

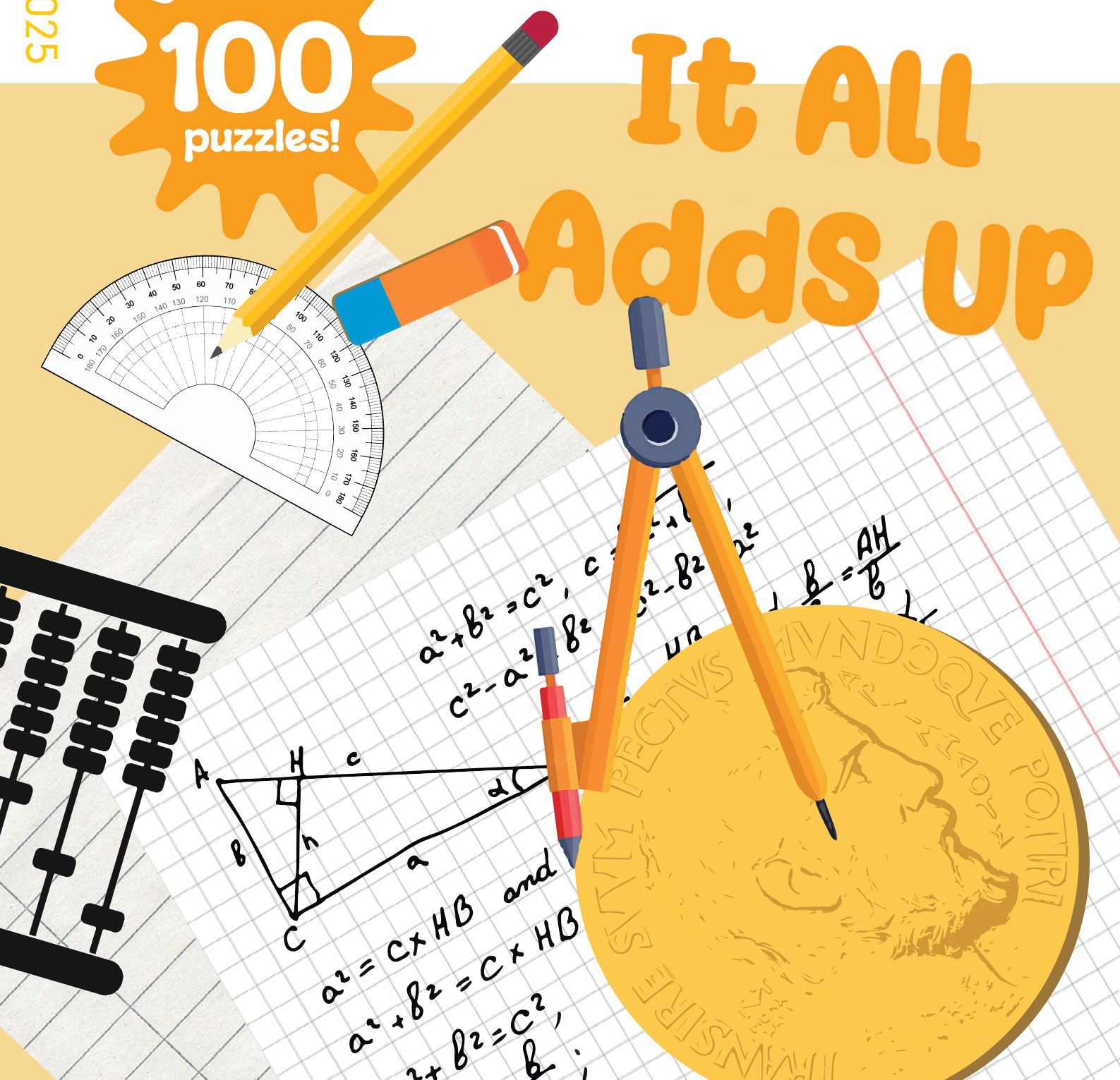
# PULZE

BREATHING LIFE INTO PUZZLES

Maths Issue

100  
puzzles!

# It All Adds Up



CAN YOU BECOME WORLD  
CHAMPION BY CHEATING?

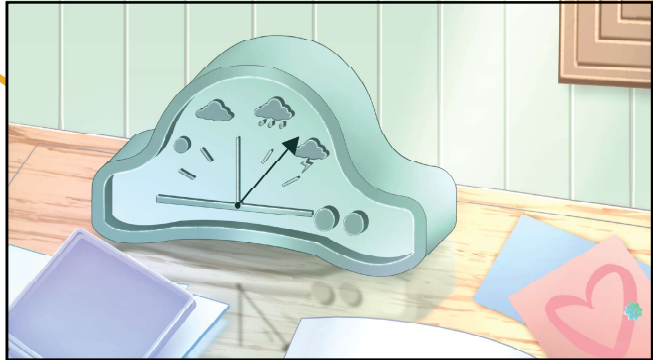
HOW TO GAUGE PUZZLE  
DIFFICULTY

BRAIN PICKING  
KEN ENDO

12

**DETUNED RADIO**

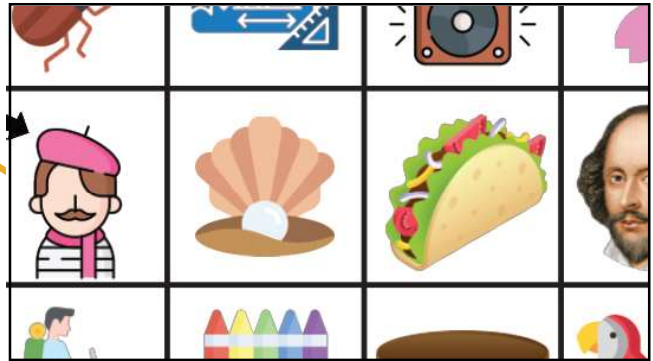
**Rating Experience**  
How to decide how hard a puzzle is?



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**THE AGORA**

**The Agora has expanded!**  
In which you will time travel and do some gardening.



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**BLANK CANVAS**

**A Puzzle is Worth 1000 Words**  
Why do puzzle authors make puzzles?

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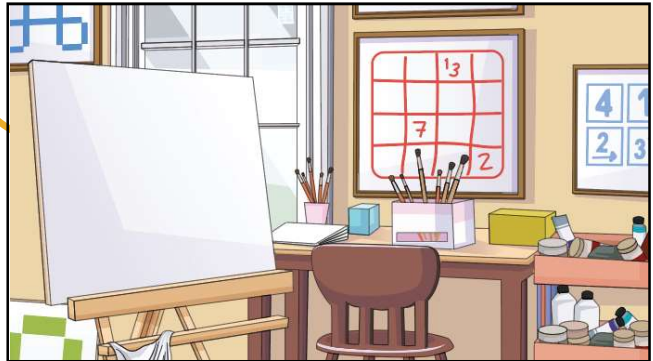
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Can you cheat your way to becoming World Puzzle Champion?



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A mega puzzle suite celebrating the winners of the Fields Medal.



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**BRAIN PICKING**

**Ken Endo**  
For what did Ken Endo undergo surgery?

# PUZZLES

## WEATHER FORECAST



**SUNNY**

NICE & SIMPLE  
BEGINNER FRIENDLY



**CLOUDY**

USE PEN AT  
YOUR OWN RISK



**RAIN**

BRING UMBRELLA

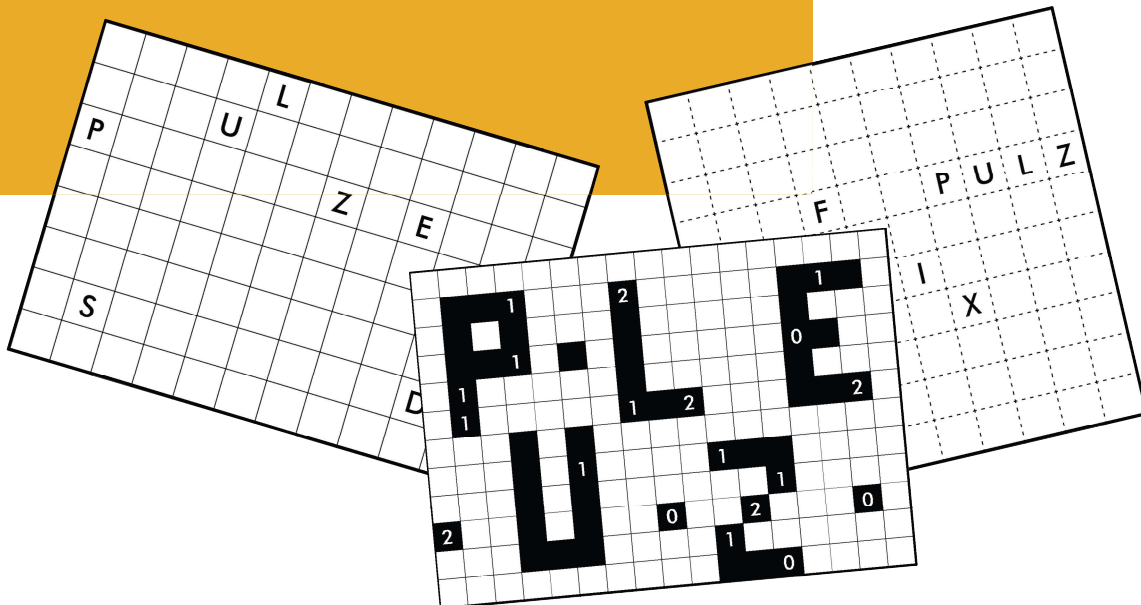


**STORM**

SEEK SHELTER  
AND ERASERS

- 6 Tomtom
- 8 Letter Weights
- 10 Cross Maths
- 16 Masyu
- 18 Anglers
- 20 Country Road
- 26 Kurotto
- 28 Coral
- 30 Thermometers
- 46 Pentominous
- 49 Sashigane
- 56 Akari
- 58 Tetroscope
- 60 Star Battle

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# Letter Weights

Write a number from the given range under each letter so that the numbers corresponding to the letters in each word have the given sum. Different letters must stand for different numbers.

Tawan Sunathvanichkul 

07



[1-6]

A	L	M	O	S	T

**L O T** = 14  
**S A T** = 9  
**T A M** = 6  
**T O M** = 10

09



[1-8]

A	C	E	I	N	O	S	T

**S I N** = 11  
**T A N** = 13  
**C O T** = 15  
**S E C** = 17  
**C S C** = 19

 Murat Can Tonta

[1-5]

E	L	P	U	Z

Example

**Z E E** = 11  
**P E E L** = 9  
**P U L L** = 8  
**P U Z Z L E** = 20

E	L	P	U	Z
3	1	2	4	5

Solution

08



 Tawan Sunathvanichkul

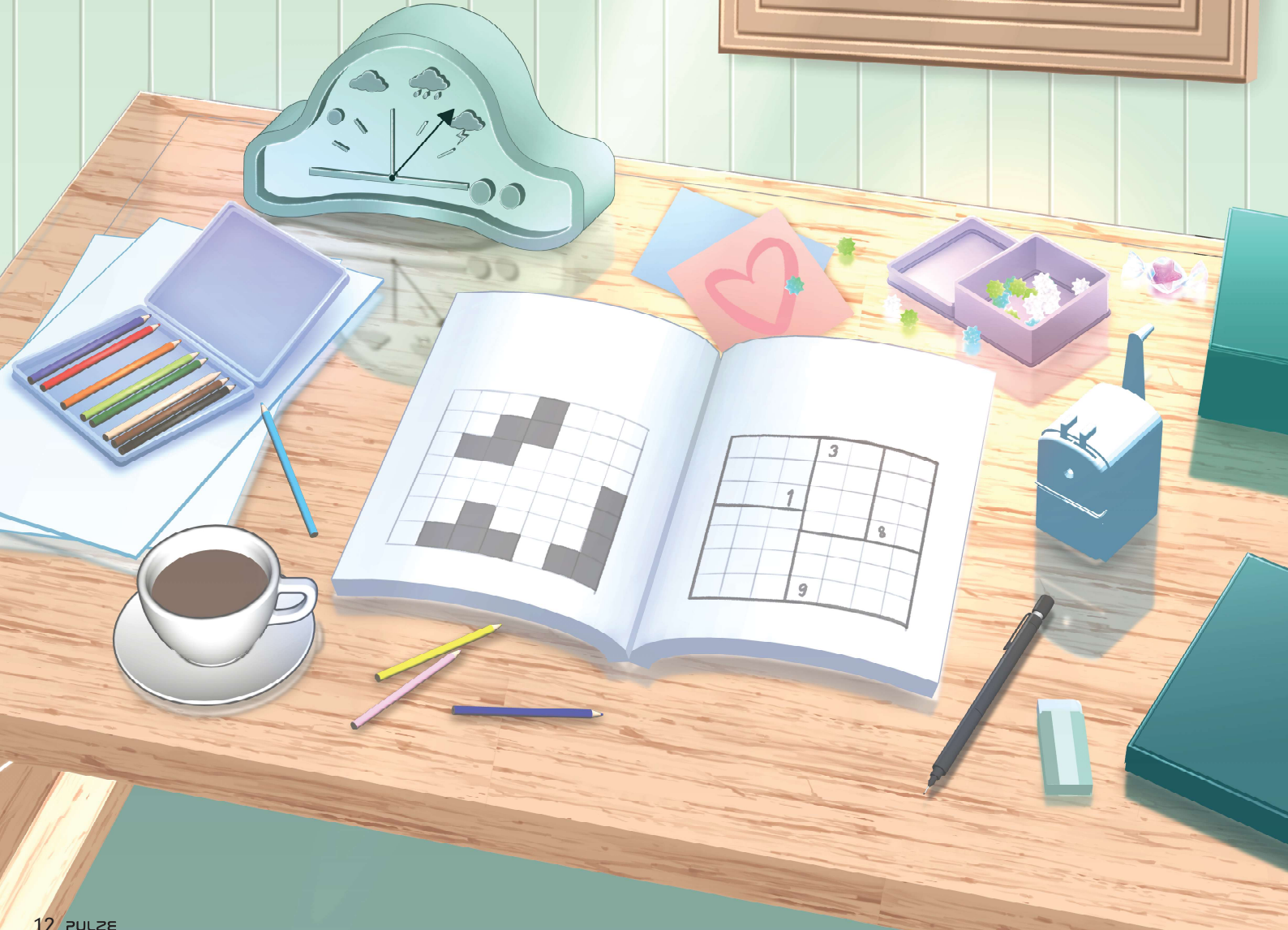
[1-6]

A	B	C	S	T	U

**S C U B A** = 17  
**A B A C U S** = 22  
**C A C T U S** = 19  
**S T A T U S** = 23

# Rating Experience

Gauging difficulty is not as straightforward as it seems. **TOM COLLYER** explores the intricate details of assigning puzzle level.



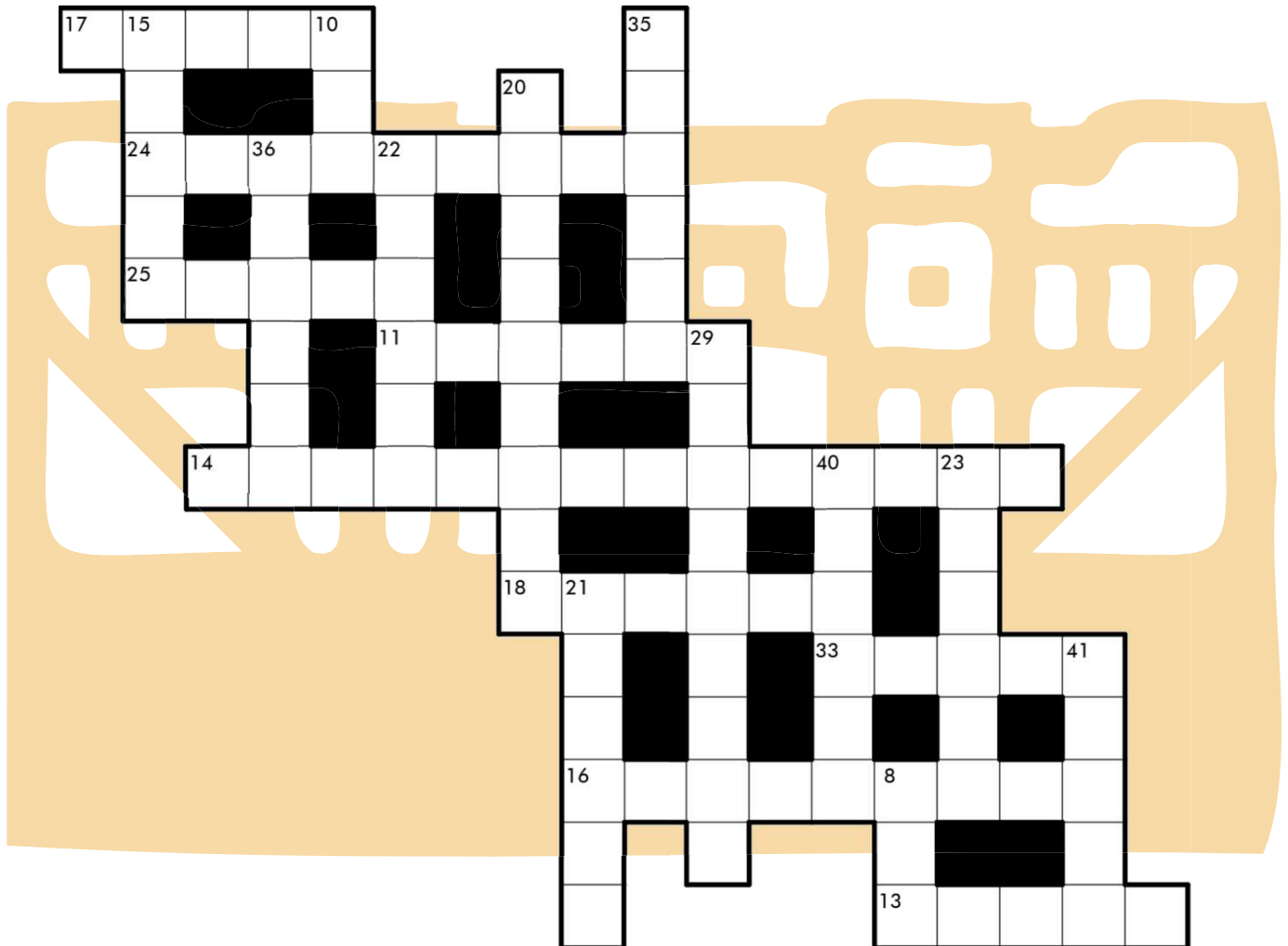


## Mixed Doubles

In this crossword variant, each answer has two clues leading to it, using different meanings of the word. The clues are separated into Across and Down, but are otherwise ordered randomly. When you find two Across or two Down clues that seem to have the same answer, add up their clue numbers to determine where the answer should be entered.

For example, if the clue for 5-Across was "**Origami bird**" and 29-Across was "**Construction site equipment**", the answer would be **CRANE**, which would be placed in 34-Across (from 5+29). Tags such as "Hyph." and "2 wds." have been omitted.

Tawan Sunathvanichkul 



### Across

- 1 Piano features
- 2 Heat meat
- 3 Coca-Cola mascot
- 4 Replies on X.com
- 5 Ford model
- 6 Card in the Major Arcana deck
- 7 Industrial Revolution power source
- 8 Game show where "Tough workout" was a correct response for one million dollars
- 9 Social programs like unemployment insurance or Medicare, collectively
- 10 Cycles
- 11 Diss comedically
- 12 Direct one's concentration
- 13 Arctic carnivore

- 14 Sounds from a birdhouse
- 15 Tightrope walker's protection
- 16 2024 TIME Person of the Year
- 17 Winning card
- 18 Video game site whose logo is seen here



### Down

- 1 Take to court
- 2 Chocolate unit
- 3 Inherent tendencies
- 4 Part of a Cluedo guess
- 5 Band with the 2002 hit "The Hindu Times"
- 6 Slot machine symbol
- 7 2015 Pixar film exploring emotions of a teenage girl
- 8 Angkor Wat is one
- 9 Novelist Grafton
- 10 Desert haven
- 11 Completely frigid
- 12 Border security assignment
- 13 Like scrutinized pockets or clothes worn the wrong way
- 14 Common migraine location
- 15 Creamy orange dressing
- 16 Cosmetic sample bottle
- 17 Sword or shield
- 18 WWE ring name of Steve Austin
- 19 Hilton of "The Simple Life"
- 20 Partner of Science in a Trivial Pursuit category
- 21 Official language of Monaco
- 22 2024 Olympics city
- 23 Boy Scouts unit
- 24 Employee who would work during VDO game development

## NOTES BY Sinchai Rungsangrattanakul

This is my second time at the Asian Sudoku Championship (ASC) having competed my first in the Philippines back in 2019. As preparation, I had been solving a lot of Classic Sudokus from Nikoli books. The organisation was excellent and we were very well looked after. It was my first time in Japan, and I notice that Japanese people walk a lot. By the time we got to our hotels, I was tired, but it was good exercise 😊.

I only have two drawbacks; that the competition hall was too dark, and the food was a little repetitive. All the competition was held in one day with all the individual rounds first, followed by two team rounds. The puzzles were excellent, and my favourite round was Mt. Fuji (a team round). For this Master Class, I choose to analyse Duplicated Killer Sudoku which I solved during the competition and it took me a long time.

Duplicated Killer Sudoku requires a different insight than a regular Killer Sudoku. Look at the 32-cage (shaded green). The possible combination is double 9s with 8 and 6 (because the given 8 prevents 8 from doubling). Let's try maximising the 32-cage (shaded red): we can put in 9,7 for the two cells in the central region, and 4,5,7 for the lower three cells. This happens to add up to 32 and we can immediately fill them in. The remaining cells of the seventh row are 1,2,3.

4		<sup>10</sup>		<sup>13</sup>			7
<sup>28</sup>			<sup>30</sup>			<sup>18</sup>	
	5			1			
<sup>32</sup>				<sup>32</sup> 9			
			8	7	<sup>32</sup> 9	2	
<sup>123</sup>	<sup>123</sup>	<sup>123</sup>	<sup>457</sup>	<sup>457</sup>	<sup>457</sup>	<sup>689</sup>	<sup>689</sup> 689
		<sup>21</sup>	7	6	<sup>21</sup>	8	3
8			6	2		3	7
							1

The duplicated rule is quite restrictive for a 2x2 Killer Sudoku cage, so I'll look there next. Note the right 21-cage (shaded green). Every cage must contain a duplicate and, in this case, the duplicated digit cannot be 1,4,5,6,7,8,9. The only possible

duplicates are 2 or 3. I see that this cage cannot contain a 9, because two 9s have already filled above it. If we duplicate the 2, we need the remaining two cells to add up to 17, which is impossible without using a 9. The duplicate must be 3 and the remaining cells are 7 and 8. These can be filled in.

Using a similar technique, we can determine the red 21-cage as well. The duplicated digit there cannot be 1,2,3,4,5,7,8 - leaving just 6 or 9. If we duplicate the 9, the remaining cells have to add up to 3, which is impossible because we can't fit both 1 and 2 in there. This leaves us duplicated 6s and two cells adding up to 9. In this case, only the 2,7 combination fits.

4		<sup>10</sup>		<sup>13</sup>			7
<sup>28</sup>			<sup>30</sup>			<sup>18</sup>	
	5			1			
<sup>32</sup>				<sup>32</sup> 9			
			8	7	<sup>32</sup> 9	2	
<sup>123</sup>	<sup>123</sup>	<sup>123</sup>	<sup>457</sup>	<sup>457</sup>	<sup>457</sup>	<sup>689</sup>	<sup>689</sup> 689
		<sup>21</sup>	7	6	<sup>21</sup>	8	3
8			6	2		3	7
							1

The bottom two rows are completed by normal Classic Sudoku. Let's move up to the top 2x2 cages. Repeat the same technique. The 10-cage can only be 1,1,3,5 while the 13-cage is 2,2,4,5.

4		<sup>10</sup> 135	135	<sup>13</sup> 245	245		7
		135	135	245	245		
<sup>28</sup>			<sup>30</sup>			<sup>18</sup>	
	5			1			
<sup>32</sup>				<sup>32</sup> 9			
			8	7	<sup>32</sup> 9	2	
<sup>123</sup>	<sup>123</sup>	<sup>123</sup>	<sup>457</sup>	<sup>457</sup>	<sup>457</sup>	<sup>689</sup>	<sup>689</sup> 689
5	9	<sup>21</sup>	7	6	1	<sup>21</sup>	8
8	4		6	2	9	3	7
							5
							1

68



L	U	X			
L			F	I	N
T	T	U	N		
U					
			N	Z	L

Nikola Živanović

Nikola Živanović

69



	P	P		N		
	P	N	P	W	W	
				W	W	
	T	T	T	V	N	V
		N				V
		T				V

70



		F		P	U	L	Z
			Y				
				I			
W	V	N	T		X		

Murat Can Tonta

Takeya Saikachi

71



	I				P
		U	I	X	
			Z	Z	U
U					P



# CONTEST



## Japanese Sums Matej Uher

You will be doing some arithmetic for our Maths Issue Contest. How appropriate! Place the numbers from 1-7 (1-5 in the example) in some cells so that no number is repeated in any row or column. Numbers on the outside of the grid indicate the sums of adjacent number groups in that row or column, in order. Each sum is separated by at least one shaded cell. A "?" represents a non-zero number.

Once you have completed the puzzle, keep track of the twelve question marks (?).

**What is the highest number that is represented by a question mark?**

This number is the answer to this contest.

Submit your answer at [www.tam-box.com/contest](http://www.tam-box.com/contest) to enter the competition. One entry per person please. 1 lucky winner will win a **\$50 Grandmaster Puzzles gift card**. 3 runners-up will receive a copy of **Nikoli Pencil Puzzles 2025**. Winners are decided by random draw.

Submissions close on **15th April 2025**. Winners will be announced in the next issue of **PULZE** as well as the magazine's website. Terms and conditions are on page 3.



Example

	1			3		
	2	5	9	?	12	12
	9	5	5	?	?	1
4	11					
	15					
2	5	5				
	1	5				
	?					
4	?					

[1-5]

Solution

	1			3				
	2	5	9	?	12	12		
	9	5	5	?	?	1		
4	11	1	3		2	4	5	
	15		2	4	1	5	3	
2	5	5	2		5		1	4
	1	5		1		3	2	
	?	5	4	3				
4	?	4		2	5	3	1	

	5	7	?			?		
	5	7	?	13	23	?	11	13
	5	7	?	7	3	?	11	11
7	19							
13	7	3						
?	?	?		2				
5	7			3				
17	7				5			
?	?	?				7		
5	11							
11	11	2						

[1-7]

# 98. Word Nurikabe



Tawan Sunathvanichkul

Shade some empty cells black so that the grid is divided into white islands, each containing exactly one given letter. Islands may not be adjacent to each other; they can only touch diagonally. All black cells must be connected to each other and no 2x2 groups of cells can be entirely shaded. Then fill in letters in the islands so that they spell out all the listed words, by reading across horizontally and vertically adjacent cells. Words must use all of the island's cells exactly once.

## Example

					S	
	F		O			
	T		V			

TWO  
THREE  
FOUR  
FIVE  
SIX

## Solution

						X	
		U	R			I	S
		O					
		F			O	W	T
E							
E	T				V	I	F
R	H				E		

FIELDS  
MATHS  
MEDAL  
DUMINIL-COPIN  
HUH  
MAYNARD  
VIAZOVSKA

				L					
			U						
P						Z	E		
	S							D	

(2022 recipients of the Fields Medal)

