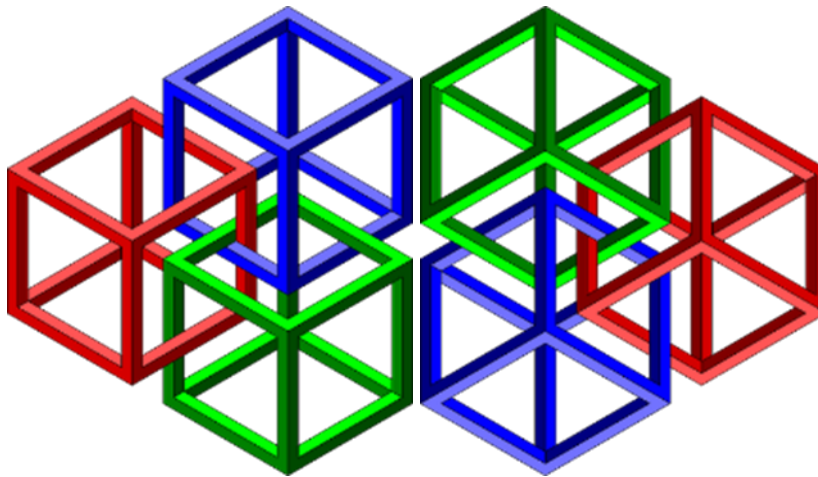# MATHS
PUZZLE BOOK
VOLUME SEVEN

= for keen puzzlers aged 9 to 105! =

◊ The reason for producing this Puzzle Book is because I am aware that in this era of the "virus", periods of boredom will creep in and the puzzles can be done as light relief.

◊ This document is not connected to any organisation and there are no financial implications involved. This is me giving back to Society which has treated me well.

◊ This booklet can be printed in black and white or colour and it can be printed page by page if you do not want to print the whole document.

◊ I have a great deal more material to consider for further publications. Do let me know which are your favourite puzzles and I will include more in the next edition.

Puzzles created or adapted by Douglas Buchanan

ADDING PAIRS

From the list of numbers find pairs which add up to the totals as shown

	57		52			58		43		38	
19	27	30	33		8	12	25	26	33	35	

	50		40		33		41		48		49		53
5	16	18	22	28	34		9	19	21	26	27	28	29	32

	30		40		35		44		39	
5	11	12	13	18	23	25	26	27	28

	46		18		53		52		61		30	
5	8	10	20	22	23	24	25	27	30	32	34

SIX LETTER WORDS

Rearrange the pairs of letters to make six words

ha	se	qu
nd	ir	ll
ey	id	va
pa	li	re
mu	gh	th
um	ei	le

CATCH THE TRAIN

A train can hold 78 passengers. The train starts out empty and picks up 1 passenger at the first stop, 2 passengers at the second stop, 3 passengers at the third stop, and so forth.

After how many stops will the train be full?

MAKE 24

Using ALL four numbers write a number sentence where the result is 24.
You can only use the simple operations addition, multiplication, subtraction and division. You cannot use the numbers more than once

1	7	8	8	
5	6	8	14	
1	1	11	15	
6	6	11	14	
5	8	10	12	

HAPPY FARMERS

The four happy farmers are back and they were each given a tin with plastic aliens. They decided to use them to create their riddles for the others. The animals were the pentagula with 5 legs, the hexamum with 6 legs and the octopul with 8 legs Try and work out how many animals of each species they have

Farmer Tractor said: "In my tin I have pentagulas and octopuls. I can see 8 heads and 55 legs. How many pentaguls and hexamums do I have?"

Farmer Plough said: "I have hexamums and octopuls in my tin and I can see 6 heads and 40 legs. How many pentagulas and octopuls do I have?"

Farmer Baler said: "In my tin I have pentagulas and hexamums and octopuls. I can see 8 heads and 50 legs. How many pentagulas and hexamums and octopuls do I have?"

Farmer Harrow said: "In my tin I also have pentagulas and hexamums and octopuls. I saw 10 heads and 61 legs. How many pentagulas and hexamums and octopuls did I see?"

NINE LETTER WORDS

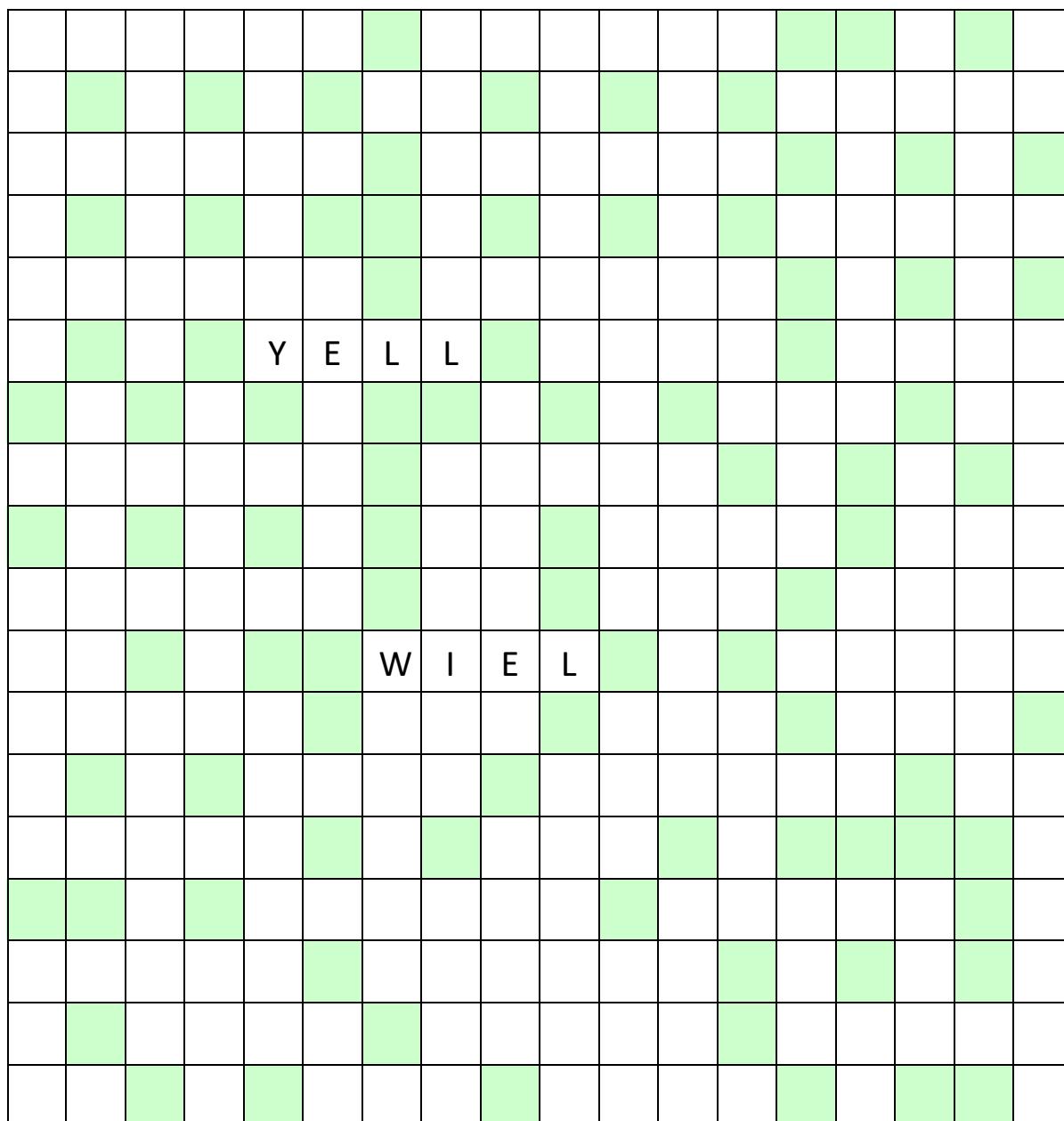Rearrange the pairs of letters to make six words

ork	zem	ish
lyf	dow	squ
ent	dyw	ama
kpa	box	han
win	jel	awk
ing	cks	bac

FILL IT IN

Complete the crossword by putting the words in their correct positions

The crossword grid contains the pre-filled entries:
- **YELL** (across, middle-left)
- **WIEL** (across, below center-left)

ANTLER	GATHER	MASTED	SECOND	ADORE	PLANS	ADAW	NOPE	APE	OAR	AM	NG
BEACON	GRASSY	MOTHER	SERMON	AROSE	SCALE	DAWN	SASH	ASS	OUT	BE	ON
BOLDEN	HELIUM	NIGHTS	SPOILS	ATOMS	SOLID	LARD	STOP	EGG	SAG	DO	PA
CHARMS	HINDER	OWLETS	STAINS	BOATS	STRIP	LEGS	THAT	EON	SAW	EN	
CLAUSE	INSTEP	PIGLET	STAMEN	CATOR	TIGHT	LIAR	WIEL	ERA	SET	HE	
ELDERS	IODINE	RABBIT	TATTOO	MINOS		MEER	YELL	GEM	SEW	HE	
EVENLY	LEERED	RECALL	TOOTED	OPERA		NINE		INN	SOW	IY	
EVENTS	LOOIES	ROUNDS	WIGLET	PANEL		NOON		LAN	WAS	ME	

CRACK THE CODE

a = 1, b = 2, c = 3, ……. y = 25, z = 26. Replace the numbers with letters.

Rearrange the words to create maths facts

1	1	1 14	15 6
17 21 1 18 20 5 18	5 9 7 8 20 8	8 1 12 7	9 19

1 14 5	14 21 13 2 5 18	14 21 13 5 18 1 20 15 18	20 15 16
20 8 5	20 8 5	7 18 1 3 20 9 15 14	9 14
9 19			

1 14	1 18 5	19 5 3 15 14 4 19	19 9 25
20 8 15 21 20 1 14 4	20 8 18 5 5	20 8 5 18 5	8 15 21 18
8 21 14 4 18 5 4	9 14		

1	20 8 5	20 8 5	12 5 14 8 20 8
15 6	18 1 4 9 21 19	20 15	20 8 5
20 8 5	3 5 14 20 18 5	3 9 18 3 12 5	3 9 18 3 21 13 6 5 18 5 14 3 5
6 18 15 13	9 19		

1 14	1 14 4	1 14 7 12 5 19	19 9 4 5 19
20 18 9 1 14 7 12 5	20 23 15	20 23 15	5 17 21 1 12
5 17 21 1 12	5 17 21 1 12	8 1 19	9 19 15 19 3 5 12 5 20

ORDERING CARDS

By reading through the instructions put the numbers in the correct order. Using playing cards or numbered cards will make it easier to solve. *None of the numbers are in their actual positions.* **1 cannot be the first card, 2 cannot be the second card and so on.**

A: Cards 1 2 3 4
The third and fourth card add up to 7

B: Cards 1 2 3 4 5
At each end there are odd numbered cards
The second and fourth cards add up to 3

C: Cards 1 2 3 4 5 6
The fourth card is a multiple of the first card
The second and sixth cards equal 2 when multiplied together
The second and fourth cards equal the middle card when added together

D: Cards 1 2 3 4 5 6 7
When multiplied together the second and seventh cards equal 21
The 4 is four places away from the 5
The 4 is next to the 6
The 2 is to the left of 1

E: Cards 1 2 3 4 5 6 7 8
The first and seventh cards equal 8 when multiplied together
The 4 is to the left of the 2
The third and eighth cards equal 12 when multiplied together
The 6 is on the left and three places away from the 7

FILL IT IN

Put the digits in the squares to make the number sentence correct

5	4								
									1
									5
									8
									6

11	57	1364	4727	37166
14	75	1394	5511	43277
25	91	1586	7261	51184
31	92	2268	7737	66656
46	96	2339	9952	71339
51	137	2541	17454	75267
53	673	4297	27876	83769
54	972	4489	29436	84765
				97771

COUNTING DOWN!

Make the total on the left - you do not have to use all the numbers.

You can only use the operations addition, multiplication, subtraction and division.

100	2	4	5	7	8	481
Ans:						

25	4	6	7	9	9	124
Ans:						

100	4	5	7	8	9	359
Ans:						

50	1	2	7	8	10	128
Ans:						

75	3	6	7	8	9	322
Ans:						

PLUMS

Thirteen plums weigh as much as two apples and one pear. Four plums and one apple have the same weight as one pear. How many plums have the weight of one pear?
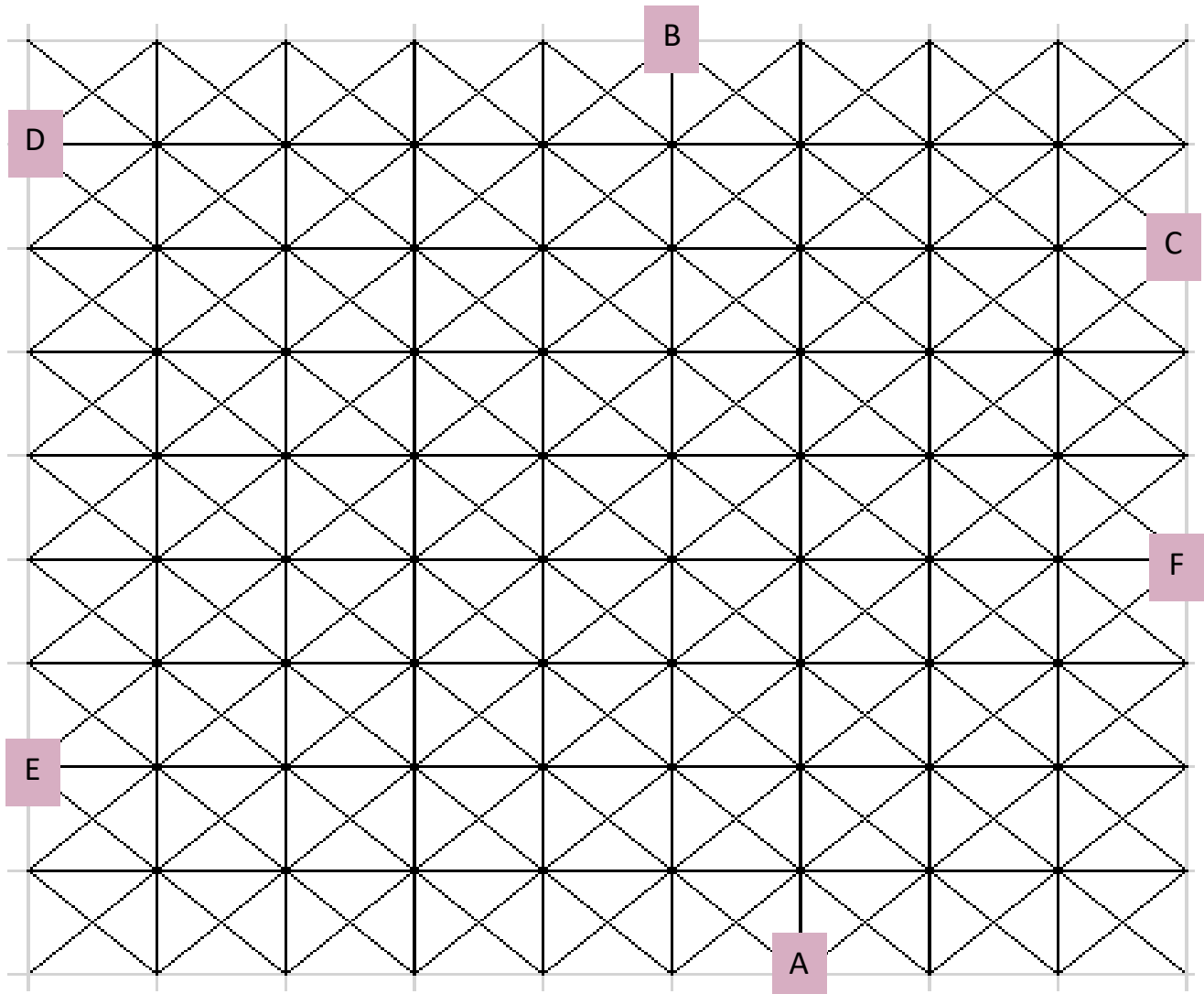
SILLY SPIDER'S ROUTES

Silly Spider walked on a net of wires and started at different points.

Which dot did Silly Spider reach having followed the routes below

START A North 2 corners; North-East 2 corners; North-West 2 corners; West 2 corners; North-West 2 corners; South 3 corners; South-East 3 corners; West 5 corners

START B South 2 corners; East 2 corners; South-West 2 corners; South 2 corners; West 4 corners; North-East 2 corners; West 2 corners; North-East 3 corners; East 4 corners; South-East 1 corners

START D South-East 1 corner; South 3 corners; North-East 2 corners; North 2 corners; South-East 3 corners; West 2 corners; South 4 corners; East 2 corners; North-East 1 corner; South-East 1 corner; North 2 corners; North-East 1 corner

START F West 2 corners; North 2 corners; South-West 5 corners; North-West 1 corner; North 6 corners; South-East 5 corners; North-East 2 corners; North 2 corners; East 1 corner
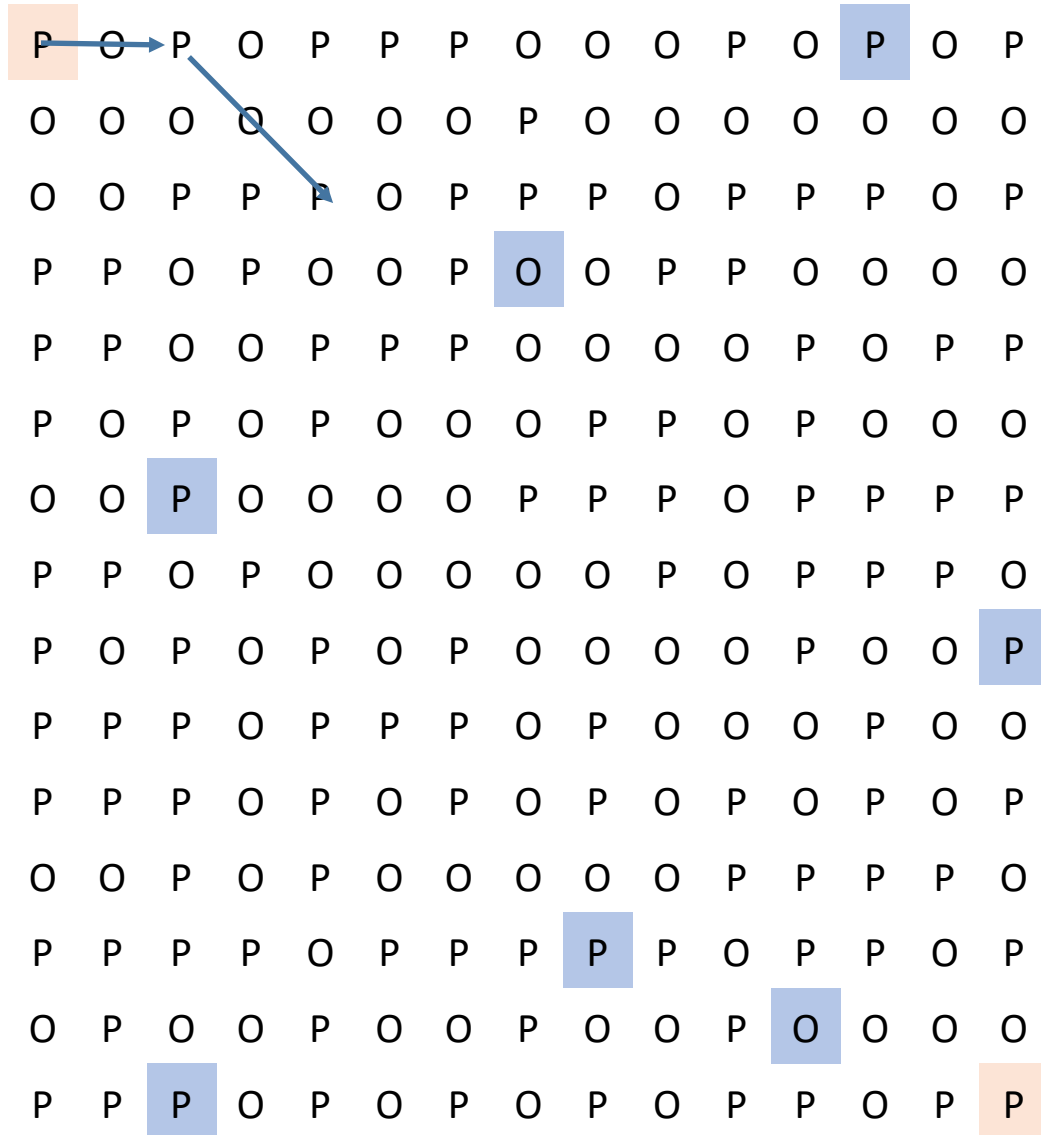
THE POP MAZE

To get from the top red square to the bottom one you have to follow the trail of POPs.

The letters POP have to be in a straight line. You have to go through all the **blue** squares. You cannot go through the same square twice.

P O P O P P P O O O P O P O P

O O O O O O O P O O O O O O O

O O P P P O P P P O P P P O P

P P O P O O P O O P P O O O O

P P O O P P P O O O O P O P P

P O P O P O O O P P O P O O O

O O P O O O O P P P O P P P P

P P O P O O O O O P O P P P O

P O P O P O P O O O O P O O P

P P P O P P P O P O O O P O O

P P P O P O P O P O P O P O P

O O P O P O O O O O P P P P O

P P P P O P P P P P O P P O P

O P O O P O O P O O P O O O O

P P P O P O P O P O P P O P P

DAYS OUT!

Suppose today is Tuesday. What day of the week will it be 100 days from now?

SOLUTIONS

COUNTING DOWN AND MAKE 24: there are many combinations. Ask somebody to check them or use a calculator **ADDING PAIRS:** 27 30, 33 19; 33 25, 8 35, 26 12; 16 34, 22 18, 5 28; 32 9, 19 29, 28 21, 26 27; 5 25, 27 13, 12 23, 18 26, 28 11 **SIX LETTERED WORDS:** eighth handle liquid museum repair valley **THE TRAIN:** 12 **HAPPY FARMERS:** Tractor: 3p 5o Plough: 4h 2o Baler: 4p 1h 3o Harrow: 3p 5h 2o **NINE LETTERED WORDS:** squawking backpacks jellyfish windowbox handywork amazement **CRACK THE CODE:** A half of a quarter is an eighth; The numerator is the top number of a fraction; There are three thousand six hundred seconds in an hour; A radius is the length from the circumference to the centre of a circle; An isosceles has two equal sides and two equal angles **ORDERING CARDS:** 2143; 51423; 315642; 5726413; 86427513 **PLUMS:** 7 **SILLY SPIDER:** A to E; B to C; D to F; F to C **DAYS OUT:** Thursday