find one of the 4 (G4G) solutions that visits every square once (non-closed tour)?

And the single solution that returns to the start after visiting all the others?

"X marks the spot!" = Map-ten-folding

For ease of solving put the same number(s) on each side of each of these squares.

Cut out the rectangle of 10 squares, then cut along the line between the 6/9;7/10;8/1 squares to produce a "ring" of 10 squares.

Now fold the "split" map to form a "pile" of 10 squares, one on top of the other, such that the numbers 1->10 appear in the correct order in the stack from top to bottom.

3	6	7	8	5
2	9	10	1	4

...and what about THIS one?!

3	6	7	1	2
8	10	4	5	9

Remove the two "X" squares and fold this "holey" map, also to a 1->10 stack:

4	1	10	9
3	X	X	2
7	6	5	8

“rel8ed”, then “nonce”, now some Xciting Words...

(B Xacious if U have a XdenC 2 B Xtative)

DEC ORATE = speak 10 times?

DECA DENT = ten teeth? (and, naturally, 10 cards make a DECA Cards)

What words are Xuously represented here?

xXU8

XLondon

1DEAD0 (similarly 1SHUN0)

DINGX (similarly DEADX)

X U8

XXX...XXX

xXt

X

tiss, tiss, tiss...

XTAURUS

XLondonX

Xputon

Xbore

Xconsumed

V

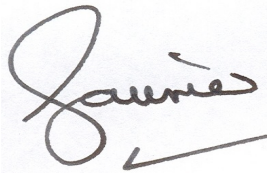
Sigma i=1 to 4 (iDEAD) {or 5(DEAD + DEAD) }

As we approach Easter, may I enquire why Christmas = Hallowe'en?!

(Recreationally MATHEMATICALLY, of course)

Coda: For those paying attention to Dr Matrix, 2012 in trinary/ternary (number base 3) = 59 in decimal/denary, precisely my age (my three year joy of numeralogical coincidence, starting at 8:10 pm on 20/10/2010, ends here!).

Happy Easter (and G4GX)!
Puzzlingly & magically yours,



PS I'd be delighted to give solutions to any who seek them, or to discuss any item in my Pot Pourri; especially improvements etc (also for previous G4Gs). Just contact: laurie@brokenshire.net.