

GAS Leak

Genuinely Approachable Sudoku
from the CtC Discord

Volume 37:

February 1 – February 29, 2024

Welcome to the Shortest Month of the Year (Extended Edition)!

We got a full month of GAS puzzles for you, one better than the other.

At the end of the month our favourite creators (both from GAS and from GAPP) took a Leap and gave us some Extras. You can find more about it by having a look after the last day page.

For those of you new to GAS: these are Genuinely Approachable Sudoku published daily on the CtC Discord server. Each day has two times given. If the time you need solving is shorter or equal the first time you may award yourself two (virtual) party hats. If you take at most as long as the second time, you may award yourself one party hat. All (other) solvers get one dino. The list of the times and the dinos for each day are given in a table near the end of this document.

Have fun solving!

Engy

February 1, 2024: I'm So Sorry

Philip Newman

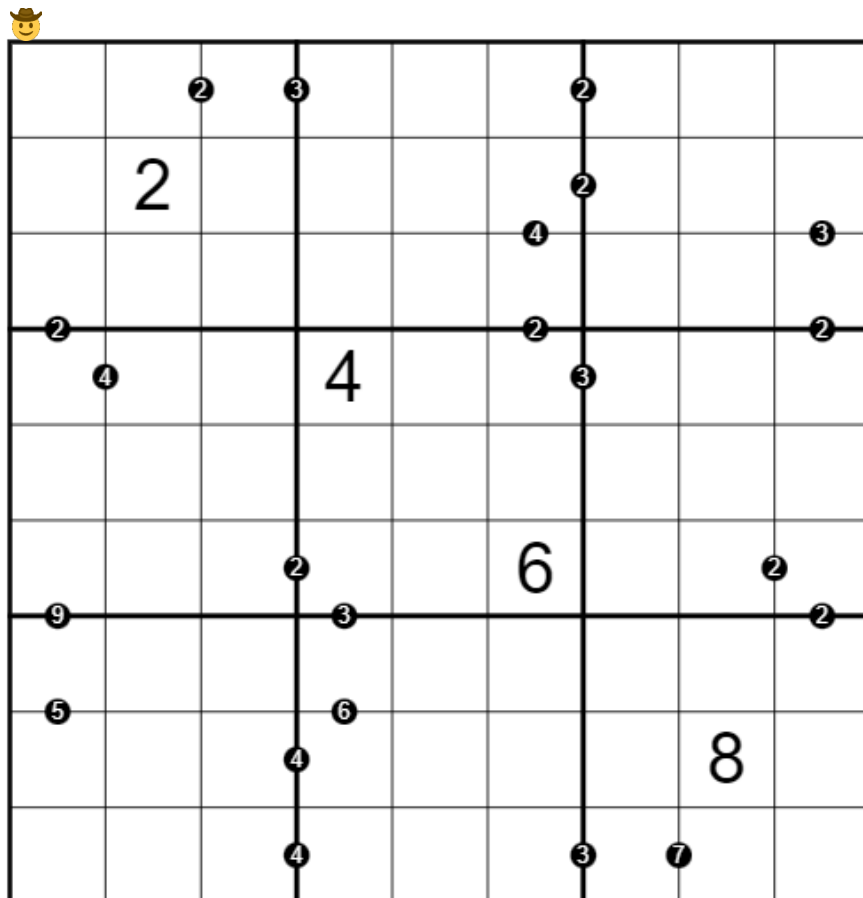
Walkthrough of "Dead or Alive Arrows" by Bill:
<https://www.youtube.com/watch?v=UHNIMUAYBAs>

Sometimes you just have to return to the scene of the crime...

Today's **GAS** is a **Ratio Pairs Sudoku**!

Normal sudoku rules apply.

Ratio Pairs: Digits in cells separated by a black dot must have the ratio given.



Play on f-puzzles: <https://f-puzzles.com/?id=ykmb5t4m>
Play on SudokuPad: <https://sudokupad.app/philip-newman/20240201-im-so-sorry>

February 2, 2024: XV Pairs Sudoku clover!

Walkthrough for Philip's 'I'm So Sorry':

<https://www.youtube.com/watch?v=whJgd40kNAo>

The last puzzle was called 'I'm So Sorry,' but Philip has nothing to be sorry about. Except maybe the time his award-winning pet ball python, "German Whispers," ate my solving slippers. 🐍

Today's GAS is an **XV Pairs sudoku**! Normal sudoku rules apply. Also, digits separated by an X sum to 10, and digits separated by a V sum to 5. Not all possible Xs and Vs are necessarily given.

1		V						
				7			4	X
X						V		
	X			X		X		
		X						
	6						5	
						X		
				V			X	
		V	V					X
X	3			4				
						V		2

SudokuPad: <https://sudokupad.app/vuyfst11qe>

February 3, 2024: Silence Is Golden

Bill Murphy

Walkthrough for Clover's XVellent Sudoku: <https://youtu.be/0z0EFHY17pl>

sssshhhh

You hear that?

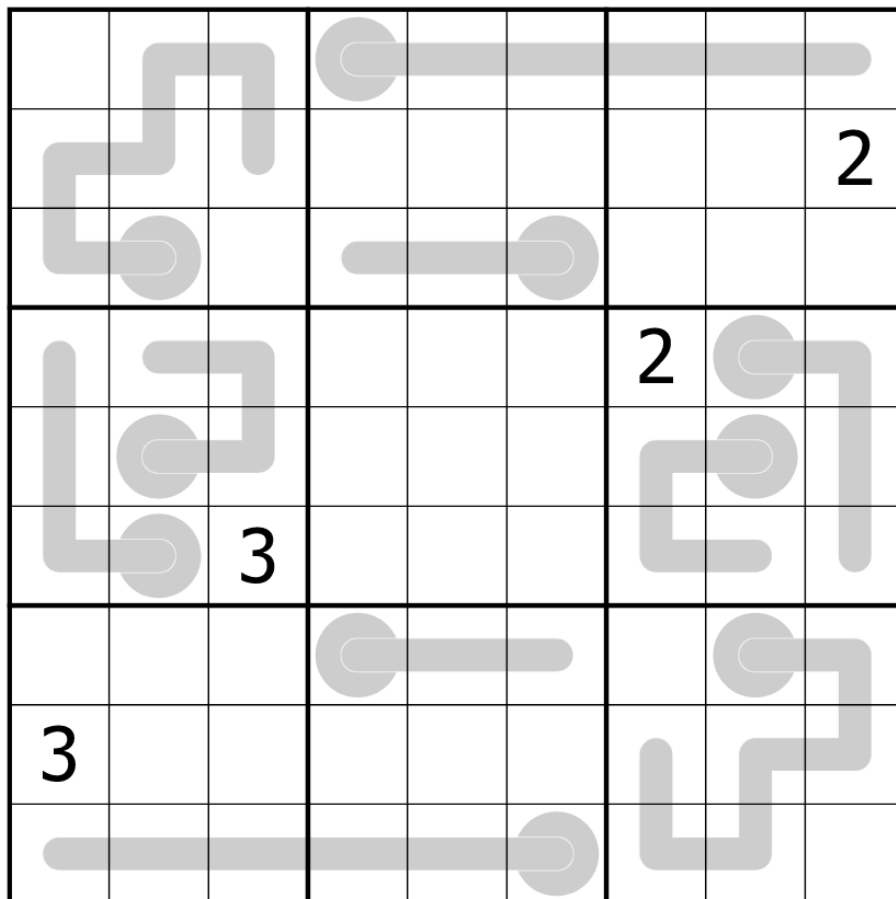
Me neither.

Isn't it great?

Anyway, first school week back was good, thank you for asking.

Have a **Thermo Sudoku**!

Normal Sudoku Rules Apply. Digits along thermometers increase from bulb to tip.



SudokuPad: <https://sudokuapp/7p2lavddwk>

February 4, 2024: -40°

Philip Newman

Walkthrough of "Silence Is Golden" by Bill:

<https://youtu.be/7ksQ6Y5k0SA>

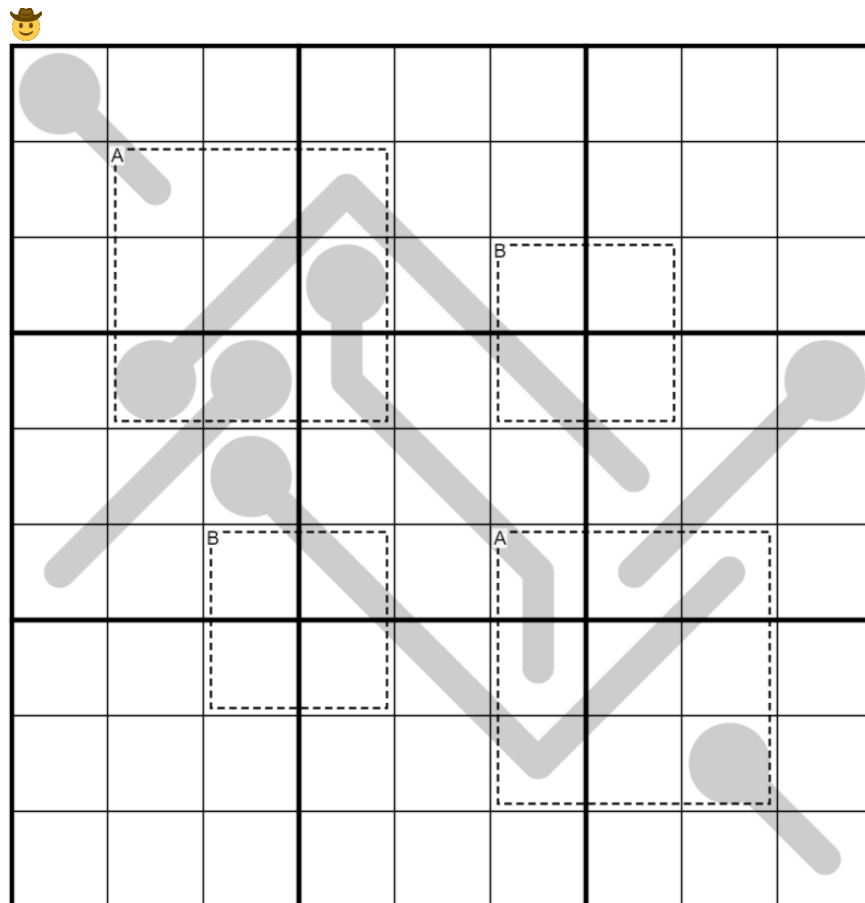
Pro-tip: Washing your hands is effective in preventing illness only if you do not have a 5-year-old coughing in your face.

Today's **GAS** is a **Thermo Clone Sudoku**!

Normal sudoku rules apply.

Thermo: Digits along thermometers must strictly increase from bulb to tip.

Clone: Cages of the same shape and letter are clones, and must contain the same digits in the same relative positions. 🧨 (Digits may repeat within a cage if allowed by other rules.) 🧨



Play on f-puzzles: <https://f-puzzles.com/?id=29qpktle>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240204--40>

February 5, 2024: 159
clover!

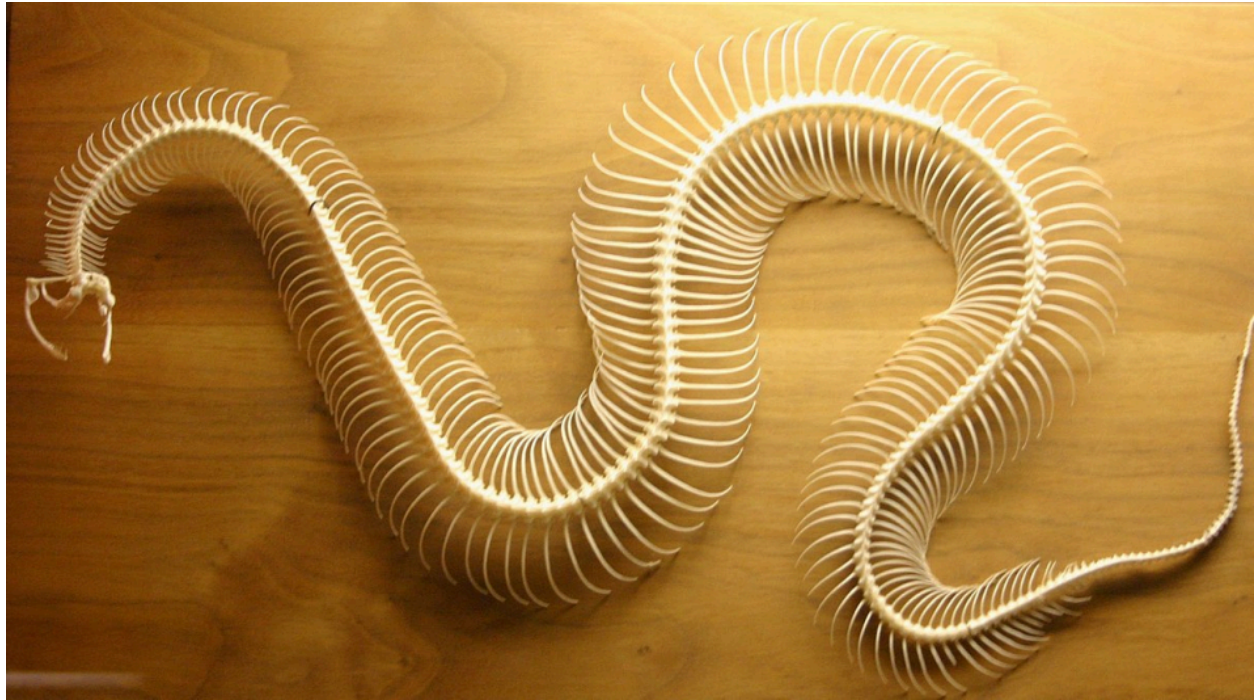
Walkthrough for Philip's '-40°': <https://www.youtube.com/watch?v=9Lm1uA-hbjs>

Today's GAS depicts two vertically-oriented snakes, to celebrate something I learned last week that's been living rent-free in my head ever since: snakes can have *up to 400 vertebrae and pairs of ribs*, and it's not like they grow more as they get longer - so even the tiniest baby snake might have *thirty times more ribs than you do*. Let's take a moment to appreciate those ribby little fellas today!

In this **159 sudoku**, normal sudoku rules apply. Also, the digits in the first column tell you where the 1 appears in that row: for instance, if a "3" appears in the first column, then the 1 in that same row would be in the 3rd column from the left. In the same manner, the middle column tells you where the digit 5 is in each row, and the rightmost column tells you where the digit 9 is.

		1			8	2		
		9	7		6			
			1		2			
			2			8		
		6				3		
		8			5			
			6		3			
			8		9	1		
		2	5			9		

SudokuPad: <https://sudokupad.app/v7sl0crv9j>



February 6, 2024: Twice
Bill Murphy

Walkthrough for 159: <https://www.youtube.com/watch?v=ZYDYddEc5uE>
Clover's video on "The top 5 most cursed sudoku variants":
<https://www.youtube.com/watch?v=SgP8rYOdGFY>

if mediums could communicate with the dead imagine what a large could do

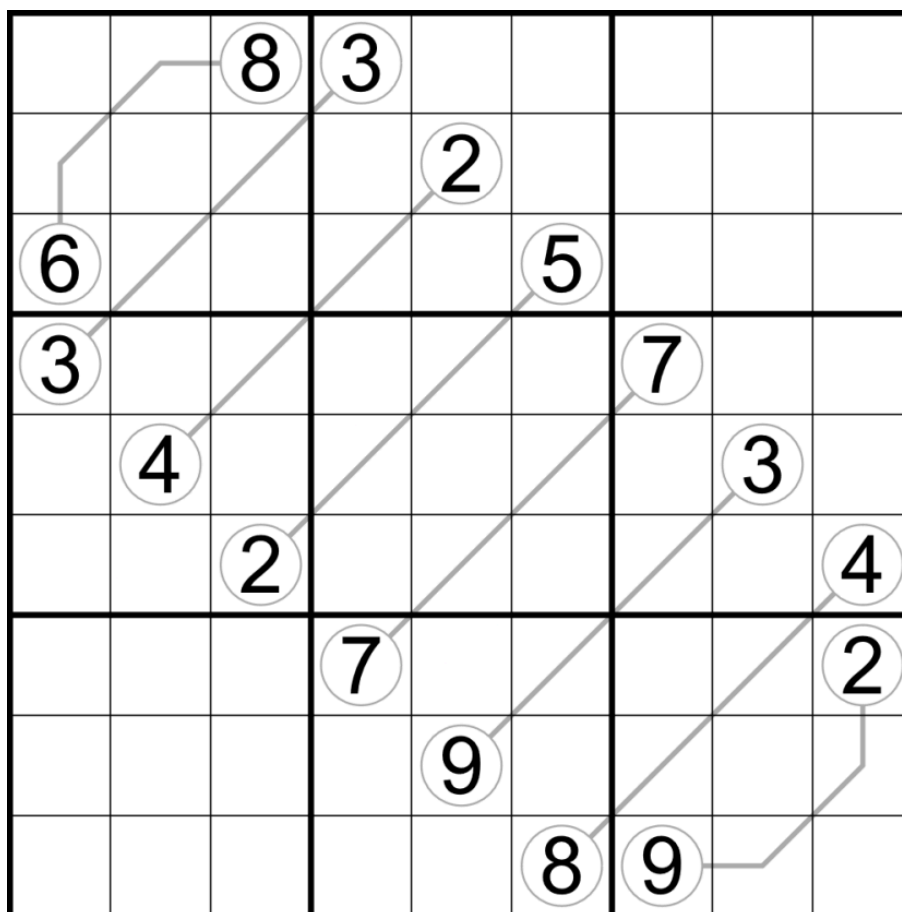
"hey welcome to my unboxing video, don't forget to like comment and subscribe"
– schroedinger

i'm 32 surely i would've gotten my adult super vision by now

how acidic is a phd?

Today's GAS is a **Double Arrow Sudoku**!

Normal Sudoku Rules Apply. Digits along lines must have the same sum as the digits in the bulbs at each end.



SudokuPad: <https://sudokupad.app/v1litbf6k9>

February 7, 2024: Thor's Anvil

Philip Newman

Walkthrough of "Twice" by Bill:

https://youtu.be/u2gkd1_1wyl

A bit of theory behind today's puzzle. In this one, you only have to place the digits from 1-6, and can ignore the grey cells entirely. You might ask "Could I then fill the digits 7-9 in the grey cells to make a valid sudoku solution, Philip? Please teach me the ways of the sudokult." You might also not care. But the answer is no, you cannot fill the grey cells with only three digits. This pattern is an example of a graph which is not 3-colorable; if you were try to color the grey cells such that cells of the same color cannot "see" each other, you would need at least 4 distinct colors to do it. There is a technique which makes use of this fact to crack otherwise very difficult classic puzzles, which we sometimes call "Thor's Hammer" (the "official" name is "trivalence oddagon" which is sometimes shortened to "tridagon"). You definitely don't need to know about this to solve the actual puzzle! But if you ever come across that term, now you know a little about it. 😊

* There are actually four overlapping trivalence oddagons in the grey cells here; if you look at just boxes 1245, you might see why this pattern of 12 cells got the nickname of "Thor's Hammer". You might also still not care.

Today's **GAS** is an **Extra Space Sudoku**!

↓↓ ↓↓ (The puzzle is on the next page) ↓↓ ↓↓

🔥 Normal sudoku rules do not apply. 🔥

Extra Space: Place a digit in each unshaded cell such that each row, column, and outlined region contains each digit from 1-6 exactly once.



						1		
					2			
				3				
		4						1
	5						3	
6						5		
					4			
				2				

Play on f-puzzles: <https://f-puzzles.com/?id=24jyqfey>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240207-thors-anvil>

February 8, 2024: Foggy Thermo clover!

Walkthrough for Philip's "Thor's Anvil": <https://youtu.be/NZeBJ46XoCc>

Fog

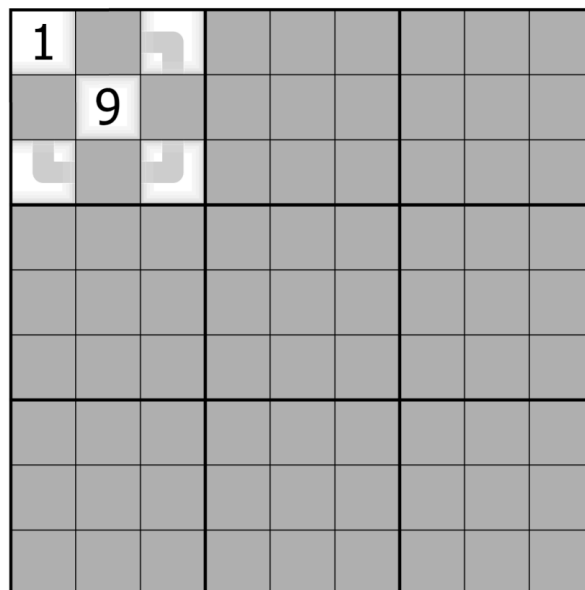
by Carl Sandburg

The fog comes
on little cat feet.

It sits looking
over harbor and city
on silent haunches
and then moves on.

Normal sudoku rules apply. Digits along thermometers must increase, starting from the round bulb. The grid is initially covered with fog, which will disappear as you place digits. **Each bulb is associated with exactly one thermo.**

[Note from typesetter: Unfortunately printing technique is not far enough advanced to make it solvable here. You have to use the link provided. It's worth it!]



SudokuPad: <https://sudokupad.app/syvmhn0tgy>

February 9, 2024: Read The Room

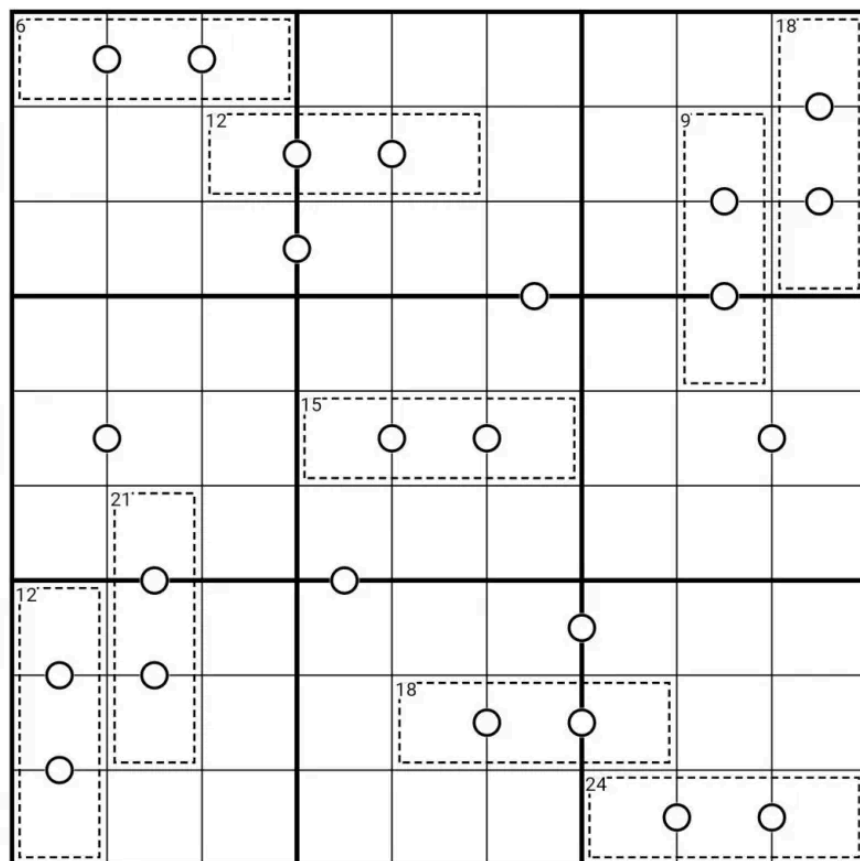
Bill Murphy

Walkthrough for Foggy Thermo (take 2, thank you to @Sarah Clark who let me know what's up): <https://youtu.be/9-c5ieTewpQ>

Sometimes after 170 gas puzzles, you start to have a crisis in confidence in yourself. How long can I keep this engine running? How long will it be before I run out of...ideas?

Anyway I looked it up and I've only done like 8 or so puzzles with two variants in them, so today's GAS is a **Consecutive Killer Sudoku**!

Normal sudoku rules apply. Digits separated by a white dot must be consecutive. Digits in cages must sum to the given total.



SudokuPad: <https://sudokupad.app/oo1uev54f1>

February 10, 2024: Pepper Lines

Philip Newman

Walkthrough of "Read The Room" by Bill:

<https://youtu.be/XA8h1GTb0Qs>

Haven't we seen this pattern of lines like... three times already?

Yes.

How many of these things will Philip make??

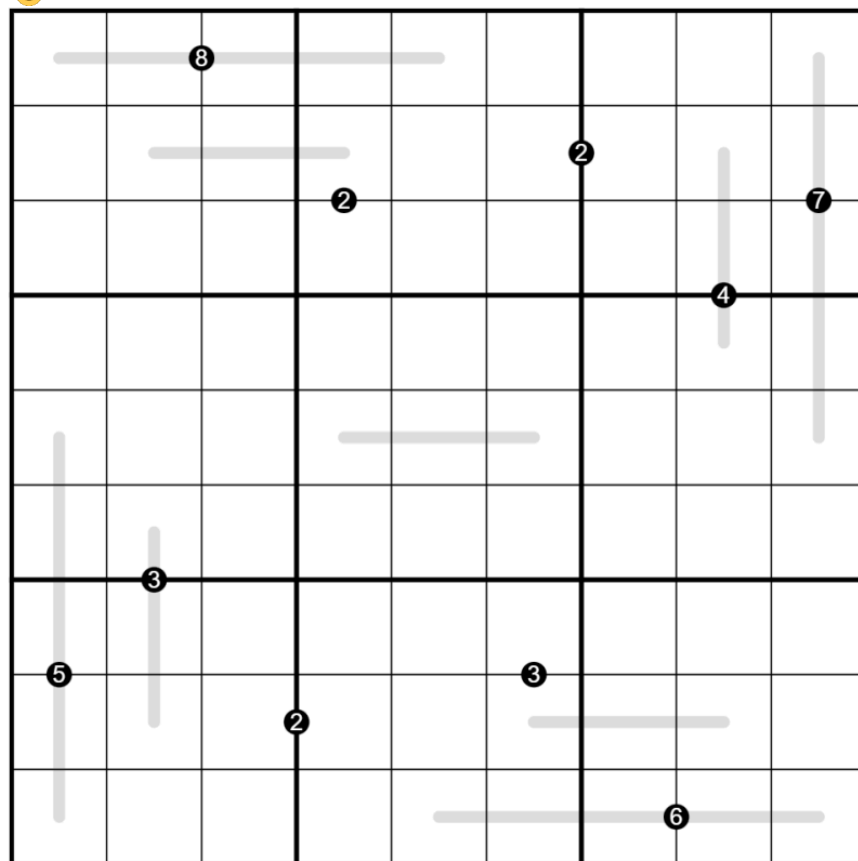
... Yes.

Today's **GAS** is a **Ratio Pairs Zipper Lines Sudoku**!

Normal sudoku rules apply.

Ratio Pairs: Digits in cells separated by a black dot must have the ratio given.

Zipper Lines: For each line, the digits in each pair of cells an equal distance away from the central cell of the line sum to the digit in the central cell of the line. For example, $r1c3 = r1c1 + r1c5 = r1c2 + r1c4$



Play on f-puzzles: <https://f-puzzles.com/?id=26jkubpy>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240210-pepper-lines-v2>

February 11, 2024: Kropki Pairs
clover!

Walkthrough for Philip's "Pepper Lines":
<https://www.youtube.com/watch?v=cgPa0kpDgOg>

"Kropki" is actually the Belarusian word for "dots". So if kropki sudoku had been invented by a Dutch setter, we would be solving *stippen sudoku*. If it had been a Mongolian, *tsegүүд sudoku*; an Afrikaaner, *kolletjies sudoku*; and if a Hawaiian had come up with it, we'd all be solving *kiko*. So I hope that all of you Esperantists like your *punktoj* sudoku today, and that solvers from Türkiye have a nice time on this *noktalar* - enjoy!

Normal sudoku rules apply. Also, digits separated by a white dot are consecutive, and digits separated by a black dot are in a 1:2 ratio (such as 3 and 6). Not all possible dots are necessarily given.

1		•				○		4
	9						3	
○					○			•
		4		•		7		
			3		2			
	○					•		
		•		5			○	
			7		4			
		8			•	5		
•			○					○
	3						2	
5		○					•	3

SudokuPad: <https://sudokupad.app/z7sojcgzbz8>

February 12, 2024: Later Than You Think

Bill Murphy

Walkthrough for Kropki Pairs: <https://youtu.be/1ustOkgbpPY>

Today's puzzle title *technically* does come from a song, so it's getting added to the playlist

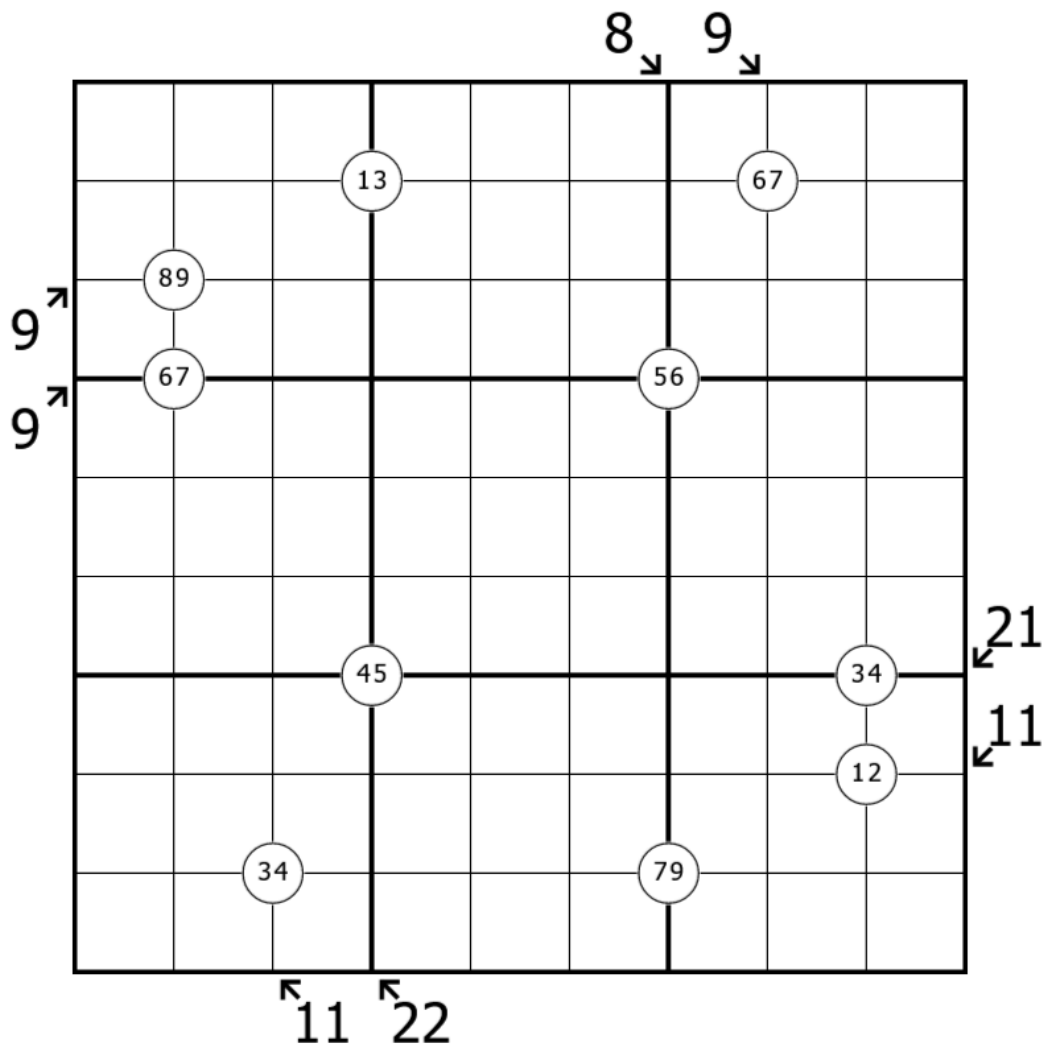
(<https://open.spotify.com/playlist/30FIGK1BD9c8nFpv4HpUq4?si=cc702e372c604ec2>)

but in reality, it's a shoutout to the magnificent Worlds Beyond Number podcast that I've been obsessing over for the last year or so which brings me just so much comfort. If you enjoy longform podcasts, actual plays of DnD or just high-fantasy, it's pretty great.

<https://open.spotify.com/show/4xQ4HKZjlg04Phtj2gaTbi?si=152efa54929e4517>

Enjoy yourself, today's GAS is a **Little Killer Quadruples** sudoku!

Normal sudoku rules apply. Digits along indicated diagonals must sum to the given total. Digits in circles must appear in the surrounding four cells.



SudokuPad: <https://sudokupad.app/zy392kgeha>

February 13, 2024: Valentine's Pairs

Philip Newman

Walkthrough of "Later Than You Think" by Bill:

<https://youtu.be/lgpTJ8SX1Tc>

Haven't we seen this pattern of lines like... three times already?

Probably more than that.

Haven't we already done this intro??

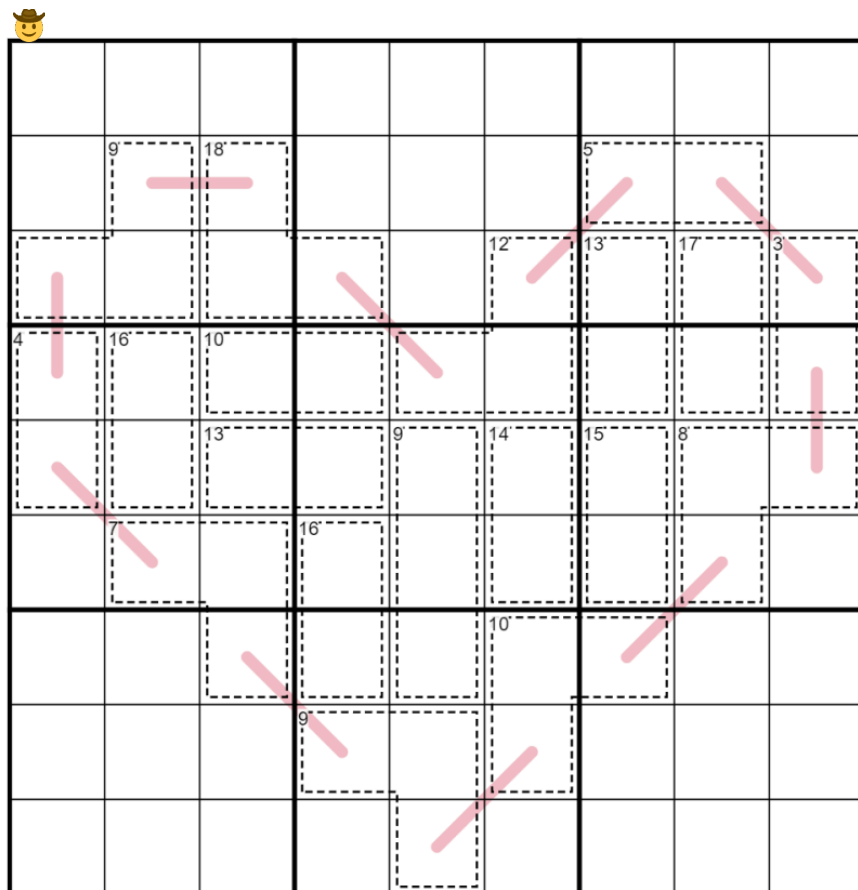
... Yes.

Today's **GAS** is a **Killer Consecutive Pairs Sudoku**!

Normal sudoku rules apply.

Killer: Digits in cages cannot repeat and must sum to the total given.

Consecutive Pairs: Digits in cells separated by a ♥ pink ♥ line must be consecutive (have a difference of 1). (No negative constraint - other pairs of digits may also be consecutive.)



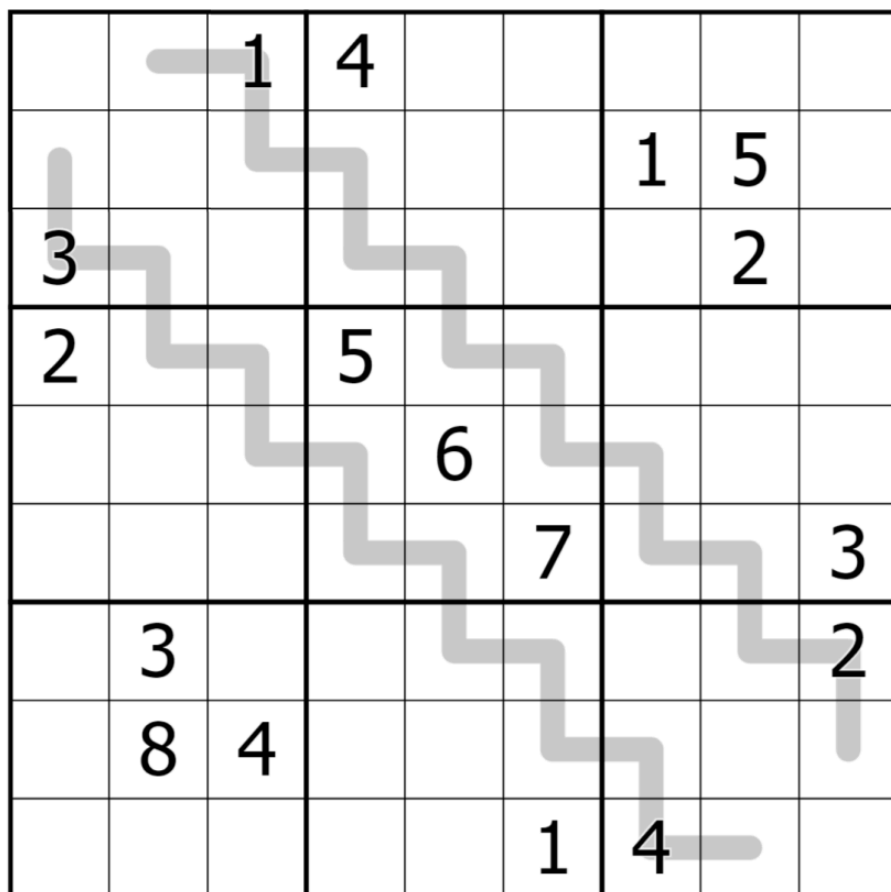
Play on SudokuPad: <https://sudokupad.app/philip-newman/20240213-valentines-pairs>

February 14, 2024: 24: 3-Digit Lines
clover!

Walkthrough for Philip's "Valentine's Pairs":
<https://www.youtube.com/watch?v=O9ABK-zjE8E>

Hello, dear GAS solvers! Won't you be my Valentines? I tried to make you an origami heart - if you aren't familiar with origami, it's the art of creating complex objects and designs by folding a piece of paper while being significantly less clumsy than I am. So really, what I'm saying is that I made you these two very thoroughly folded **3-digit lines** to solve.

Normal sudoku rules apply. Also, each gray line contains only three different digits.



SudokuPad: <https://sudokupad.app/y4sbvjwte3>

February 15, 2024: Rival Dealer/Life Admin (Double Sudoku)

Bill Murphy

Walkthrough for 3-Digit Lines: <https://youtu.be/bvY1KCyfeGE>

Walkthrough for 3-Digit Lines: <https://youtu.be/bvY1KCyfeGE>

Walkthrough for 3-Digit Lines: <https://youtu.be/bvY1KCyfeGE>

Philip already stole my valentine's pair idea
anyway, love my girlfriend she is a big sweetie

Sudoku is for lovers 😊

If you are loving, loved, loved by or just plain lovable, today's GAS are **two classic sudoku** for you!

Put the digits 1-9 in each box, row and column.

[Typsetters Note: The times given in the table near the end is for the pair combined]

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

Rival Dealer: <https://sudokupad.app/1vihwa1xq2>

⇓ ⇓ (The second puzzle is on the next page) ⇓ ⇓

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

Life Admin: <https://sudokupad.app/za50afyczj>

February 16, 2024: Lines Crossed

Philip Newman

Walkthrough of "Rival Dealer" and "Life Admin" by Bill:
<https://youtu.be/dPgGaLm47OY> (Thanks to @clover for filling in!)

If I had recorded the video for yesterday's puzzle, the thumbnail would have been a Dali parody where my face is melting, entitled "The Persistence of Allergy".

(I'm feeling a little less awful today. I hate Texas sometimes.)

Today's **GAS** is an **Entropic Lines Modular Lines Sudoku**!

⇓ ⇓ (The puzzle is on the next page) ⇓ ⇓

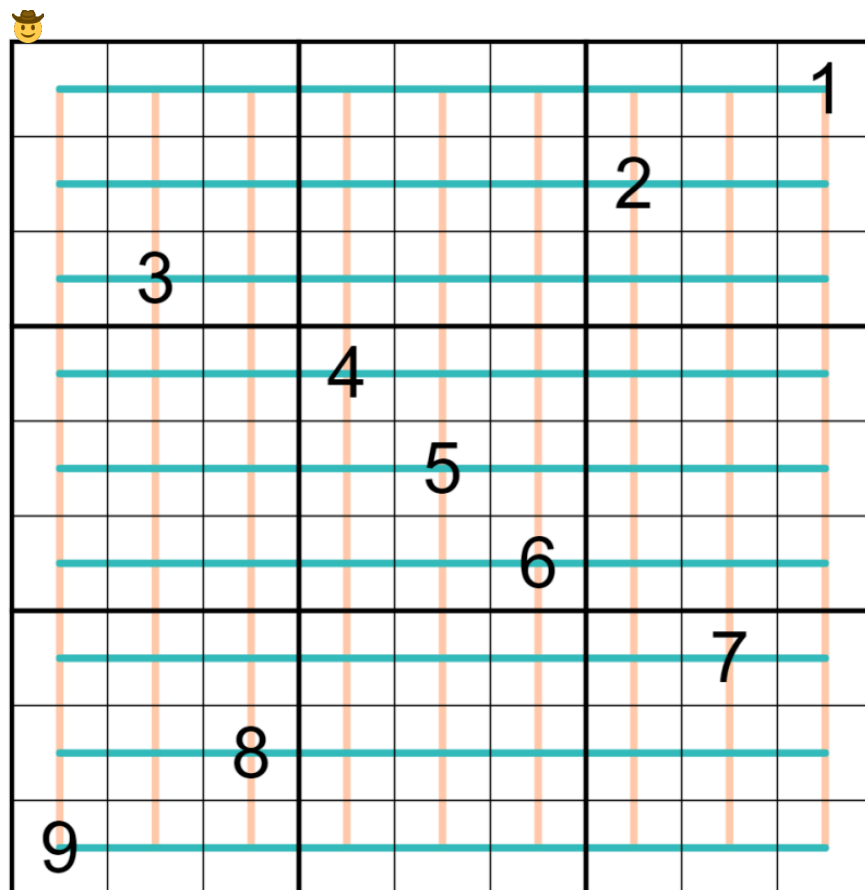
Normal sudoku rules apply.

Entropic Lines: Along orange lines, each set of three cells must contain one high digit (789), one medium digit (456), and one low digit (123). (For example, a line could contain 294396 but not 294836, because 948 does not contain a low digit.)

Modular Lines: Along teal lines, each set of three cells must contain one digit equivalent to 0 mod 3 (369), one digit equivalent to 1 mod 3 (147), and one digit equivalent to 2 mod 3 (258). (For example, a line could contain 294534 but not 294836, because 836 does not contain a digit equivalent to 1 mod 3.)

(All vertical lines are Entropic, all horizontal lines are Modular.)

(This one looks busy but I promise it's not hard. Take a minute to make sure you understand the rules.)



Play on f-puzzles: <https://f-puzzles.com/?id=2cl2t2ew>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240216-lines-crossed>

February 17, 2024: Arrow Sudoku

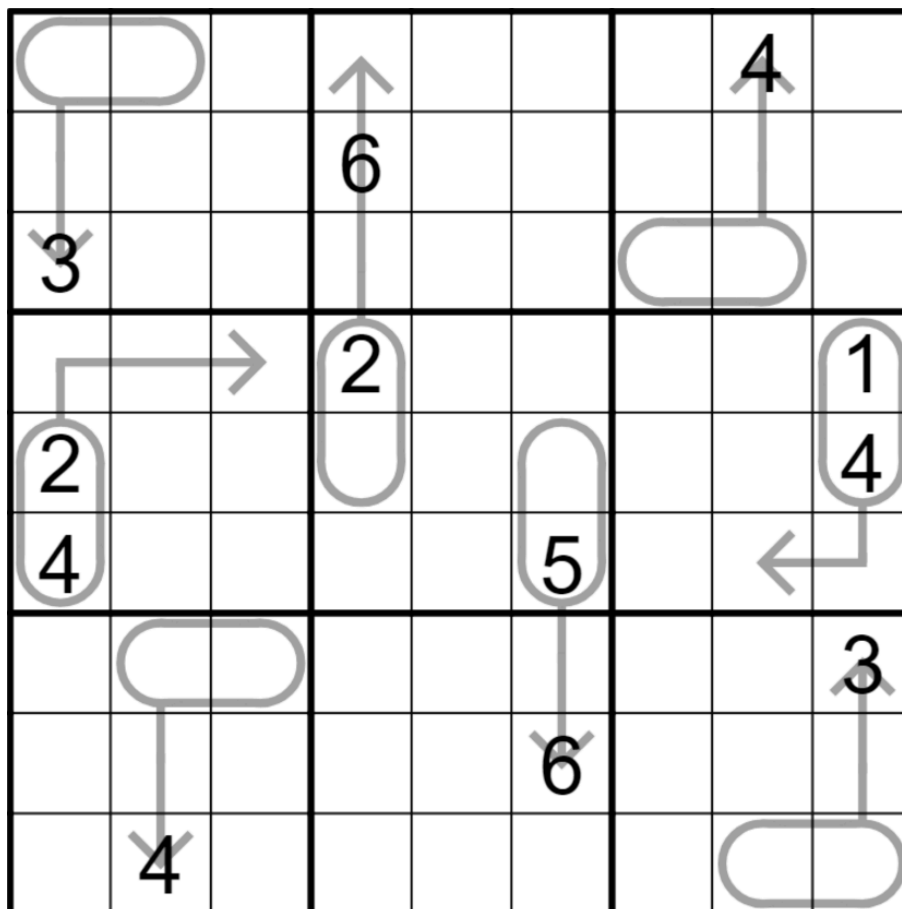
clover!

Walkthrough for Philip's "Lines Crossed":

<https://www.youtube.com/watch?v=qMqaKzcY4Nc>

Believe it or not, yesterday's puzzle wasn't the first time we've ever published a GAS that created visual distortions in solvers! If anybody can recall the variant used in the other instance, and who set it, grab yourself a wibbly-wobbly bonus hat (guesses in spoilers, please).

Today's GAS, I hope, will be a bit easier on the eyes (I mean, look at those beautiful curves) - it's a two-digit **arrow sudoku**. Normal sudoku rules apply. Also, digits along arrows sum to the value in the attached oval. The values in ovals should be read as 2-digit numbers from left to right or top to bottom: for instance, the digits along the arrow in region 4 must sum to 24.



SudokuPad: <https://sudokupad.app/izndax9i2x>

February 18, 2024: Idealized

Bill Murphy

Walkthrough for Arrow Sudoku: <https://youtu.be/CGqIjDsLRpM>

Walkthrough for that Clover Puzzle (It's not GAS, but it's very cool):

https://youtu.be/tDNr_ZVPJNU

OK, so an experience I've had recently is the "this is my profession and I can't turn it off". So in honour of me being a science teacher, here's some weird facts I know about units which I recently reeled off for a strangely captivated audience after two beers at a wedding reception:

A kilogram didn't become 1000g until about 2019, it used to be measured against Le Grand K, a cylinder of platinum and iridium in France.

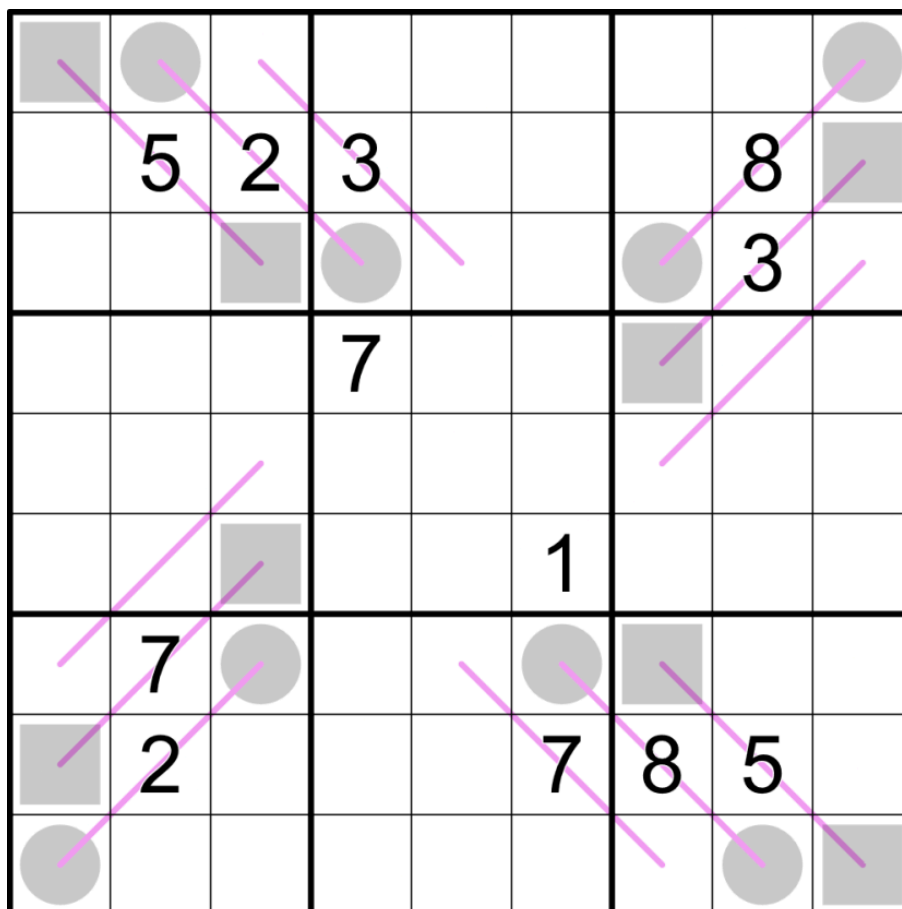
A metre was originally defined as 1/10millionth of the distance from the north to the south pole in 1793, funny because a) they didn't know what the distance was in 1793 and b) it was only 13 cm out

While normal countries use joules and kilojoules, 1 calorie is "the amount of energy required to raise the temperature of 1cm³ of water by 1 degree Celsius. (SHC of water x 1) The part of this that annoys me is 1000 calories = 1 Calorie. (yes I know kilocalorie is also acceptable, but get this sacrilege out of my face)

Anyway after a weekend away to **Bad Melbourne**, let me standardize myself with GAS, a **Odd/Even Renban** Sudoku!

↓↓ ↓↓ (The puzzle is on the next page) ↓↓ ↓↓

Normal Sudoku Rules Apply. Digits along a purple line must form a consecutive run of digits in any order, without repeats. Digits in grey squares are even, digits in grey circles are odd.



Sudokupad: <https://sudokupad.app/dttwkkc5kw>

February 19, 2024: Multiples

Philip Newman

Walkthrough of "Idealized" by Bill:

<https://youtu.be/Lh4r7bW3GNw>

My sinuses are still a mess, so for today's intro I decided to google for a good sinus joke.

An elderly woman goes to the doctor. She says, "Doc, it's terrible, I pass gas all the time. Fortunately, it's odorless and silent, otherwise, I'd be mortified. For example, I've passed gas ten times just since we've been talking, but it's odorless and silent so you can't tell."

The doctor gives her some green pills and tells her to take one a day and come back in a week.

The woman comes back after taking the pills for a week. She says, "Doc, there's been a change but not for the better. I still pass gas all the time, but while it's still silent, now it smells terrible!"

The doctor says, "Well, I'm glad we cleared up your sinus blockage. Now we'll have to work on your hearing."

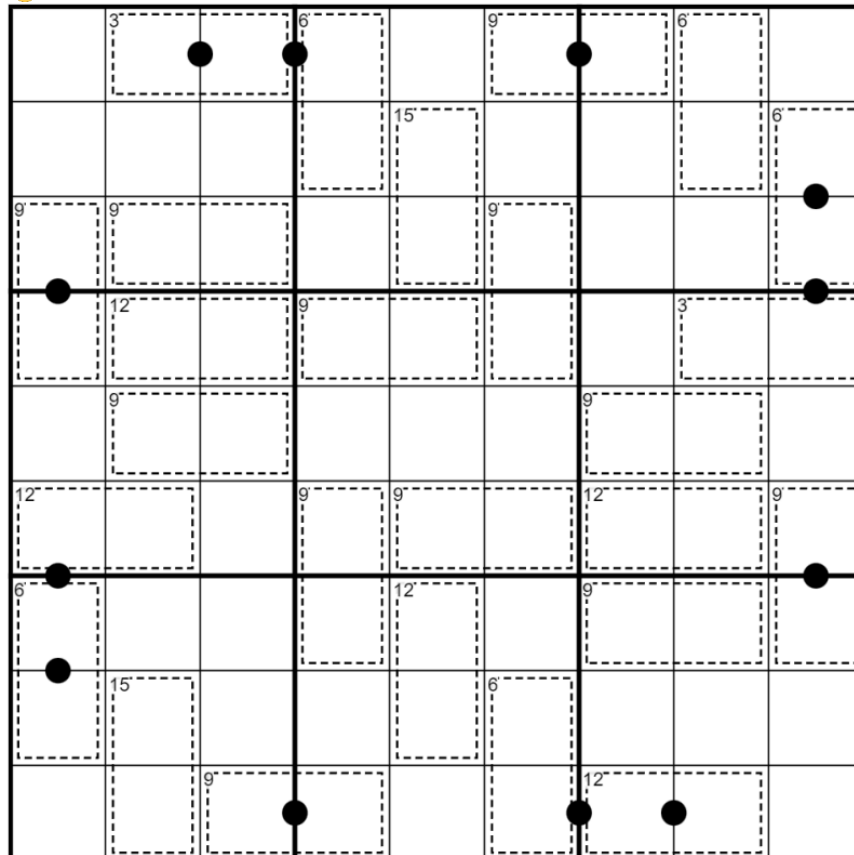
Today's **GAS** is an **Killer Ratio Pairs Sudoku!**

⇓ ⇓ (The puzzle is on the next page) ⇓ ⇓

Normal sudoku rules apply.

Killer: Digits in cages cannot repeat and must sum to the total given.

Ratio Pairs: Digits in cells separated by a black dot must have a ratio of 2:1. (No negative constraint - other pairs of adjacent digits may have a ratio of 2:1.)



Play on f-puzzles: <https://f-puzzles.com/?id=27ackgzt>
Play on SudokuPad: <https://sudokupad.app/philip-newman/20240219-multiples>

**February 20, 2024: Greater Than
clover!**

Walkthrough for Philip's 'Multiples': <https://www.youtube.com/watch?v=lbmezS0SKol>

'Efron's Dice' are a set of six-sided dice, labeled A, B, C, and D, where the probability that A lands on a greater number than B is $\frac{2}{3}$, the probability that B beats C is $\frac{2}{3}$, the probability that C beats D is $\frac{2}{3}$, and... the probability that D beats A is, curiously, also $\frac{2}{3}$. Clearly there's something terribly wrong with the greater-than operation. We should have a protest. 🤔

In today's **greater-than sudoku**, normal sudoku rules apply. Also, inequality signs in the grid indicate which of two adjacent digits is greater (the open end of the symbol points to the greater digit).

		6	<						
	>	7	<						^
		8	<						
^	^					^	^		
3	4								
			<			<			
							6	7	
	^	^				<	2	^	^
						<	3		<
						<	4	^	

SudokuPad: <https://sudokupad.app/t69ku09ayv>

February 21, 2024: Basketball Shoes

Bill Murphy

Walkthrough for Greater Than: <https://youtu.be/yuMNPJIV1WE>

I love school camps.

The musty smell in the air.

The students who desperately need to shower.

The surprisingly good food, considering they're cooking for 200.

The teachers who desperately need to shower.

The activities a kilometre away from camp.

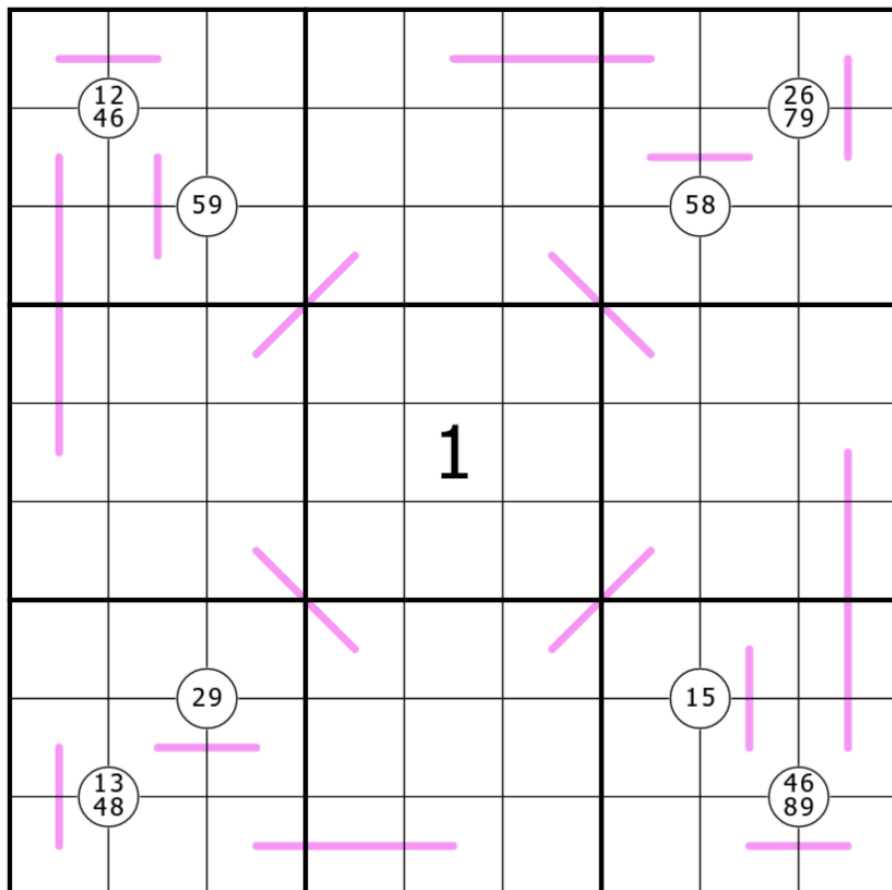
The staff who desperately need to shower.

Gonna miss this when it's over. Maybe not the part where I have to try and post this GAS from my phone, but here we are.

Today's **GAS** is **Renban Quadruples**, with me further exploring two different variants in GAS, which is my second favourite thing to do when setting GAS, behind showing up to a Clover setting stream and setting the same variant as her but faster. (You'll definitely see one of those soon)

↓↓ ↓↓ (The puzzle is on the next page) ↓↓ ↓↓

Normal sudoku rules apply. Digits along a purple line must form a consecutive run of digits but may be in any order. Digits inside a white circle must appear in the surrounding four cells.



Sudokupad: <https://sudokupad.app/ovru2pzfdp>

February 22, 2024: Hot Cakes

Philip Newman

Walkthrough of "Basketball Shoes" by Bill:

<https://youtu.be/3KHZO8zWAMc>

@Botaku suggested I talk about the compactness theorem in today's intro. According to wikipedia: "In mathematical logic, the compactness theorem states that a set of first-order sentences has a model if and only if every finite subset of it has a model."

I then turned to ChatGPT to try to get something funny about a child thinking the term "model" above is referring to model trains, but that didn't go anywhere. Instead, I got it to make up a word and definition.

Flubbernaggle (noun): The act of attempting to gracefully recover from a social faux pas by suddenly breaking into an impromptu interpretive dance routine, hoping to distract everyone from noticing your blunder. Often characterized by awkward twirls, jazz hands, and exaggerated facial expressions, the flubbernaggle is a desperate attempt to turn embarrassment into entertainment, leaving witnesses simultaneously bewildered and amused.

This intro may require a flubbernaggle to distract you from it.

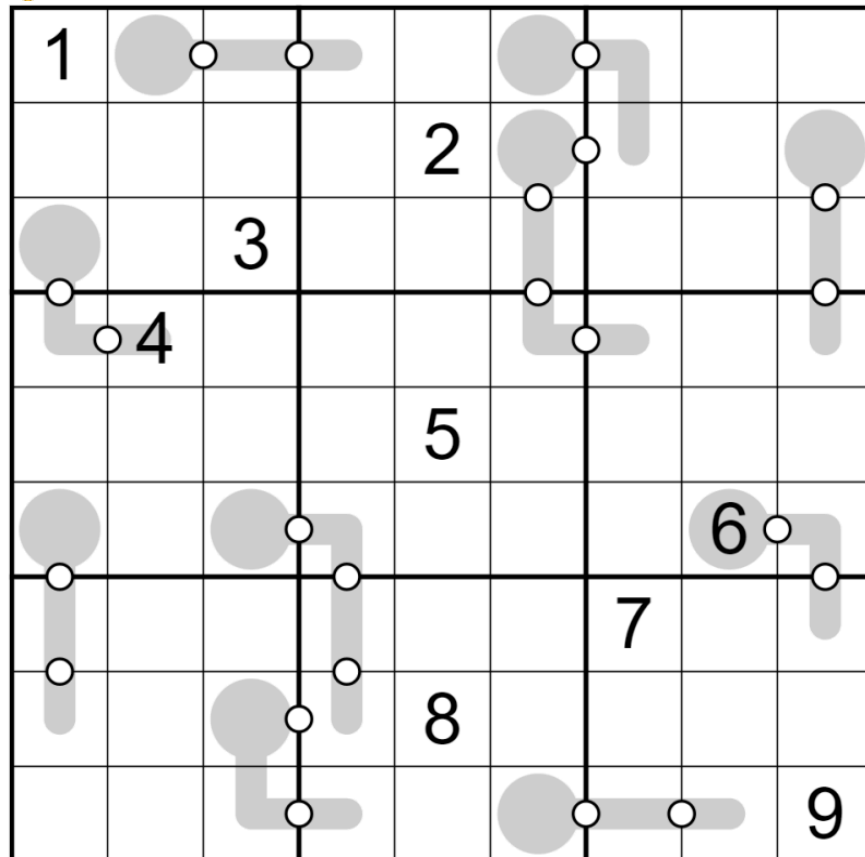
Today's **GAS** is an **Thermo Consecutive Pairs Sudoku**!

↓↓ ↓↓ (The puzzle is on the next page) ↓↓ ↓↓

Normal sudoku rules apply.

Thermo: Digits along thermometers must strictly increase from bulb to tip.

Consecutive Pairs: Digits in cells separated by a white dot must be consecutive (have a difference of 1). (No negative constraint - other pairs of digits may also be consecutive.)



Play on f-puzzles: <https://f-puzzles.com/?id=2bbwpm65>

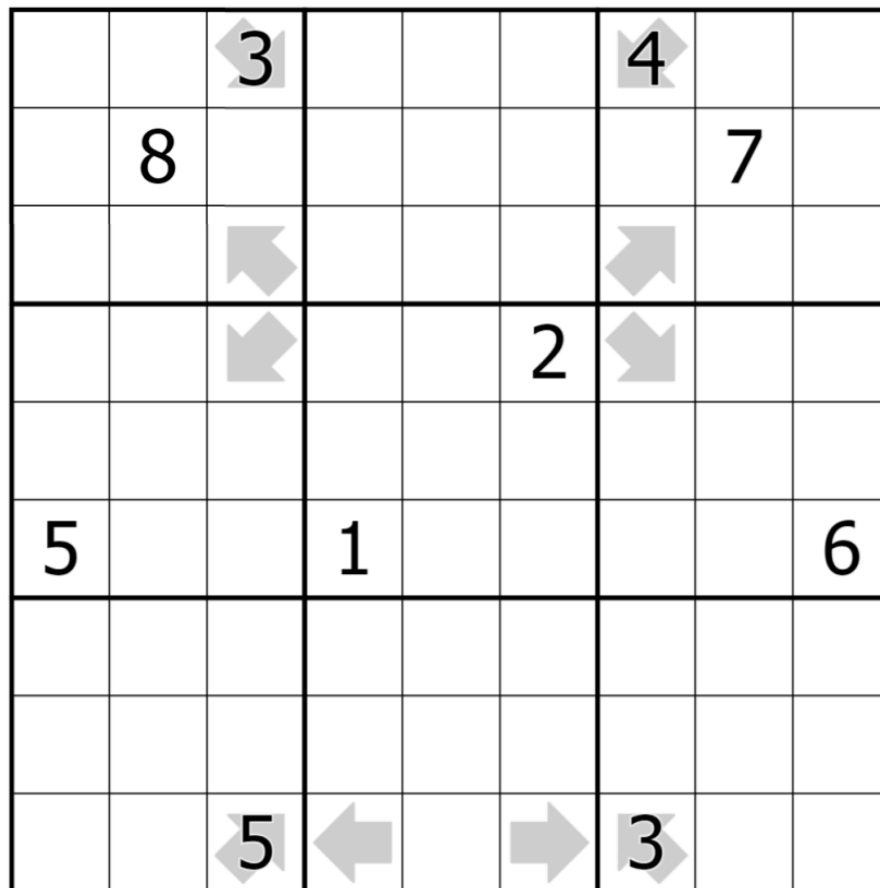
Play on SudokuPad: <https://sudokupad.app/philip-newman/20240222-hot-cakes>

February 23, 2024: Min/Max Arrows
clover!

Walkthrough for Philip's 'Hot Cakes': <https://www.youtube.com/watch?v=yH0SzGmzEoY>

Good morning, friends! Today's GAS is a **min/max arrows sudoku**. I recently learned of this variant from @chilly , who seems to be a fellow 'fat gray arrow' appreciator. 🏹

Normal sudoku rules apply. Also, the digit on an arrow must be greater than all of the digits along the diagonal that the arrow points to.



SudokuPad: <https://sudokupad.app/2he4gvres2>

February 24, 2024: First Impressions Sudoku

Bill Murphy

Walkthrough for Min/Max Arrows: https://www.youtube.com/watch?v=iK_uCbgzJM

Every now and then, Clover does a stream where she sets GAS live on twitch. Every now and then, when I have the time, I'll show up, wait til I see what variant's she's setting and watch her trial and error process, then set the same variant faster than she did because she made the mistakes so I didn't have to. (I made one for yesterday's puzzle, but since I stole the break-in, you're not going to see it til the end of the month, maybe)

Anyway, the only reason I tell y'all this, is to me, nothing is funnier to me than beating Clover to the punch when it comes to posting a **First Impressions Sudoku**!

*Normal Sudoku Rules Apply. Digits in grey cells must be greater than the first digit in it's row **and** column.*

(I have a weird feeling someone's gonna miss the **and** there. Don't let it be you!)

							3	
						5		
					7			
				8		9		4
			6			3		
		4		9	2			
	2						4	
				6				

SudokuPad: <https://sudokupad.app/yi8i74p73x>

February 25, 2024: Secret Killer

Philip Newman

Walkthrough of "First Impressions Sudoku" by Bill:

<https://youtu.be/27IUWndIWZI>

🔥 EARLY GAS ALERT 🔥

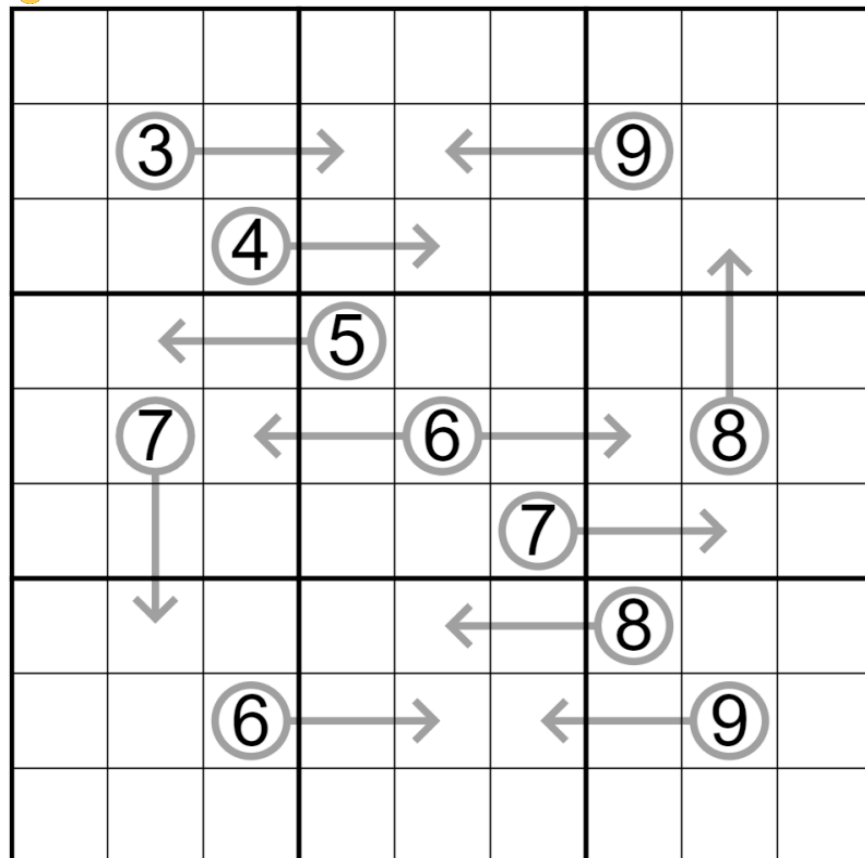
Low battery in a smoke alarm woke me up. Grr.

We have a new sauropod genus as of February 22! The name on wikipedia is listed as "Jingia"; according to wikipedia "The name "Jingia" is preoccupied by a moth named in 1983 and has yet to receive a new genus name." It's not clear to me if it's the dinosaur or the moth that is getting renamed, but at least for now we're technically ok!

Today's **GAS** is an **"Arrow" Sudoku**!

Normal sudoku rules apply.

Arrow: Digits along arrows must sum to the circled total.



Play on f-puzzles: <https://f-puzzles.com/?id=22hnpaap>

Play on SudokuPad: <https://sudokuPAD.app/philip-newman/20240225-secret-killer>

February 26, 2024: Thermo Arrows clover!

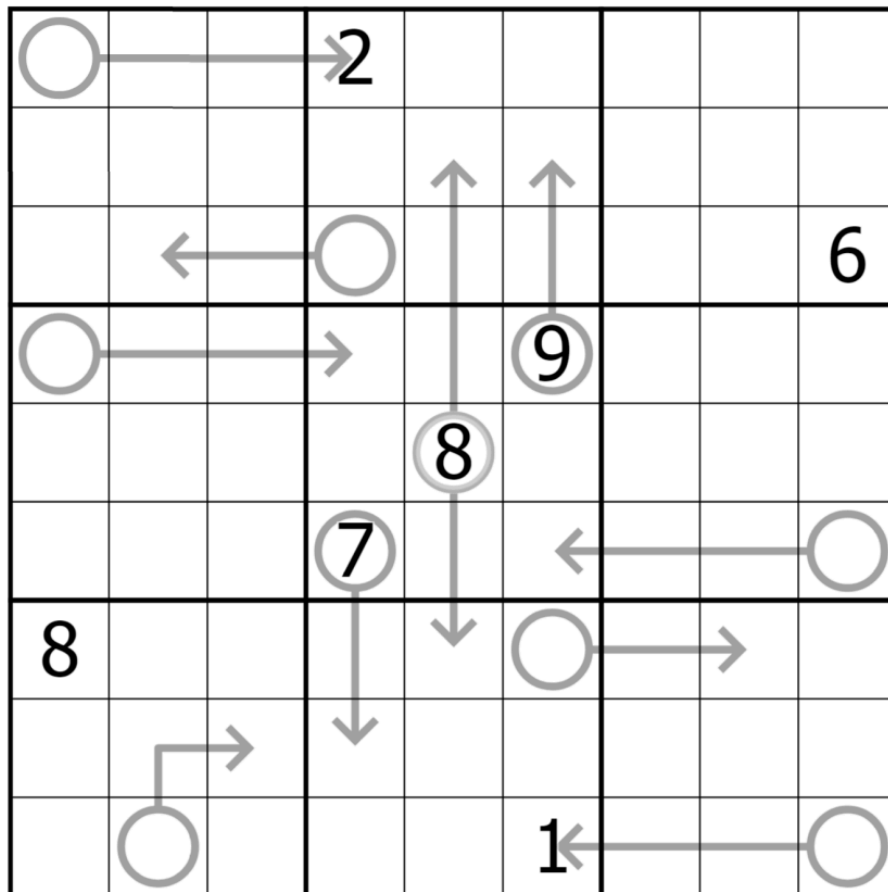
Walkthrough for Philip's "Secret Killer":
<https://www.youtube.com/watch?v=9LfXrBR02ws>

And now, a joke for you: When is a thermo not a thermo?

When it's an arrow!

Hey, I didn't say it was a funny joke. 🤔

In today's **thermo arrow sudoku**, normal sudoku rules apply. 🌟 Also, both thermo and arrow sudoku rules apply. 🌟 Digits along each arrow sum to the value in the attached circle; also, the digits along each arrow must increase, starting from the pointy end and going towards the bulb.



SudokuPad: <https://sudokupad.app/updle2095>

February 27, 2024: Speed Kills

Bill Murphy

Walkthrough for Thermo Arrows: https://www.youtube.com/watch?v=pwib_8FZ5Ho

Went scrolling through testing to go find today's **fortress quads** sudoku, and I found this anecdote I put with it:

"god ok so weirdly i went to a job interview today for a "hey we're not hiring you for this one, but if another position comes up soon, please reapply" from a couple months back

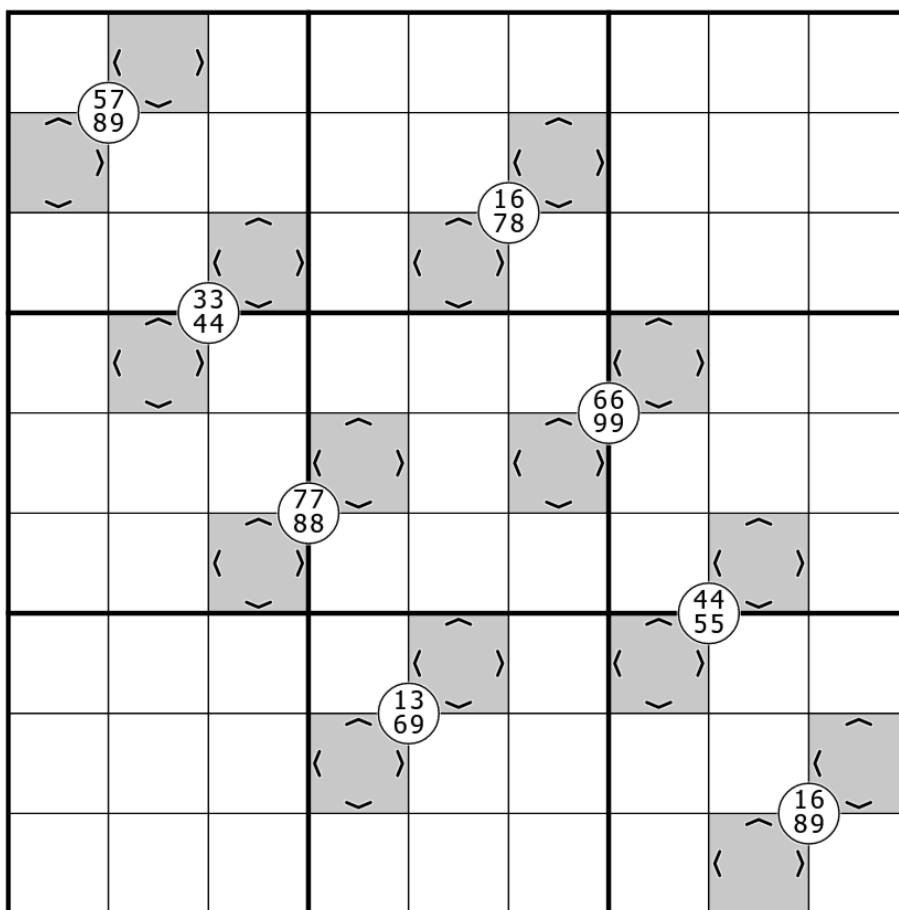
*and i've just remembered the most savage L i've ever been handed
sitting in a job interview as one of the hiring panel and we're interviewing a graduate teacher and they ask what support structures are in place for graduates
and the assistant principal explains what they do for grads, mostly because i told them how badly they f**ked it when i was hired
and then she goes "after all, being a graduate is stressful, i mean, look at Bill, he's only 19 and look what the stress did to him"*

I was 28 at the time"

Anyway today i got the formal offer for that job, which is the foot in the door at the actual dream job so if I could get your longest and loudest yeah boiiiiis in the chat, that would be great

↓↓ ↓↓ (The puzzle is on the next page) ↓↓ ↓↓

*Normal Sudoku Rules Apply. Digits in circles must appear in the surrounding four cells.
 Digits in grey cells must be larger than each orthogonally adjacent white cell.*



SudokuPad: <https://sudokupad.app/m9ackedmts>

February 28, 2024: Sequence Break

Philip Newman

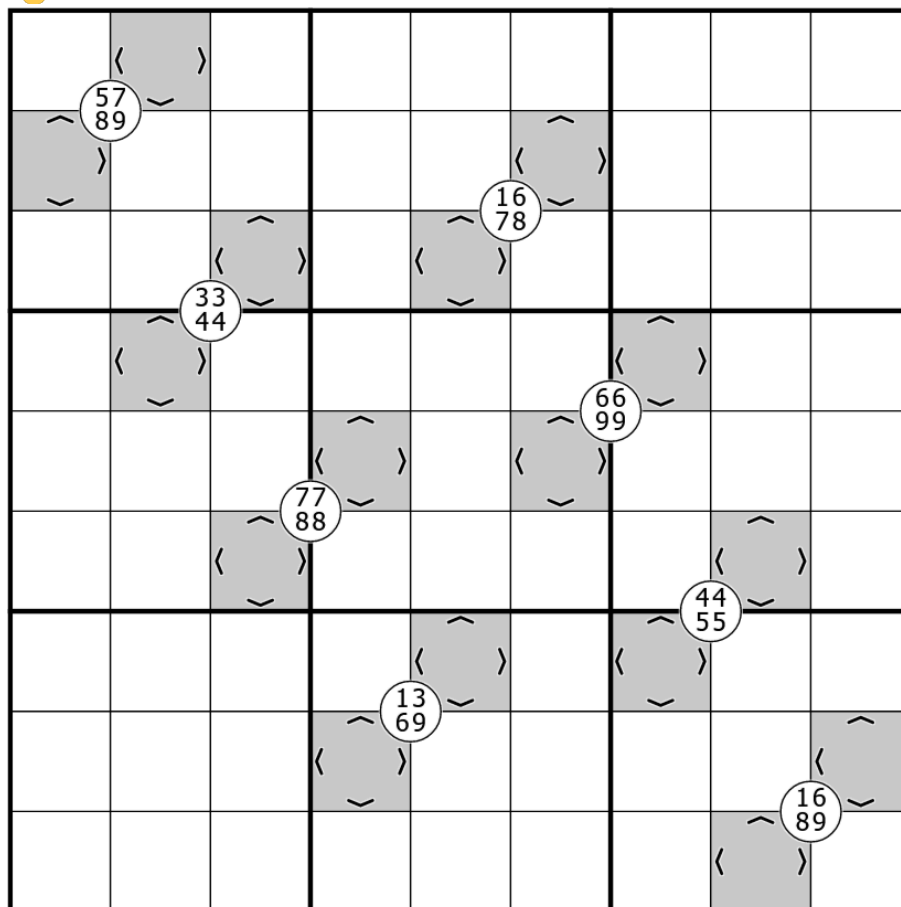
Walkthrough of "Speed Kills" by Bill:

<https://youtu.be/7W0WGddQo6I>

On Monday, it was in the 90s (Fahrenheit). This morning, it is in the 30s. That ain't right, y'all. 🤠

Today's **GAS** is a **Classic Sudoku**!

Normal sudoku rules apply. And that's it!



Play on f-puzzles: <https://f-puzzles.com/?id=297mle34>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240228-sequence-break>

February 29, 2024: First Impression
clover!

Walkthrough for Philip's "Sequence Break":
<https://youtu.be/DnYtLcfuYFQ>

You know, they say you never get a second chance to make a first impression. They're also completely full of it, because today's GAS is a **first impression sudoku**!

Normal sudoku rules apply. Also, digits in gray cells must be greater than both the topmost digit in their column, and the leftmost digit in their row. Not all possible gray cells are necessarily given.

			7		5			
							7	
		3		2				
6								
		4						
5								
						3		
	1						9	5
							4	

SudokuPad: <https://sudokupad.app/mqf7995qdi>

PS: GAPP has a special treat for you, so keep an eye out for a bonus ping tonight! 😊

Never Mind the GAS, Here's the GAPP Leap

GAS and GAPP teams

Nobody expects the double ping!!

We are gathered here today to commemorate a very special occasion, and its first occurrence during the duration of both GAS and GAPP!

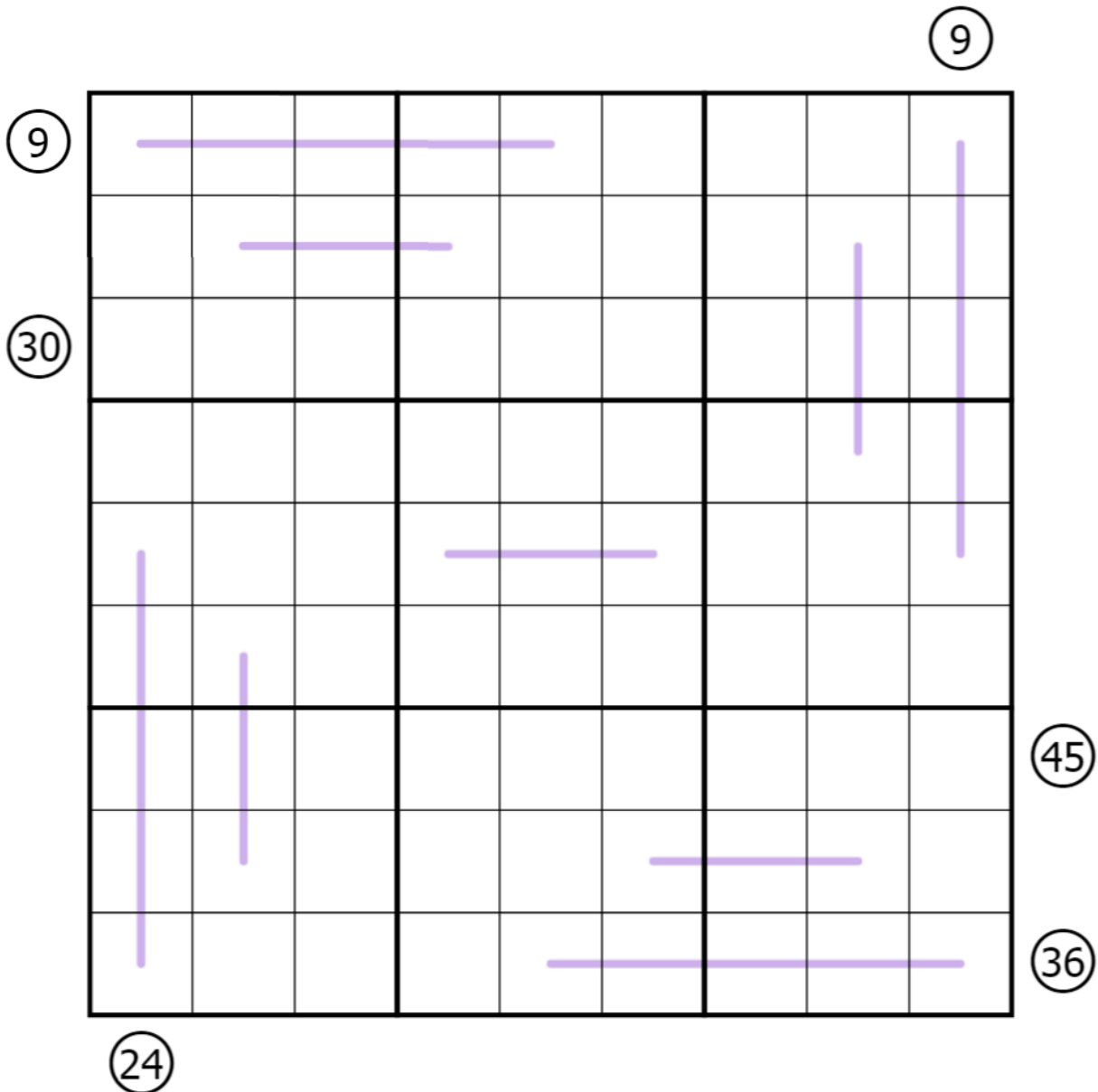
To celebrate this beautiful quirk of the Gregorian calendar, the daily puzzle teams have leapt into each other's territories to put together a little pack of sudokus and puzzles. Enjoy!

[Never_Mind_the_GAS_Heres_the_GAPP_Leap.pdf](#)

Bonus 1: Zipper X-Sums

Philip Newman

Normal sudoku rules apply. Clues outside of the grid are x-sums clues: they tell you the sum of the first X digits in that row or column (nearest the clue), where X is the digit in the cell nearest the clue. Lines in the grid are zipper lines: for each line, the digit in the center cell of the line equals the sum of each pair of digits that are equidistant from the center of the line (for instance, $r3c9 = r2c9 + r4c9 = r1c9 + r5c9$).

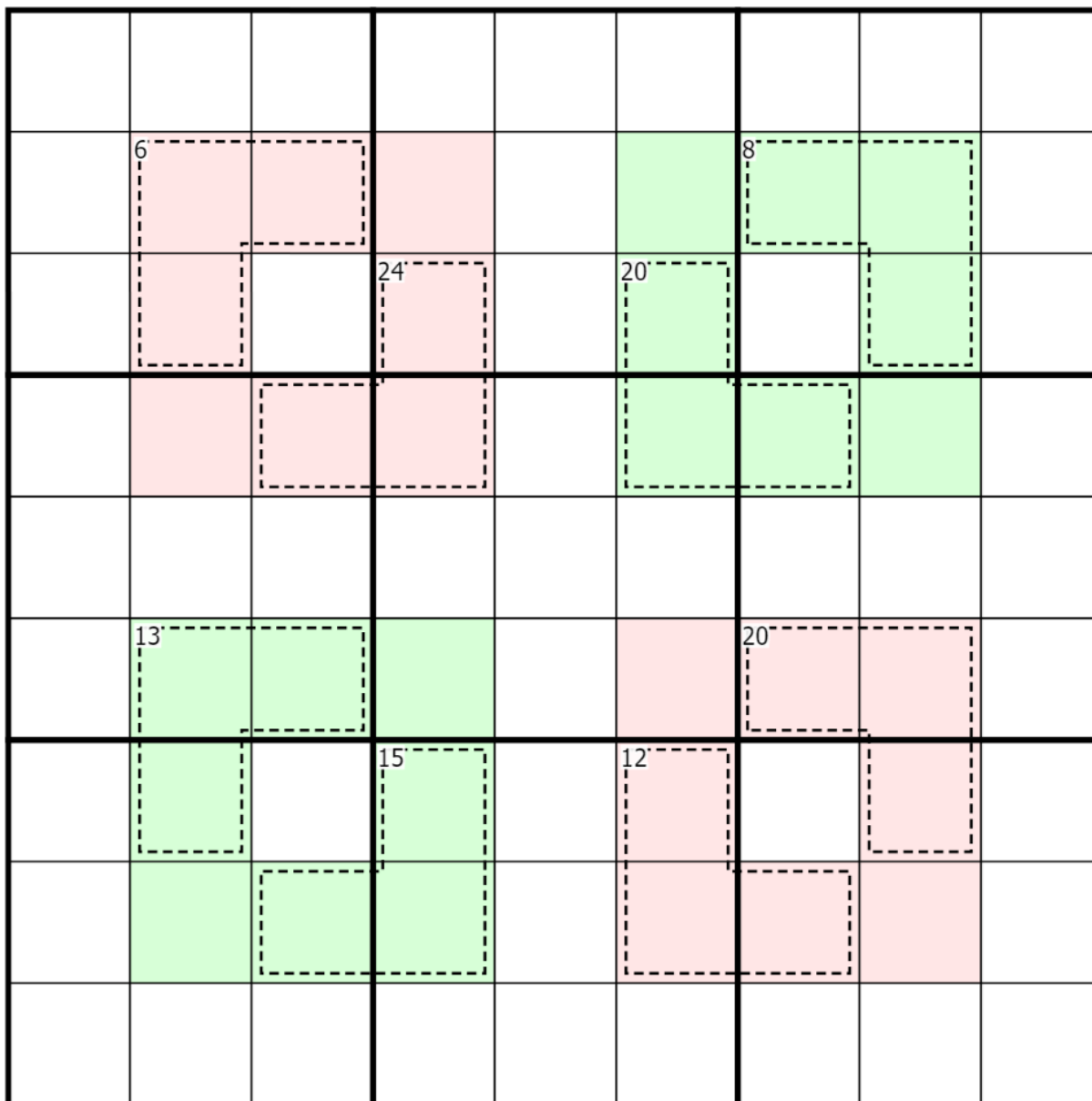


Bonus 2: Chaos Space Marine

Bill Murphy

Normal sudoku rules apply.

Areas made up of coloured cells are clones. Cloned areas must be identical. Digits in cages must not repeat and must sum to the small corner total.

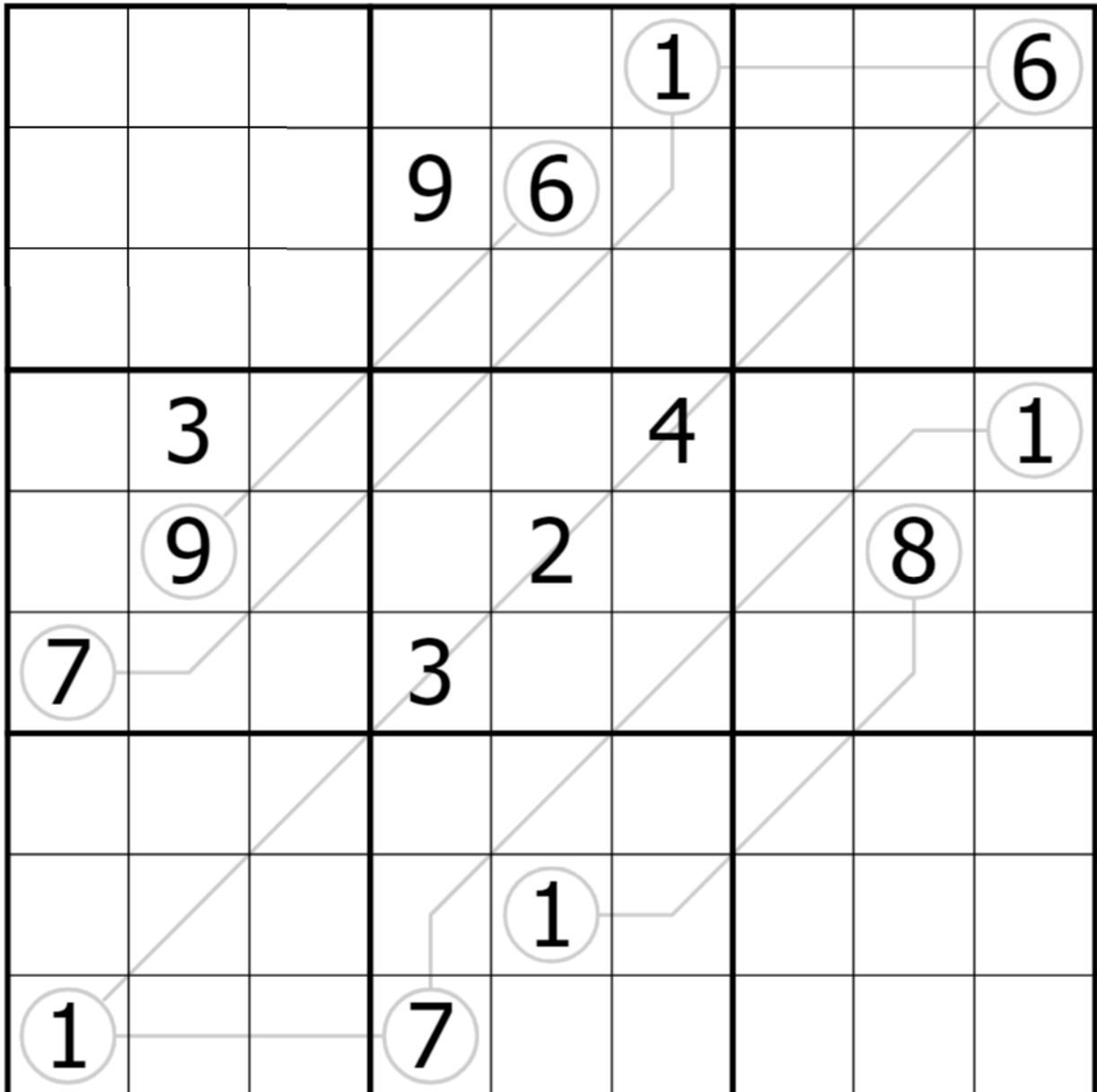


<https://sudokupad.app/2d21q8mfc8>

Bonus 3: Betwegion Sum Lines

Clover

Normal sudoku rules apply. The digits along each line have values in between the values in the attached circles (for instance, if two circles have values 2 and 6, the digits between them can only be 3, 4, or 5). Also, for each line, the sum of the digits along the line is equal within each region it passes through. Do not include the circles in the sum. For instance, $r2c6 + r3c5 = r4c4$.

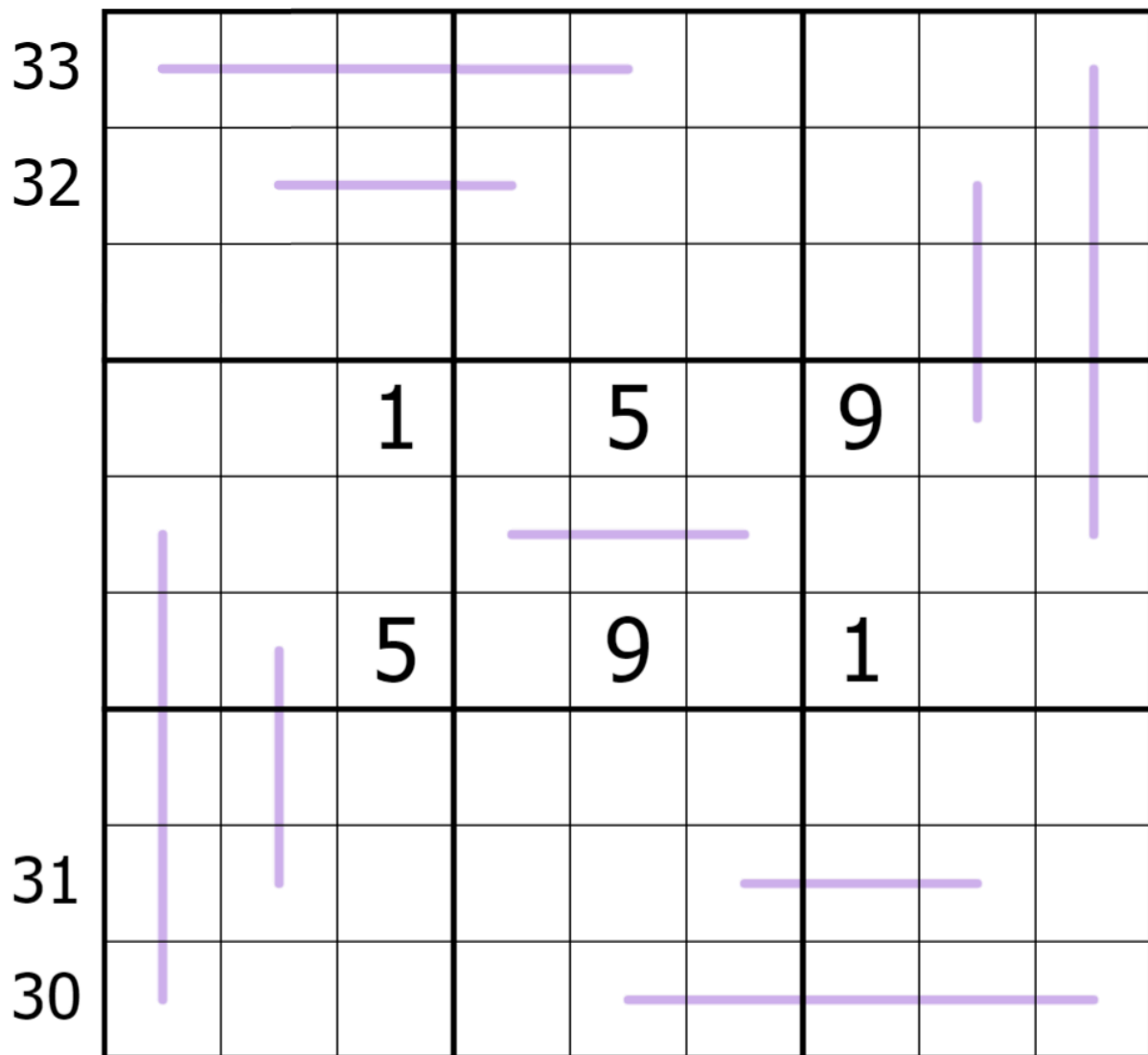


<https://sudokupad.app/jy1hfzn1ad>

Bonus 4: Zipper Sandwich

Philip Newman

Normal sudoku rules apply. Clues outside of the grid are sandwich clues: they tell you the sum of all of the digits "sandwiched" between the 1 and the 9 in that row or column. Lines in the grid are zipper lines: for each line, the digit in the center cell of the line equals the sum of each pair of digits that are equidistant from the center of the line (for instance, $r3c9 = r2c9 + r4c9 = r1c9 + r5c9$).

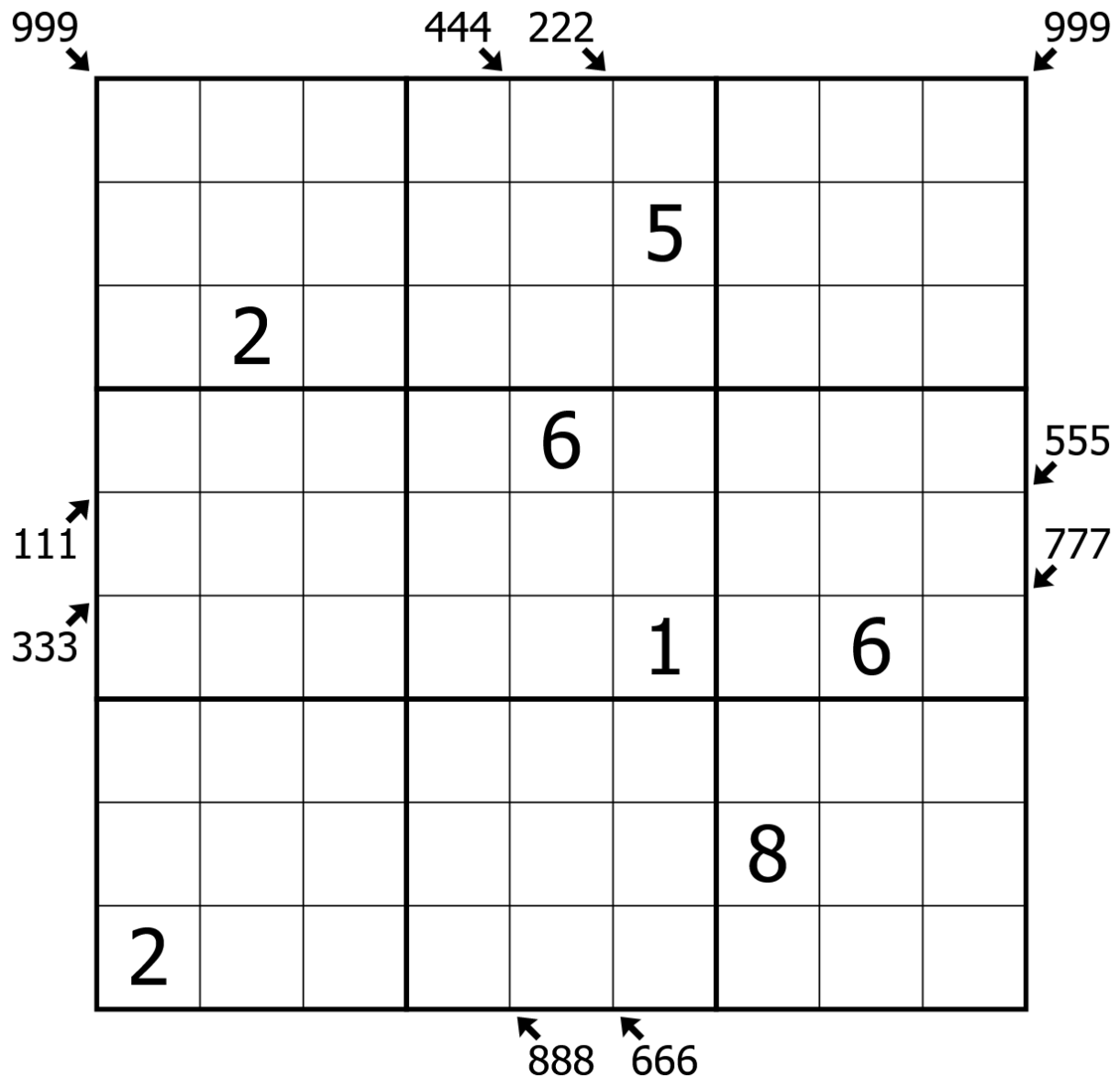


<https://sudokupad.app/4xknf85zpo>

Bonus 5: Diagonal Zones

Clover

Normal sudoku rules apply. Clues indicate digits that must appear along the marked diagonal (at least as many times as they appear in the clue).



<https://sudokupad.app/bh67grl6tx>

Time Benchmarks



Two party hats



One party hat



Today's dinosaur:

Feb 1, 2024	8:00	16:00	Not-Sorry Nambalia
Feb 2, 2024	6:00	11:00	sorry-not-sorry sinornithosaurus
Feb 3, 2024	7:00	13:00	Quiet Quilmesaurus
Feb 4, 2024	8:00	15:00	Clonking Colossosauria
Feb 5, 2024	6:30	12:00	xylophonic Xuwulong
Feb 6, 2024	7:30	14:00	Disconnected Deinonychus
Feb 7, 2024	7:00	13:00	Knavish Khebbashia
Feb 8, 2024	9:00	16:00	metaphorical Mononykus
Feb 9, 2024	8:00	15:00	Refueled Regnosaurus
Feb 10, 2024	7:30	14:00	Sus Somphospondylan
Feb 11, 2024	6:00	11:00	multilingual Mercuriceratops
Feb 12, 2024	7:30	14:00	U Moran Uteodon
Feb 13, 2024	7:30	14:00	Loving Lithostrotian
Feb 14, 2024	6:00	11:00	folded Fabrosaurus
Feb 15, 2024	11:00	20:00	Full Heart Heterodontosaurus
Feb 16, 2024	7:00	15:00	Phlegmish Flagellicaudatan
Feb 17, 2024	6:00	11:00	cross-eyed Kazaklambia
Feb 18, 2024	7:00	13:00	Standardized Stenopelix
			Vivacious Vulcanodont (No, this is not a typo. Vulcanodon is a genus of sauropod within the family Vulcanodontidae, and a member of this family is a Vulcanodont. Technically new sauropod name is the best kind of new sauropod name.)
Feb 19, 2024	7:30	15:00	
Feb 20, 2024	8:00	15:00	great Guanlong
Feb 21, 2024	7:00	13:00	aromatic Ajkaceratops.
Feb 22, 2024	8:00	16:00	Logarithmic Lognkosaurian
Feb 23, 2024	7:00	13:00	pointy Palaeoscincus
Feb 24, 2024	6:30	13:00	Pointier Palaeoscincus
Feb 25, 2024	7:00	14:00	Jurassic Jingia
Feb 26, 2024	7:00	13:00	a Huaxiagnathus who totally missed one of the rules
Feb 27, 2024	8:00	14:30	Elderly Elaphrosaurus
Feb 28, 2024	7:00	14:00	Ecological Euhelopodid
Feb 29, 2024	8:00	15:00	keen Kinnareemimus