Young Tyros Newsletter

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Factorial or Factitious?

*COPST - Contribution of Personal Solving Techniques

Welcome D.

We welcome, **D**, to our Young Tyros Newsletters Staff. **D's** ACA membership dates back to the 1970's and includes Cm articles on the 1845 London Letters, Magic Square Cryptarithms and the Wimberley (TX) Village Library Crypto display. He has built a fully functional electronic simulator of the German Enigma machine, solved all ten stages of Dirk Rejmnant's Enigma Cipher Challenge and is presently working on the 355 enciphered messages of the Zendian Problem. His oldest son, Kevin Knight, became internationally famous for his solution of the Copiale Cipher and granddaughter, Angela (TUFFY) is an ACA and Young Tyros member. We look forward to **D's** innovative support.

***COPST** **BION**

Check out BION's website http://bionsgadgets.appspot.com/ for interactive cipher solvers. For basic instruction on the Playfair Cipher and many cipher types, check the website http://en.wikipedia.org/wiki/Playfair_cipher

Factorial Equations. (!) **LIONEL**

Factorial Equation constructions usually enjoy a C-Special ranking in the cryptarithm column but may not be as hard as their placement in the column suggests. Here is an opportunity for cipher solving success rather than cipher solving retreat. Webster defines "factorial" (!) as "the product of a series of consecutive positive integers from 1 to a given number." Thus, factorial four (written 4!) = 1 x 2 x 3 x4 = 24. Let's apply this relatively simple math formula to a Cryptarithm construction of four equations by APEX DX (three words, 0-1) appearing as TG1 in our MA08 Cm.

(1) A! + D! = EDD (2) A! – N! = AFF (3) N! + W! = OWW (4) (I! / A!) – TV = DAA

APEX DX has been kind by providing us with four equation results that end with identical cipher letters, DD, FF, WW and AA. This leads to four equations ending with identical numbers. A search for a factorial that leads us to three digits ending in identical numbers begins with 6! 1 x 2 x3 x 4 x 5 x 6 = 720 or 5!, 1 x 2 x 3 x 4 x 5 = 120. We now search for a D! to add to 720 or 120 that will total a three digit total ending in identical numbers. Both 2! (1 x 2 = 2) and 4! (1 x 2 x 3 x 4 = 24) fill this bill. This provides us with sums of 722, 744, 120 or 144 as our first possibilities. Moving on to the second equation, we will find that 5! (1 x 2 x 3 x 4 x 5 = 120) is the only factorial that will keep the three digit solution and two identical ending digits in equation two when subtracting N1 factorial. Thus A! (720) – N! (120) = 600 is the solution for equation two and A! (720) + D! (1 x 2 x 3 x 4 = 24) = 744 our solution for equation 1.

F			E	A	N	D			
0	9	8	7	6	5	4	3	2	1

Complete the solution.

Free Code and Cipher Books

Cryptanalysis – Helen Gaines *Crypto & Spygrams* – Gleason *Codes, Secret Writing* – Gardner
Cryptography – Dwight Smith *Find Out about Secret Codes* – Beal *Fun with Secret Writing* - Lamb
Invitation to Cryptograms –Williams *Secret Codes & Ciphers* – Kohn Top *Secret* – Paul Janeczko

Gimme a Break – JF Aristocrats (may be digraphs / trigraphs) (1) unless otherwise stated

A-1, DBQIOORMQIL, A-2, that, the (2), A-3, it (5), A-4, that, the (2), A-5, the (3), A-6, that (2), the (3), A-7, the (2), A-8, I (2), A-9, th(2), I, A-10, th (2), A-11, that, the, A-12, the (3), A-13, th (2), A-14, to (2), A-15, in (2), A-16, ou (2), that, A-17, is a, A-18, the (2), A-19, profundity, A-20, ing (2), the, A-21, ig (2), in (3), A-22, in, ing, A-23, texts, A-24, along, A-25, MZCBKCJULIZ (can only be two patterned words).

Gimme a Break - JF Patristocrats (may be digraphs / trigraphs) (1) unless otherwise stated
P-1, like (3), P-2, the (2), P-3, the (2), P-4, that, the (2), P-5, test, P-6, been, P-7, th (4), the (2), P-8, the (3), P-9, e (11), P-10, in(3), is (2), P-11, th (2), that, P-12, an (3), to (4), P-Sp-1, he (2) the, to (2), P-Sp-2, a (7), e (13).

JF-9. Ragbaby. Billowing? (reminiscent) Fancy name for the covered wagon. **CONFUOCO**

JF A-24. Head in the game. (K3) 79 **DUMPSTER**
The first two pattern words have all five vowels and seven letters of SENORITA. Only seven words fit the pair.

JF P-12. Happy Valentine's Day. First plaintext word is one most associated with Valentine's Day. EL CONDOR

JF X-7. ??? Which language appears nowhere else in this column? GZBRRBTGURG nice pattern. **PARROT**

JF X-8. Latin Patristocrat. K2. Human rights. Plaintext begins "Omnes**….."** **LIONEL**

JF X-9. German Rt Transp. (Liebers) Begins upper left, alternating columns in, spiral out. **RIG R MORTIS**

JF E-5. Tridigital. Better view of the stars. (Extended crib – are furious) **REAL NEO**
Only one separator generates average word length (6). A = 9, I = 2.

JF E-6. Baconian. Russian proverb. (hens) **APEX DX**
JF Cm. has 111 cons. Shortcut this one. Google Russian proverbs. Look for thirty-three letter proverb.

JF E-8. Null. Key # 2 to happiness. Four digit numerical key. (--joy might be a more useful crib.) **CONFUOCO**

JF E-19. Quagmire III. Poor-mouthing millionaires. Period 10. Additional crib – look for "evaporating" **CODEX**

JF E-23. Foursquare. Or even the dishwasher. Extended crib - (are unable to understand the lawn) **OZ**

JF E-24. Quagmire IV. Period 8.Crib extension – (thrilledbythestarsatnighttobeelatedoverabirdsnest) **ICECAP**

JF C-11. Multiplication. (Three words, 0-1) First letter of first two three letter words – "E" & "O" **RR TRACK**

MA A-21. Why strange names. K2. (98) *Ytterby **RR TRACK**

MA P-11. Expensive communications. K3 (98/20) Subject – Old mining codes. **TSIOLKOVSKY**

MA X-7. ??? K2 Typical chess jargon. Note the author for cipher type. **DOPPELSCHACH**

MA E-1. Railfence. Water. (WIFX) Period seven, orderly rails with an offset. **COLD DUCK**

MA E-11. Redefence. A matter of degree. (near) Period seven – First three rails = 635, One offset. **BION**

MA **C-13 & C-Sp-2 Undecimals.** Both six letter first words and second words end in "E." **G-MAN, MARSHEN**

Sunny Ciphering, LIONEL cc: ACA Executive Board