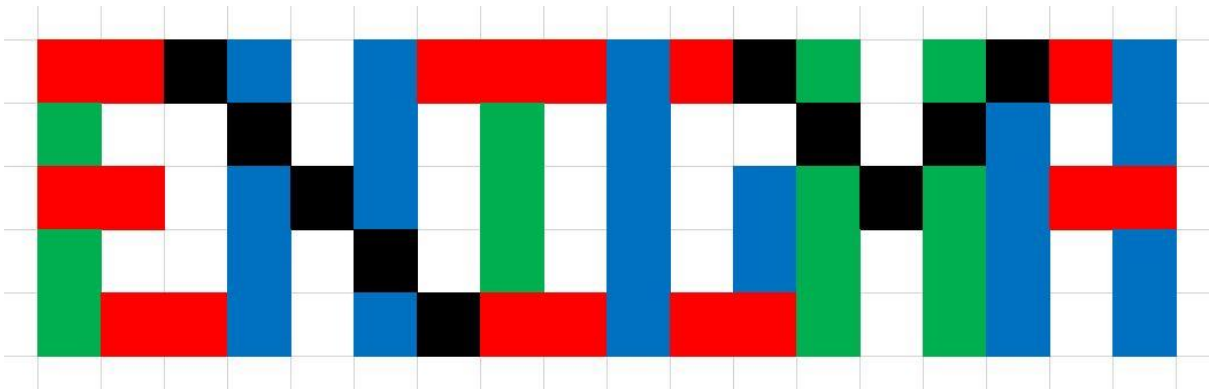
The Newsletter
of PuzzleSIG



242

'A great discovery solves a great problem, but there is a grain of discovery in the solution of any problem. Your problem may be modest, but if it challenges your curiosity and brings into play your inventive faculties, and if you solve it by your own means, you may experience the tension and enjoy the triumph of discovery.'

George Polya

July 2019

Electronic Version of this Newsletter
Send me an email if you would like a pdf copy of this newsletter

About Enigma
Enigma is the newsletter of Puzzle SIG.
Puzzle SIG is the international special interest group for anyone interested in puzzles. The scope covers word puzzles and crossword puzzles, logic puzzles, Japanese puzzles, mathematical brain teasers, lateral thinking problems, quizzes and picture quizzes, discussion of physical / mechanical puzzles, computer / internet based puzzles and puzzle games, and puzzle books and publications. Contributions to the Enigma newsletter are always gratefully received, and whilst experimentation and innovation of puzzle types are more than welcome, traditional types of puzzles are equally appreciated.

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How to Join
You can join Puzzle SIG by contacting me with your name and membership number, and whether you want a postal or a email subscription, or via the members' area on the Mensa website, by emailing sigs@mensa.org.uk or completing a SIG membership application form and send it to British Mensa, St John's House, St John's Square, Wolverhampton WV2 4AH.

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Welcome to Enigma 242

Hello and welcome to another issue of Enigma.

Please try all of the puzzles, and if you have any feedback, let me know and I'll pass it on to the puzzle's creator.

As ever, if you get stuck and need a hint, drop me a line and I'll be happy to help.
Please keep your puzzles, answers, comments, queries, suggestions, etc coming in.

Happy puzzling
Elliott.

241.01 – Competition Puzzle: Pinboard – Elliott Line

The rectangle is 418cm x 240cm

Howard Somerset
Julie Harkin
Tom Chantler
Pat McNally
Anne-Marie Kurth
Stuart Nelson
Paul Clark
Ivor Cornish
Peter Phelps-Jones
Christa Ramonat
Marc Gale
Paul Cook
Guy Tugwell
Johann Muller
Roisin Carters
Graham Holmes

242.01 - COMPETITION: Palindrome - Elliott Line

242 (the number of this issue of Enigma) is a palindrome in base 10.
It is also a palindrome in five other bases (not including bases above base 242, where the number would be a single 'digit').

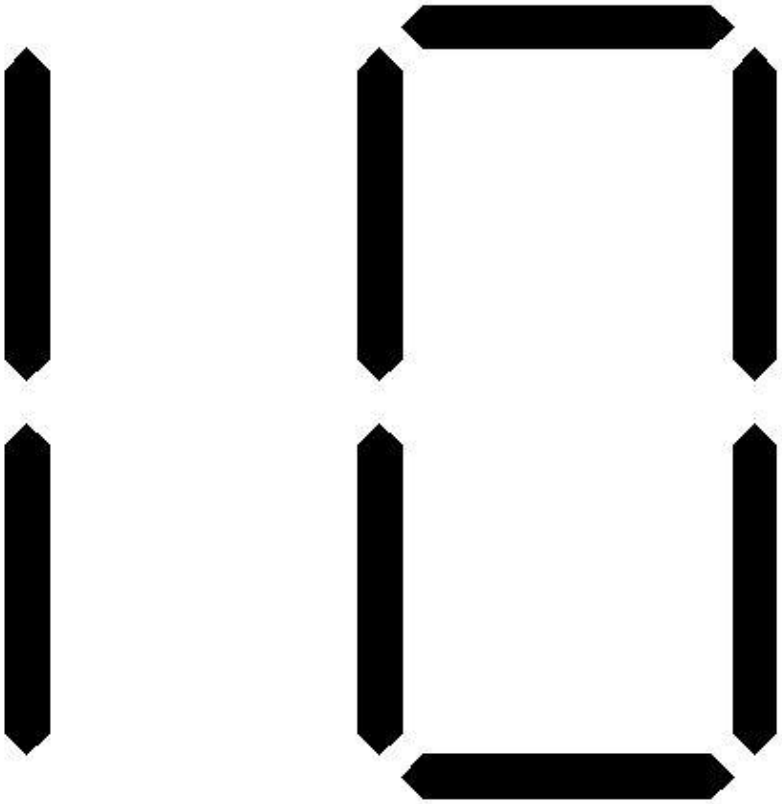
Can you find all five of them?

This is a competition, but not for prizes, only bragging rights. Every correct answer I receive will get an honourable mention in the next issue of Enigma. Send your answer to me at enigma.mensa@yahoo.co.uk .

Some background on bases: we use base 10 all of the time, and we understand well how it works: each digit moving from right to left is worth 10 more than the last. Other bases work in exactly the same way, but with the digits increasing in value by a different factor. For example, 242 expressed in base 6 would be 1042, since (1x2)+(6x4)+(36x0)+(216x1) is equal to 242.

242.02 - Digital Display – Elliott Line

Can you add two more bars to this digital display to make it a multiple of 13 that is NOT 78?



242.03 - Double Birthdays – Elliott Line

This conversation took place on a particular day of the (non-leap) year:

“Isn’t it curious,” remarked Izzie, “that if you take today’s date, double the date number and double the month number, you get my birthday?”
“Interesting!” replied Leila, “but if you consider today as the ‘n’th day of the year and work out what the ‘2n’th day of the year is, you get MY birthday!”

Izzie’s and Leila’s birthdays are in the same calendar month.

When did this conversation take place and when are the girls’ birthdays?

242.04 - Double Digiproduct – Elliott Line

I have a number.
I multiply each of the digits together to get another number.
I multiply each of the digits of that number together, and I find that I get the number 36.
If you disallow the use of the digit 1 (for obvious reasons) there are only two numbers I could have started with, what are they?

242.05 – Fractions – Elliott Line

1/3 = 0.333… and 3/8 = 0.375. No fraction with a single-digit denominator lies between them.
What is the fraction greater than 1/3 and less than 3/8 that has the lowest denominator? Call that fraction 'x'.
What is the fraction greater than 'x' and less than 3/8 that has the lowest denominator? Call that fraction 'y'.
Finally, what is the fraction greater than 'x' and less than 'y' that has the lowest denominator?

242.06 – Missing Vowels – Rosemary Hodgson

In each of the following, re-insert vowels and spaces to reveal common sayings:

(i) THDVLMKSWRKFRDLHNDS
(ii) TMWTSFRNMN
(iii) THRDTHLLSPVDWTHGDNTNTNS
(iv) FLSRSHNWHRNGLSFRTTRD
(v) THHNDSTHTHLPRHLRTHNTHLPSTHTPRY
(vi) CNFDNCBRDSSCCSS
(vii) CTNSSPKLDRTHNWRDS
(viii) CLNLNSSSNXTTGDLNSS

242.07 – Odd One Out – Rosemary Hodgson

The following words, apart from one, all share a specific property.
What is that property, and which word is the odd one out?

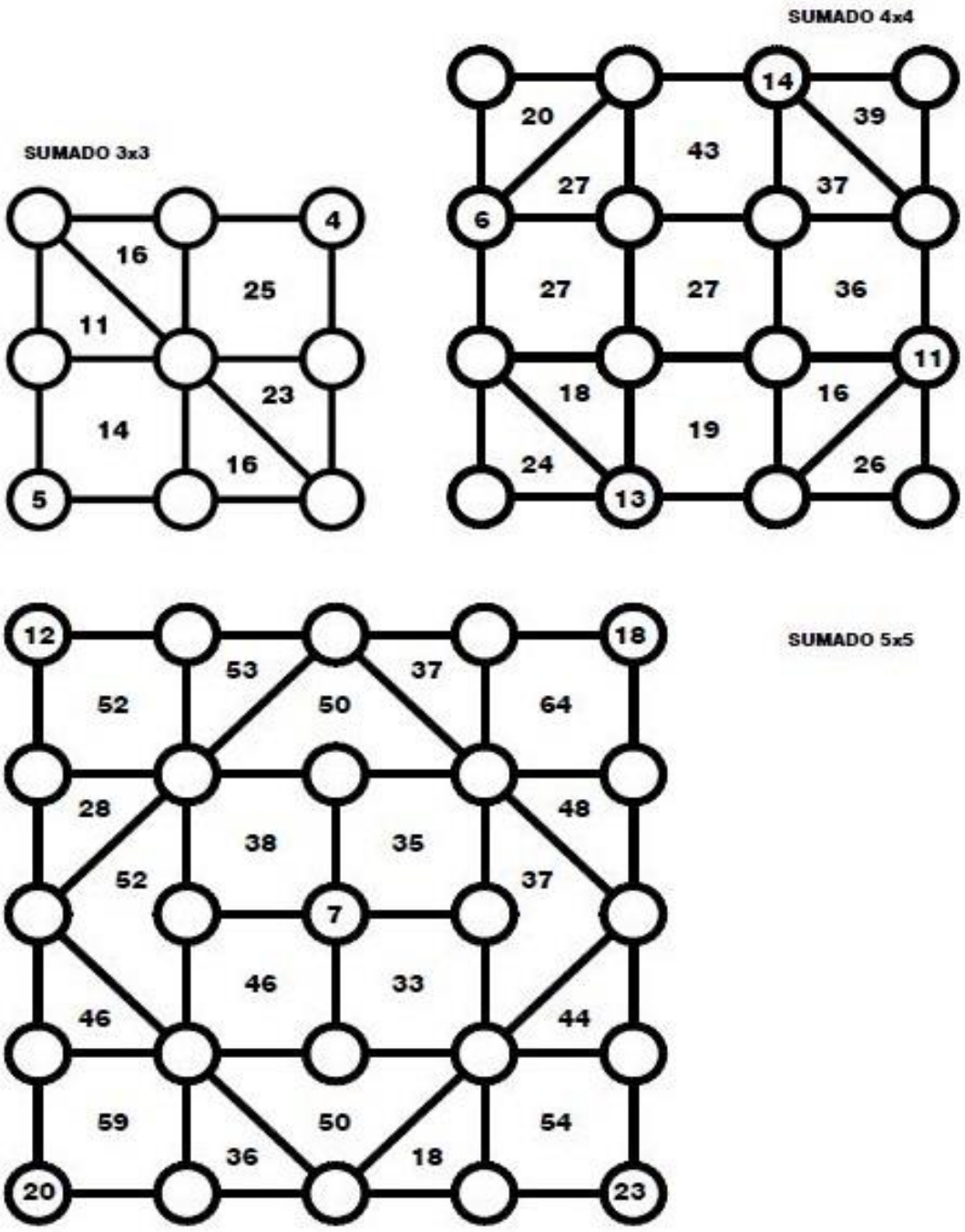
PLEAD, TRAMP, PLANE, BRAND, SAGE, HATE, WANT, CODE, RAPT, SPAN, TEAR, OATS, SEAT, MANY.

242.08 - Out and Back – Elliott Line

Bakewell parkrun is a picturesque free, weekly, timed 5km run along the Monsal trail in Derbyshire. The course heads off 2.5km along the trail, then takes a u-turn, before heading back to the start/finish.
Two friends run the parkrun, both starting at the same time (Saturday 9am). They run at different paces, but their paces are consistent. Nicola, the faster of the two, reaches the turnaround point first, then exactly two minutes and twenty seconds later, passes Danny travelling the other way. At the finish, Nicola has exactly twelve minutes to wait before Danny crosses the finish line.
How long do Nicola and Danny take to complete their parkruns?

242.10 – SU-MA-DO - Guillermo Verger

SU-MA-DO is a logic game. It is an opportunity for mental exercise and fun at the same time.
There are circles joined by lines so as to form squares and triangles. There are various kinds of SU-MA-DOs depending on the quantity of the circles. In the case of a 3x3 SU-MA-DO, the circles will contain each of the numbers 1 to 9, once each. The 4x4 SU-MA-DO uses each of the numbers 1 to 16, and the 5x5 SU-MA-DO uses 1 to 25. The number inside each triangle or square is the sum of values of the circles of that figure. The object of the game is to figure out the values of each circle. Some of the circles already have their values. The more circles there are in the SU-MA-DO the higher level of difficulty you'll face.



242.09 – Random Code – Rosemary Hodgson

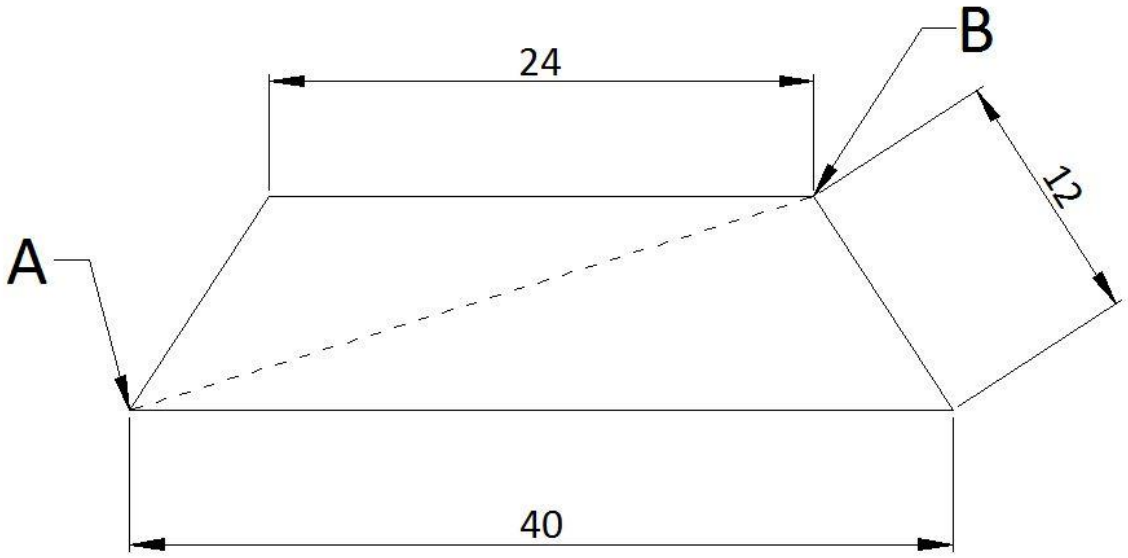
In each of the following, replace each letter with either the letter preceding it or following it in the alphabet:

(1)
XNT EPM'S TUNO ENJOF SGJMFR AFBBTTF ZNT FFS NME,
XNV FFS NME AFBBTTF ZNT RUPO CPJOF SGHMHT.

(2)
HG ZPT CP XIBS ZNV'WD BKVBXR CPMD,
XNT'KM FDS XIBS ZNV'WF ZKVBXR HNS.

(3)
QFBKJSX HT SIBU VIJBG, HE XPT RSNQ
CFKJDWHMF HO HS, EPFTM'S FN BVBX.

242.11 - Volcano Climb – Elliott Line



An expedition is being planned to climb a truncated conical volcano that is 40km diameter at the base, and 24km diameter at the crater edge. The slope length is 12km.
The path starts at A at the base and ends at point B on the crater edge, exactly halfway round the volcano from A.
What is the length of the shortest possible route around the conical face of the volcano (to the nearest km)?

242.12 – What's Missing? – Peter Nichols

None of the things that women play in orchestras with reed instruments are of our concern.
If I've upset anyone, sorry!
On Christmas Eve night, players, especially overweight ones, can be in pain in each leg.
This is written on white notepaper.

What is missing from this apparent nonsense?

242.13 – Which is Greater? - Elliott Line

Which is greater:
the 789th number in the 123 times table to begin with the digits 456,
or the 123rd number in the 789 times table to begin with the digits 456?

242.14 – Word Pyramids – Christa Ramonat

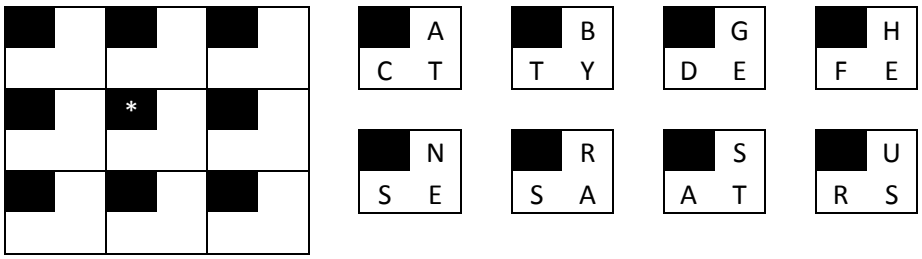
Starting with a seven-letter base word it is possible to form a pyramid removing one letter each level as you ascend, for example:

A
AM
MAP
LAMP
AMPLE
EMPALE
EXAMPLE

Form similar pyramids with the following base words:
PYRAMID
TRIANGLE
SERENITY

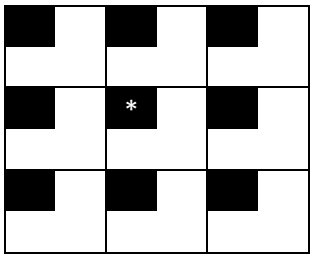
242.15 – Wordwall – Elliott Line

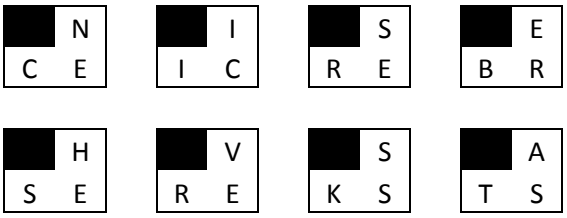
Reassemble this word wall using the bricks provided. Unfortunately the brick that goes in the position marked with an asterisk is missing, and must be reconstructed.

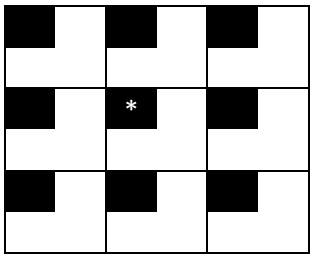


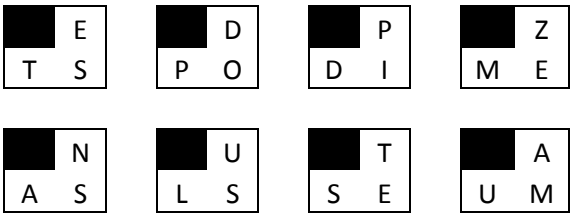
242.16 – Wordwalls – Christa Ramonat

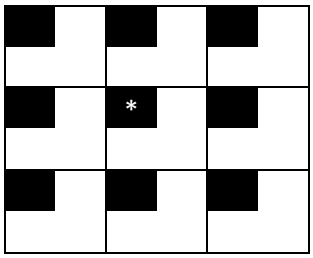
Reassemble this word wall using the bricks provided. Unfortunately the brick that goes in the position marked with an asterisk is missing, and must be reconstructed.

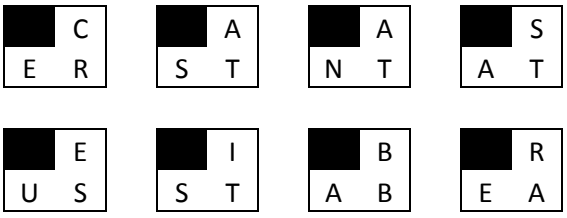


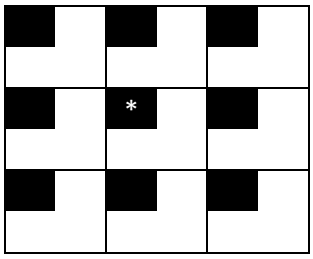


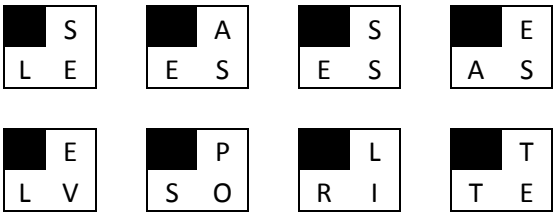












242.02 - Digital Display – Elliott Line
Turn it 90 degrees anti-clockwise and add bars to make it read '52'.

242.03 - Double Birthdays – Elliott Line
The conversation happened on February 15th (15/2), the 46th day of the year.
Izzie's birthday is April 30th (30/4).
Leila's birthday is April 2nd, the 92nd day of a non-leap year.

242.04 - Double Digiproduct – Elliott Line
77 and 777

242.05 – Fractions – Elliott Line
'x' = 4/11
'y' = 7/19
Answer = 11/30

242.06 – Missing Vowels – Rosemary Hodgson
(i) The devil makes work for idle hands.
(ii) Time waits for no man.
(iii) The road to hell is paved with good intentions.
(iv) Fools rush in where angels fear to tread.
(v) The hands that help are holier than the lips that pray.
(vi) Confidence breeds success.
(vii) Actions speak louder than words.
(viii) Cleanliness is next to Godliness.

242.07 – Odd One Out – Rosemary Hodgson
OATS is the odd word out.
All others still give a common word if either the first or last letter is removed. For example SAGE would still give SAG and AGE with first or last letters removed.

242.08 - Out and Back – Elliott Line
The actual distance of the run is immaterial.
The distance, indeed the fact that they are running at all, is immaterial: it could just as easily have been: It takes Danny 12 minutes longer than Nicola to paint a wall. Working together they can paint a wall in 2m20s longer than Nicola can paint half a wall on her own.

The time it takes Nicola to reach the turnaround will be half her entire time, so let's call it N/2.
The time until the two runners meet will be the point at which, between them, they have covered the full distance. The time will be 1/((1/N)+(1/D)). We are told this is 2 1/3 more than N/2.
We are also told that D = N+12.
Putting it all together we have: N/2 + 2 1/3 = 1/((1/N)+(1/(N+12)))

Let's simplify 1/((1/N)+(1/(N+12)))
1/((2N+12)/(N^2+12N))
(N^2+12N)/(2N+12)

Now let’s simplify the other side: N/2 + 2 1/3
(3N+14)/6

Cross-multiplying we get:
6(N^2+12N) = (2N+12)(3N+14)
6N^2 + 72N = 6N^2 + 36N + 28N + 168
8N = 168
N=21
Therefore D=33

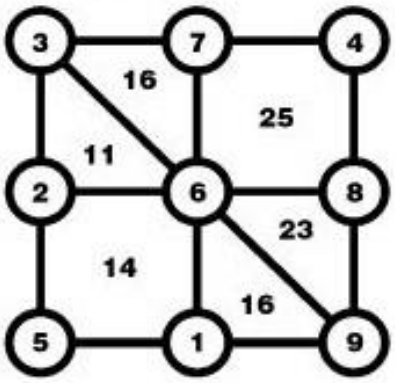
21 minutes and 33 minutes

So having solved it with algebra I’ll show you a quicker and more intuitive way to solve it:
If they finish 12 minutes apart, they will reach the turnaround point 6 minutes apart. Since it takes Nicola 2m20s to go from the turnaround point to the meeting point, it must then take Danny 3m40s to then go from the meeting point to the turnaround point. This immediately gives us their respective times over an identical distance, and all we need to do to find their overall times is to scale up those times until their difference is 12 minutes.

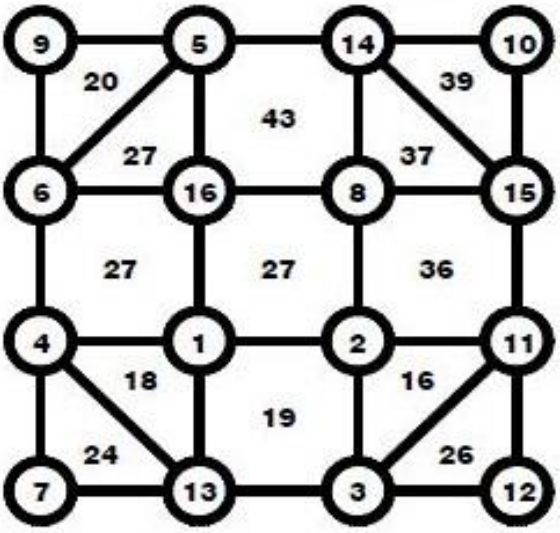
242.09 – Random Code – Rosemary Hodgson
(1) You don't stop doing things because you get old, you get old because you stop doing things.
(2) If you do what you've always done, you'll get what you've always got.
(3) Reality is that which, if you stop believing in it, doesn't go away.

242.10 – SU-MA-DO - Guillermo Verger

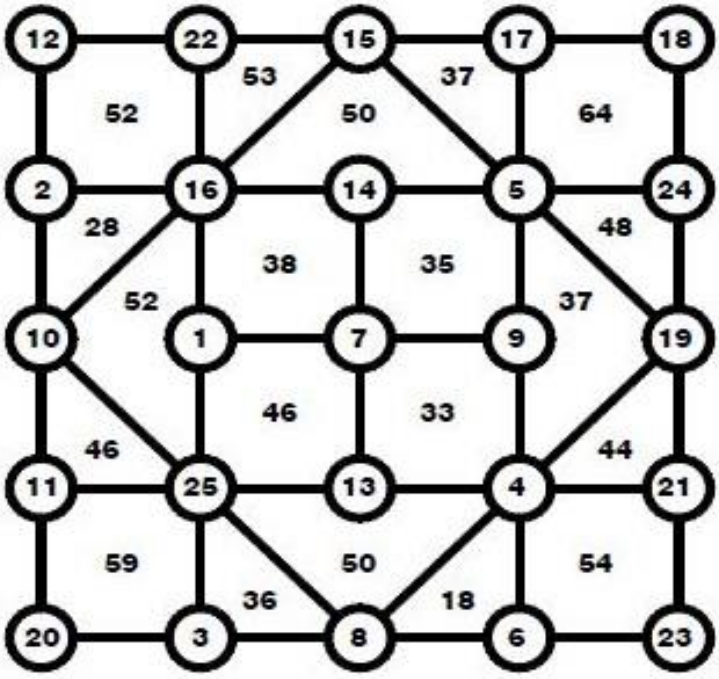
SUMADO 3x3



SUMADO 4x4



SUMADO 5x5



242.11 - Volcano Climb – Elliott Line

45km. 24km slope to the crater edge, then 21km around the crater edge.

242.12 – What's Missing? – Peter Nichols

Six is missing. Each of the numbers from 'one' to 'ten' appear hidden in the text, with the exception of 'six'.

242.13 – Which is Greater? - Elliott Line

The first one is greater by 1212:
45685890, 45684678

242.14 – Word Pyramids – Christa Ramonat

There are of course severeal possible solutions, but here is one for each:

A AD AID RAID DAIRY MYRIAD PYRAMID
A AN RAN NEAR RANGE GARNET GRANITE TRIANGLE
I IN TIN TINE STEIN INSERT ENTRIES SERENITY

242.15 – Wordwall – Elliott Line

■	G	■	H	■	S
D	E	F	E	A	T
■	N	*	R	■	A
S	E	L	E	C	T
■	R	■	B	■	U
S	A	T	Y	R	S

242.16 – Wordwalls – Christa Ramonat

Reassemble this word wall using the bricks provided. Unfortunately the brick that goes in the position marked with an asterisk is missing, and must be reconstructed.