

# GAS Leak

Genuinely Approachable Sudoku  
from the CtC Discord

Volume 41:  
June 1 – June 30, 2024

Welcome to June!

We got a full month of GAS puzzles for you, one better than the other. Including a 26x26 grid...

Just a reminder: if you want to solve earlier GAS Leaks and don't already have the files you can download them on the GAS website <https://sudokutheory.com/gas> – and now also as a zipped archive of *all* previous GAS Leaks (not necessarily updated every month).

Have fun solving!

## June 1, 2024: Disappeared / You Let My Tyres Down [two puzzles]

by Bill Murphy

Gotta let y'all know, I submitted a 26x26 grid for testing today for GAS. (I was bored during a staff conference and set most of it by hand) Until that monstrosity gets tested, it's just two **classic sudoku** for you today, sorry!!! (Not sure what's worse, me trying to figure out hat times or Philip who'll have to do a thumbnail)

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

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

Disappeared: <https://sudokupad.app/fj7aievl10>

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

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

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

You Let My Tyres Down: <https://sudokupad.app/tb3ulllzc5>

## June 2, 2024: Quads and Trips

by Philip Newman

Walkthrough of Two Classics by Bill:

<https://youtu.be/TWgDPyNbT0M>

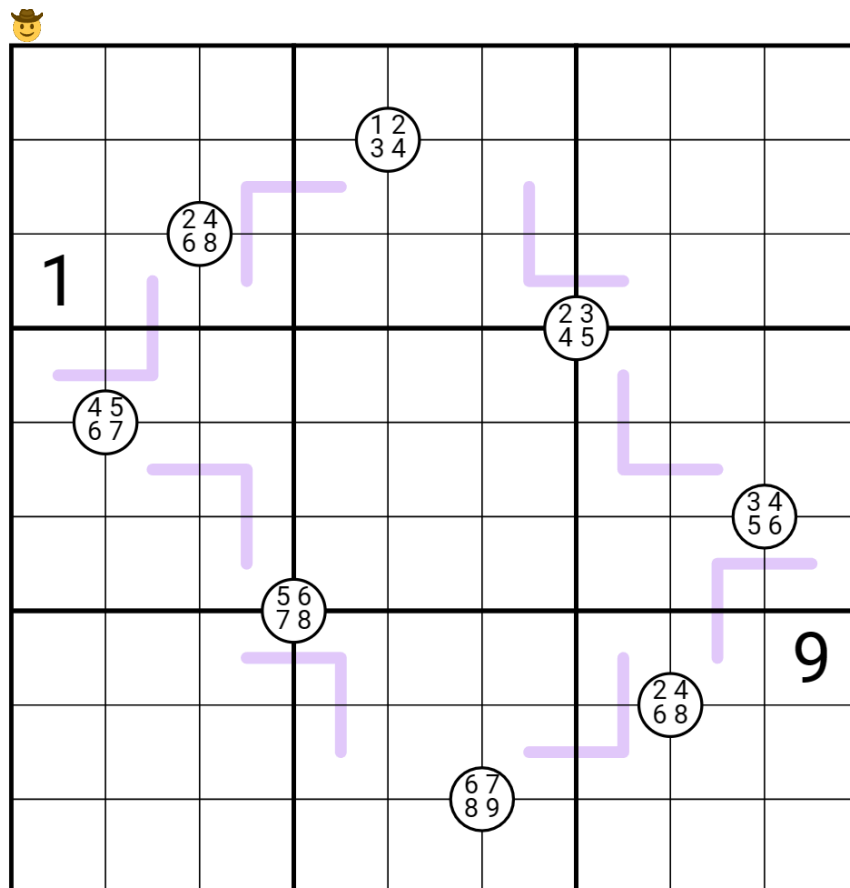
I already mentioned this in [#daily-sudoku-discussion](#) (if you don't already, come hang out with us, we're very silly) but I have once again managed to injury myself, this time a (likely) fracture of my 5th metacarpal of my right hand (that's the bone on the side of the hand behind the pinky). Expect some slowness with my videos and posts for the next couple weeks!

Today's **GAS** is a **Quadruples Renban Sudoku**! [For the spoiled text see the page near the end of this document]

Normal sudoku rules apply.

**Quadruples:** Digits in corner circles must appear in the surrounding four cells, in some order.

**Renban:** Digits along purple lines must form a non-repeating consecutive set, in any order. (For example, a 4-cell renban line could be 4352, but not 5679 or 2312.)



Play on f-puzzles: <https://f-puzzles.com/?id=26x4wcq8>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240602-quads-and-trips>

## June 3, 2024: Even Sudoku

by clover!

Good morning, friends! Here's my walkthrough for Philip's "Quads and Trips":

<https://www.youtube.com/watch?v=xCZIG6R6Qp8>

Now, things have gotten a bit too odd around here lately. It's time to *get even*. 🍀

With today's **even sudoku**, that is! Normal sudoku rules apply. Also, digits in gray squares are even.

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

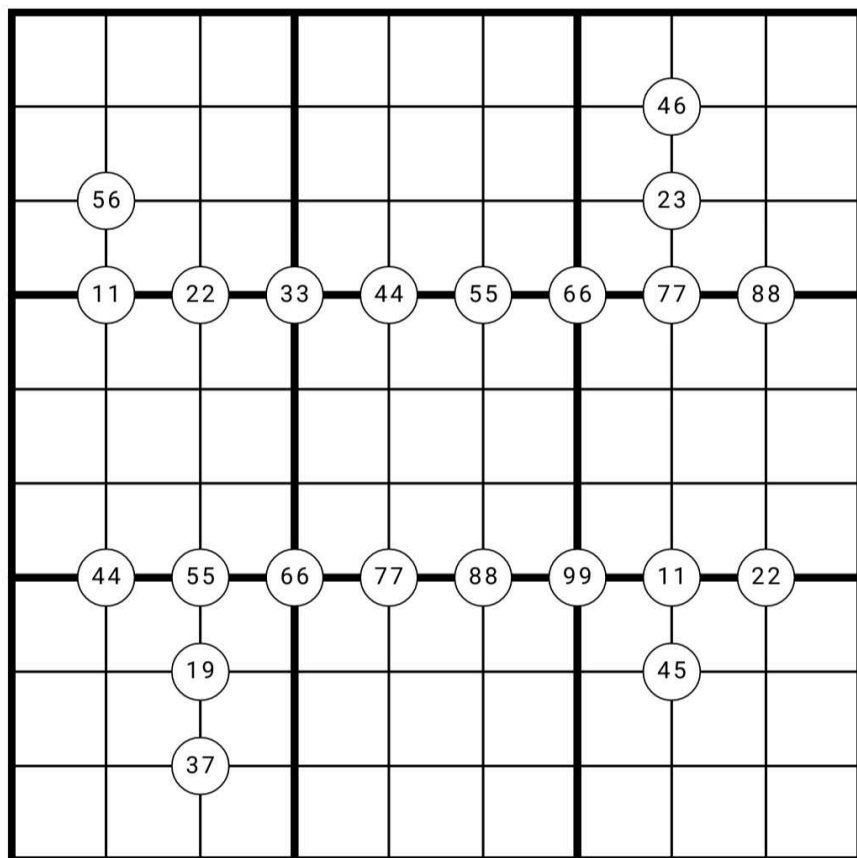
SudokuPad: <https://sudokupad.app/7wxue6no48>

## June 4, 2024: Always Alright

by Bill Murphy

Happy Pride Month! Whatever pairs you make, this **Quadruples Sudoku** puzzle is for you!

*Normal Sudoku Rules Apply. Digits in white circles must appear in the surrounding four cells.*



<https://sudokupad.app/mtj75vijdy>

## June 5, 2024: Orbiting Pairs

by Philip Newman

Walkthrough of "Always Alright" by Bill:

<https://youtu.be/29cFwyr2xxM>

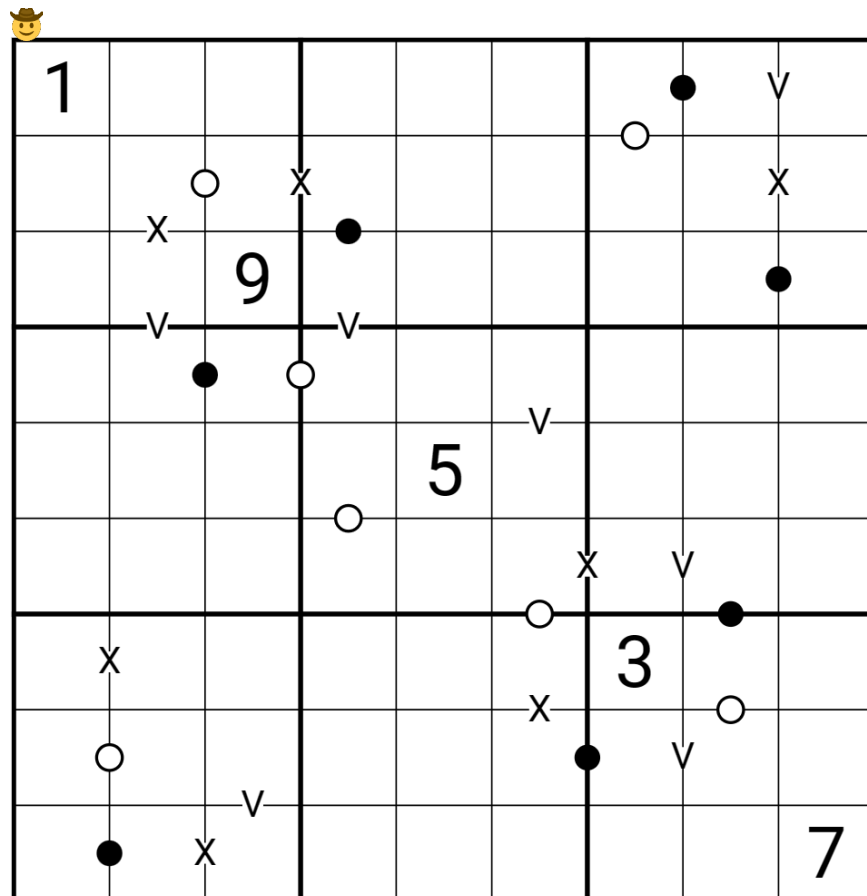
Good news with my hand: the fracture is non-displaced, so it won't require surgery and will mend on its own. Have a brace for a couple weeks before the doctor looks at it again.

Today's **GAS** is a **Kropki Pairs XV Pairs Sudoku**!

Normal sudoku rules apply.

**Kropki Pairs:** Digits in cells separated by a white dot must be consecutive (have a difference of 1); 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 difference of 1 or ratio of 2:1.)

**XV Pairs:** Digits in cells separated by a 'V' must sum to 5; digits in cells separated by an 'X' must sum to 10. (No negative constraint - other pairs of adjacent digits may sum to 5 or 10.)



Play on f-puzzles: <https://f-puzzles.com/?id=26eap2dz>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240605-orbiting-pairs>



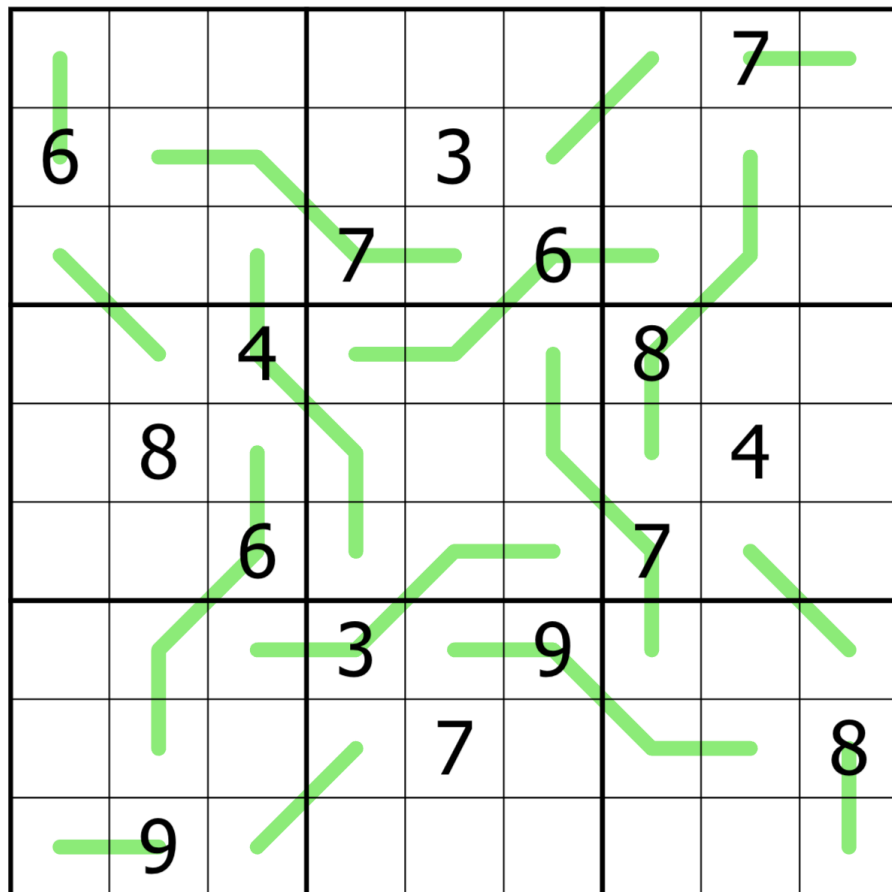
**June 6, 2024: German Whispers**  
by clover!

Walkthrough for Philip's "Orbiting Pairs": <https://youtu.be/E8kExefyFRY>

Now please keep your voices down in this channel, because we're **German Whispersing** today.



Normal sudoku rules apply. Along each green line, adjacent digits have a difference of 5 or more.



SudokuPad: <https://sudokupad.app/4o46cz4oh1>

## June 7, 2024: Cascade

by Bill Murphy

Walkthrough for German Whispers: [https://youtu.be/2wdmKhHDZ\\_k](https://youtu.be/2wdmKhHDZ_k)

How's your day going? Normal? Good. Let's see what I can do about that.

I guess today's **GAS** is a **Gattai**, but really, I got stuck in a Staff Conference with a pen and paper and set most of this by hand. You're welcome.

**Put the digits 1-N in each row, column and outlined region in each grid, where N is the number of cells in the row, column or grid. Cells shared by grids are in both grids.**

So, some notes:

Yes, it's a 4x4, then a 5x5, 6x6, etc. etc.

The 7x7 is irregular.

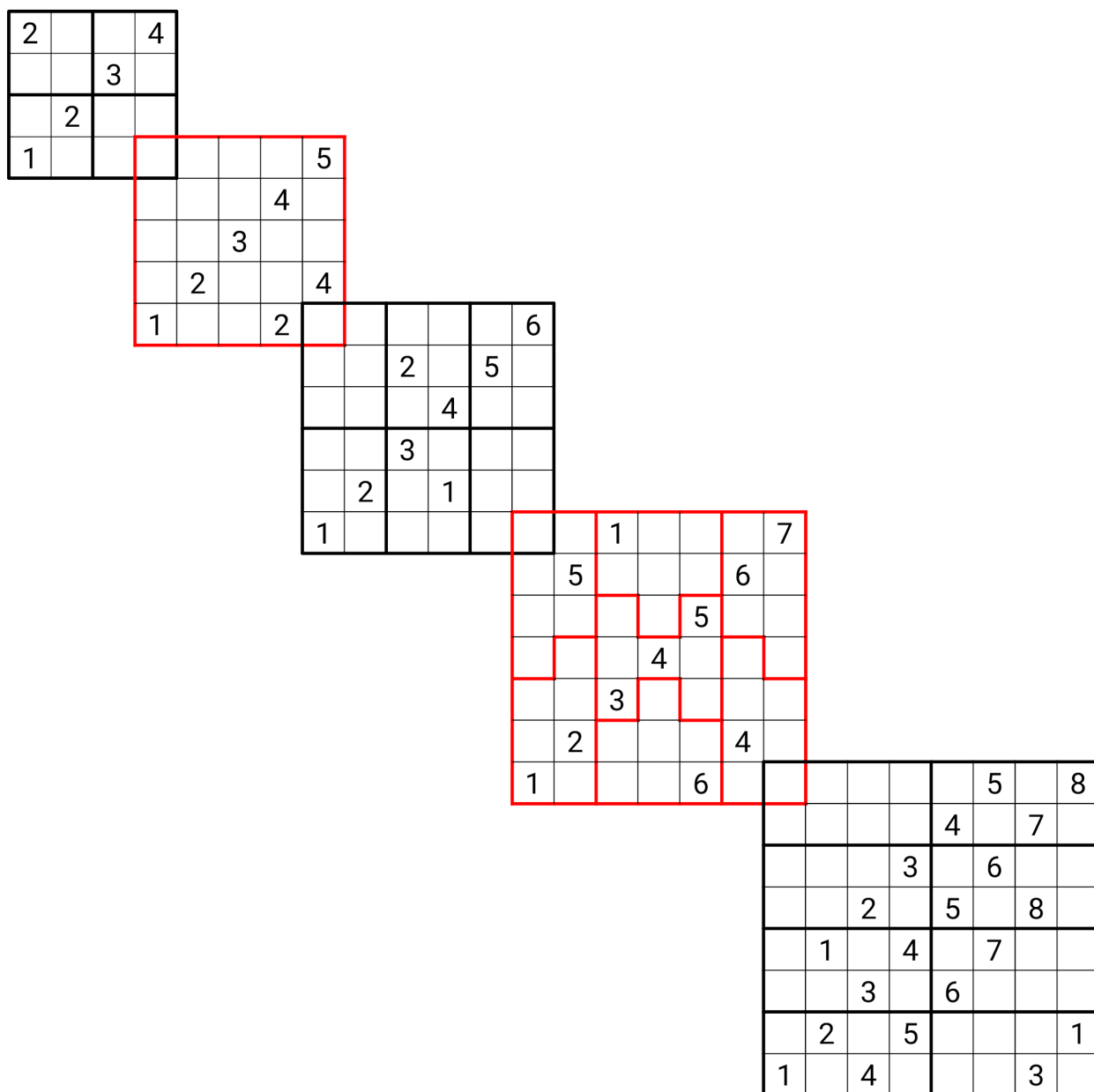
There are no regions in the 5x5.

If you're going to solve this on Sudokupad, first, this looks real bad on mobile. second, be careful with your pencilmarking, as you can end up accidentally put one in a cell with a digit.

I absolutely have no idea what to put as hat times. How on earth do you hat time something like this?

anyway [there are times in the usual place in this document – the typesetter]

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



Penpa Solving: <https://tinyurl.com/27athhgo>  
 Sudokupad: <https://sudokupad.app/1qk6k8htjd>

[Note from typesetter: sorry this is so small, but our workflow doesn't allow a single larger page.  
 If you need it larger you'll have to print this page separately and scale it – or use the links]

## June 8, 2024: Stay Classish

by Philip Newman

Walkthrough of "Cascade" by Bill:

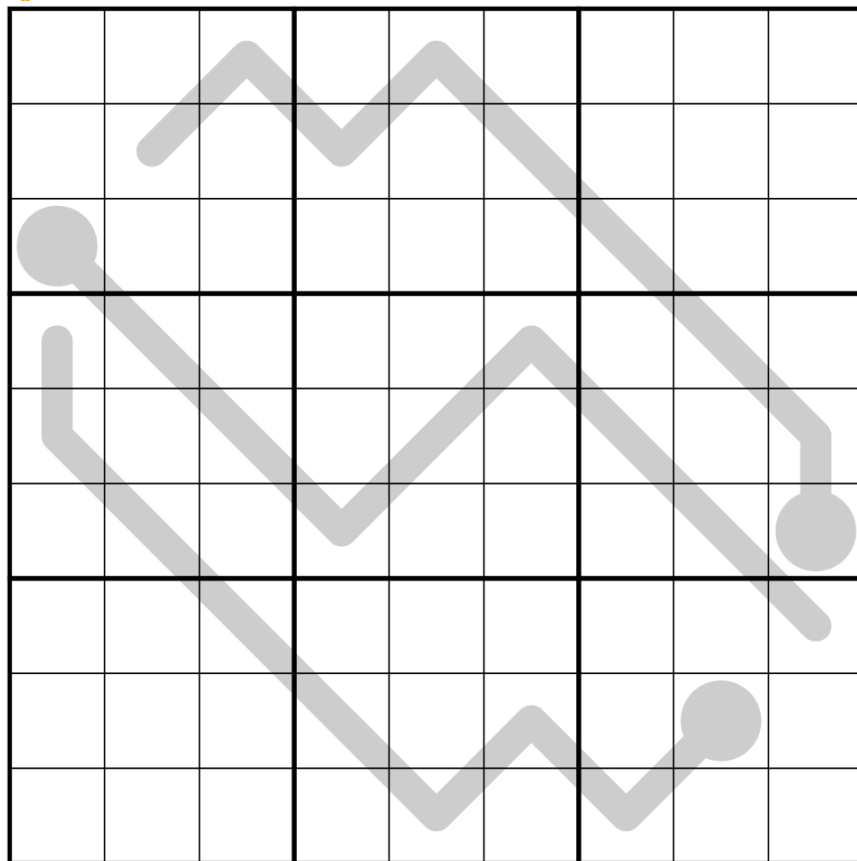
<https://youtu.be/XX6dfvFUnD0>

I can't believe it's already been three months since the bonus nerd snipe video (<https://youtu.be/pKFaqS5qbrk>). I've been meaning to do some more of these (and more frequently than once a quarter) but of course I keep hurting myself. I do have a whole list of topics lined up though, and if there's anything in particular you are interested in me covering let me know! Will do my best to get the next episode up this month.

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

Normal sudoku rules apply. And that's it!\*

\* After you fill the thermos. (Thermo: Digits along thermometers must strictly increase from bulb to tip.)



Play on f-puzzles: <https://f-puzzles.com/?id=252gtwhj>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240608-stay-classish>

## June 9, 2024: First Seen O/E

by clover!

Walkthrough for Philip's 'Stay Classish': <https://youtu.be/QYizRG6bvdA>

Attached please find a communiqué from the GAS complaint department. If today's puzzle sucks? HIT DA BRICKS (maybe go check out our June Patreon drops instead!)

Today's GAS is a **First Seen Odd/Even Sudoku**. First you see it, then you don't, you odd ducks. Normal sudoku rules apply. Also, clues outside of the grid tell you the first odd (if the clue is odd) or first even (if the clue is even) digit in that row or column, counting from the direction where the clue appears.

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

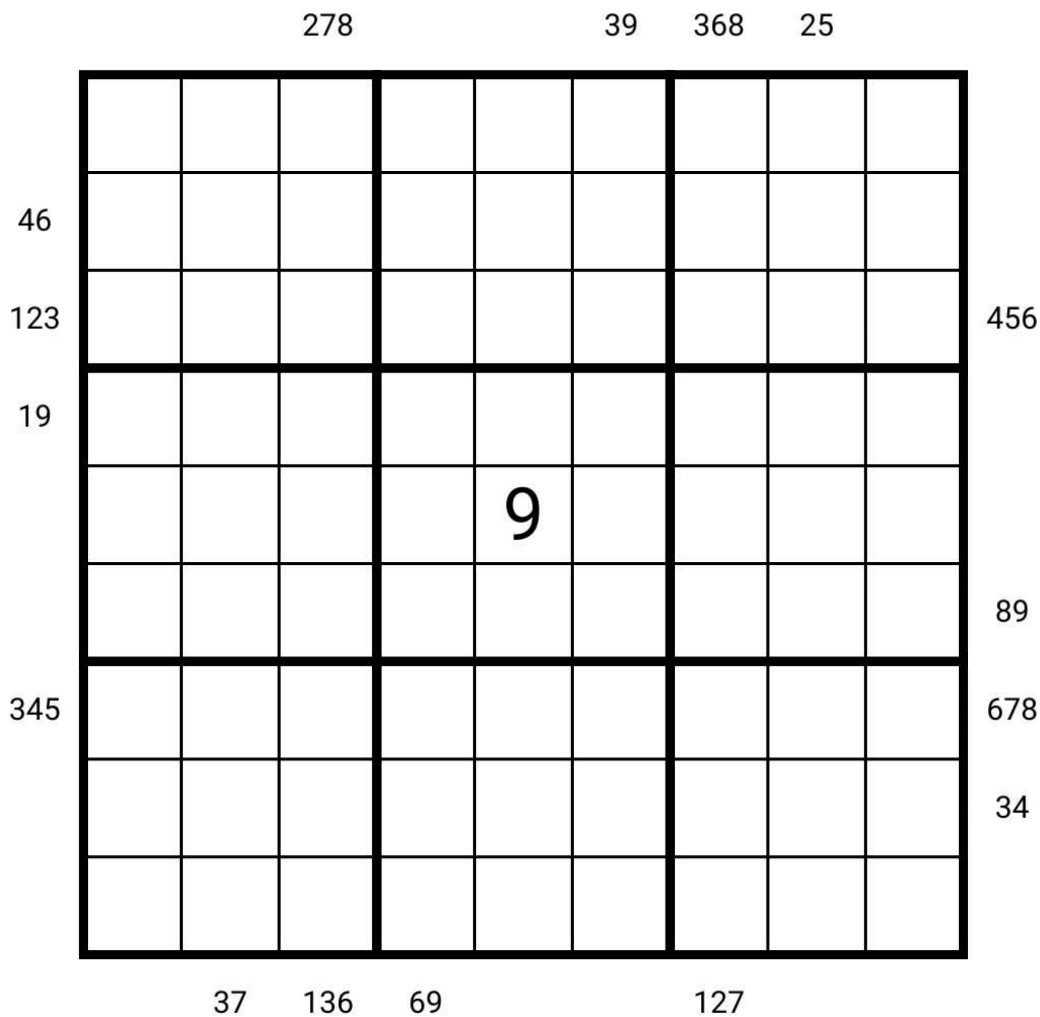
SudokuPad: <https://sudokupad.app/f822suumcf>



## by Bill Murphy

If you're looking to heed the call and stretch your solving muscles a little harder, Round 6 of the GP is up! You should go solve them! It's good fun!

*Normal Sudoku Rules Apply. Clues outside the grid give digits that must appear in the 2nd, 3rd or 4th cells seen from that direction.*



<https://sudokupad.app/k25llclsld>

## June 11, 2024: Classssssic

by Philip Newman

Walkthrough of "234 Outside" by Bill:

<https://youtu.be/4y5bZKdPwvg>

My last puzzle featured runs of 1-9 moving diagonally (with a couple of exceptions); this time we've got them moving orthogonally with a couple extra givens to make it unique! Maybe someday I'll find a "perfect" version of one of these ideas. 😊

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

Normal sudoku rules apply. And that's it!



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

Play on f-puzzles: <https://f-puzzles.com/?id=2d6ncnud>

Play on SudokuPad: <https://sudokuapp.philip-newman/20240611-classssssic>

## June 12, 2024: XV Pairs

by clover!

Walkthrough for Philip's "Classssssic": [https://youtu.be/uP9r\\_61ibxo](https://youtu.be/uP9r_61ibxo)

And for today's GAS, let's have a delicious **XV Pair(s)**, which is a bit like a Bartlett pear, or a Bosc pair.

Normal sudoku rules apply. Digits separated by an X sum to 10; digits separated by a V sum to 5. Not all possible Xs and Vs are necessarily given.

X			6				V	
		X	5					
		V	4					X
						9	4	8
6	1	3						
V					3	V		
					9			
	X				7	X		X

SudokuPad: <https://sudokupad.app/p5k95z9x3i>



## June 13, 2024: Medusa

by Bill Murphy

G'day Gang,

I've got 6 minutes left for this linguine to cook, which is more than enough time for me to test your skills and see how much you learnt from Clover's series of **Killer Sudoku** a while back.

***Italians do not ask about the sauce please***

It's a little harder, a little trickier, a little fiddlier than the ones Clover was doing, but there's nothing you haven't seen before. You got this. I believe in you.

*Normal Sudoku Rules Apply. Digits in cages must sum to the given total.*

	4		16	11	6		6	
	6				7			
		10				17		
	9					11		
	3		13		10		14	
	14			9	4			
		14				16		

<https://sudokupad.app/6fg9ml515r>

[note from typesetter: Bill's Walkthrough of „XV Pairs“ by Clover can be seen on the GAS Youtube Channel <https://www.youtube.com/watch?v=wjNRN00rJSQ>]

## June 14, 2024: Thermodynamic Square

by Philip Newman

Walkthrough of "Medusa" by Bill:

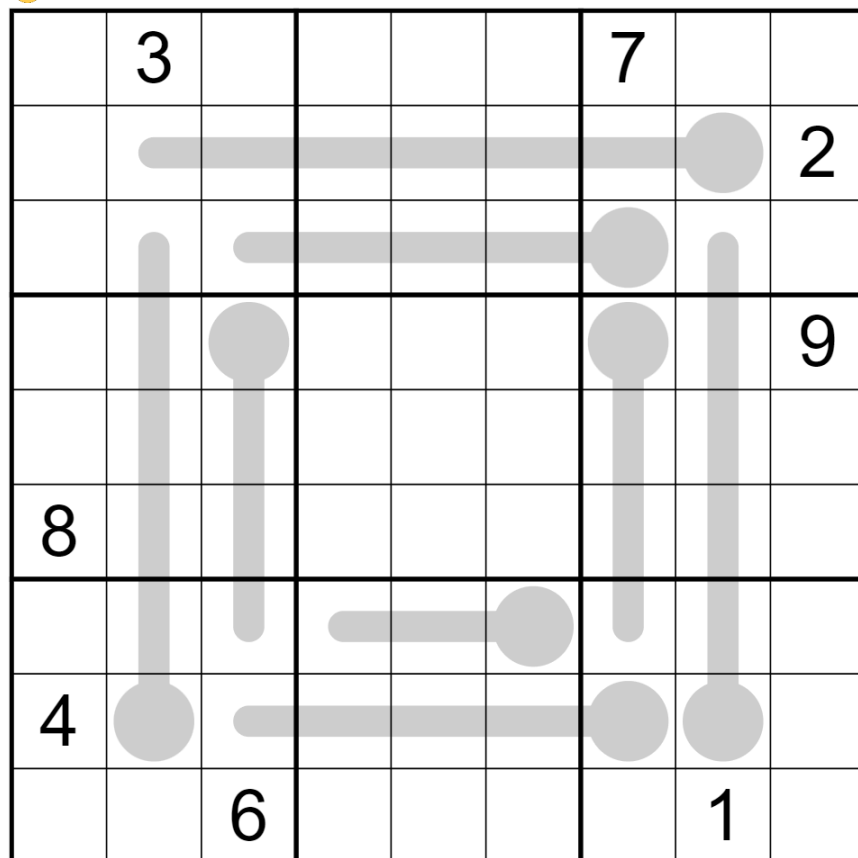
<https://youtu.be/u89bobxdqLo>

It's a happy accident that Bill posted his killer yesterday, since I also had a puzzle ready with the variant clues confined to the central 7x7.

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

Normal sudoku rules apply.

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



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

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240614-thermodynamic-square>

## June 15, 2024: Renban Sudoku

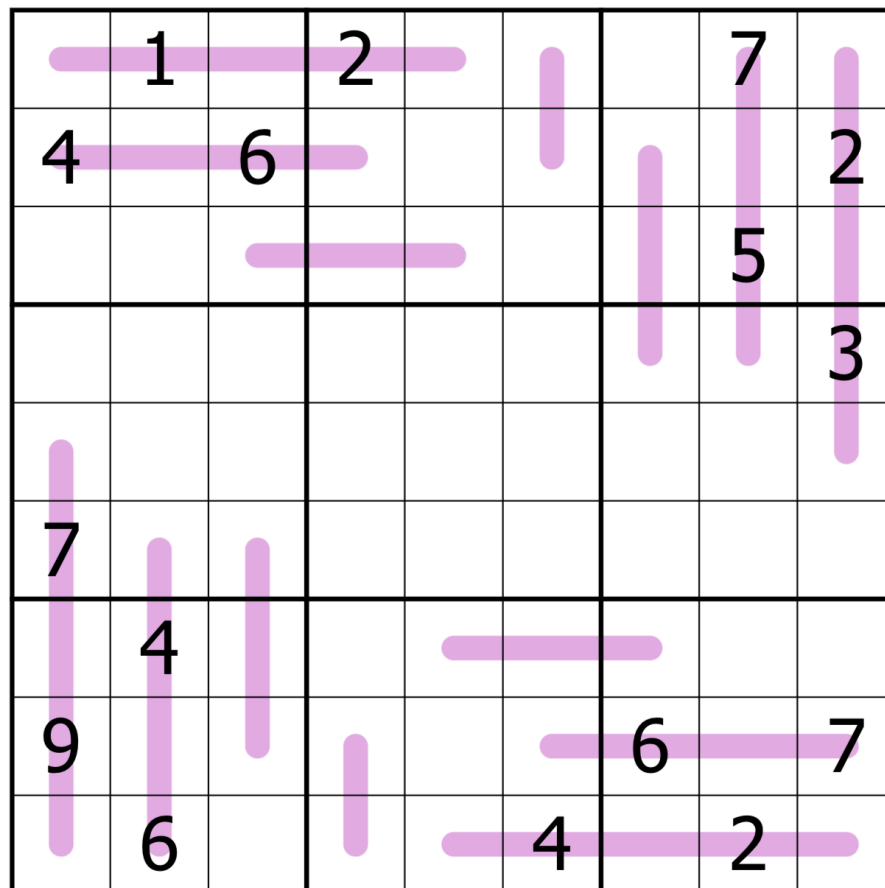
by clover!

Good morning, friends! Solution video for Philip's "Thermodynamic Square":

<https://youtu.be/2Fm7fPFDrlg>

Today's GAS is a **renban sudoku**, not to be confused with a renban, which is like renban sudoku but without the sudoku-y bits.

Normal sudoku rules apply. Each pink line contains a set of consecutive digits in any order, such as 24536.



SudokuPad: <https://sudokupad.app/pfh8ojout7>

## June 16, 2024: Lobster Telephone

by Bill Murphy

Good evening, today's GAS is an **Odd/Even Sudoku**. I have attached today's intro as an image, it's fairly odd and quite long.

[note from typesetter: this is the image:

Shaun is a tourist visiting a small town in the Arabian desert. He stops into a shop one day and when he's finished, he finds that his camel is missing its legs. Shocked, he approaches a bystander and asks if he saw who took his camel's legs. The bystander squints at him, looks at the camel, and says to Shaun "ah, that would have been the Camel Leg Thief, you can find him that way".

Shaun sets off in the direction the bystander pointed him in, he walks along desert roads, after an hour he comes across a traveller going in the opposite direction. He tells the traveller his story and asks how much further until he reaches the Camel Leg Thief. The traveller replies "a long way along the desert, you will need a car". Shaun walked back to the town, found a car rental branch, hired a car and set off again along the road.

He travels down the road until he reaches a huge lake. A sailor stands by his small rowing boat nearby. Shaun says "I am looking for the Camel Leg Thief". The sailor replies "the Camel Leg Thief lives across the water, but you can rent a boat back in the town". Running out of patience, Shaun drives back to the town, rents a boat, attaches it to the back of his car and goes back to the water. He gets in the boat and begins rowing across.

He rows for over an hour until he reaches the other side. On the other side is a mountain range. "I am looking for the Camel Leg Thief", Shaun tells a local. The local replies "the Camel Leg Thief lives over the mountains, you can rent hiking gear back in the town". Shaun is exasperated. "damn it!", he exclaims. He gets back in the boat, rows across the water, gets in his car, and drives back to town. He finds a shop and rents hiking gear. He sets back off in the car, to the water, rows back to the mountain range and prepares his climb.

He begins hiking over the mountains, losing track of time as he crosses, and gets to the other side. There he is faced by desert plains, he asks a nomad, "are you the Camel Leg Thief?". The nomad tells him "no, the Camel Leg Thief lives across these plains, but it will be dark soon and you can't cross the plains without warm clothing. There's a clothes shop in the town". Shaun can't believe it. He hikes back across the mountains, rows across the water, drives back to the town, and finds the clothes shop. There, he buys warm clothing for night time.

He drives back to the water, rows across, hikes over the mountains, and gets to the plains. It is getting dark, so he pulls on the clothing and begins to walk the plains. He walks all night. As the sun rises, he sees a huge palace ahead of him. He enters through the large doors. Inside is a huge room, the grandest room you'll ever see. On a throne, sits a man. "I am the Camel Leg Thief", proclaims the man, "what have you come for?".

















Shaun asks the Camel Leg Thief, "did you steal my camel's legs?"

The Camel Leg Thief replied, "No."

]

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

Normal Sudoku Rules Apply. Cells containing grey circles must be odd. Cells containing grey squares must be even.

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

<https://sudokupad.app/c65b8t4u0z>

[note from typesetter: Bill's Walkthrough of „Renban Sudoku“ by Clover can be seen on the GAS Youtube Channel [https://www.youtube.com/watch?v=cgAJ3\\_JQ8Hs](https://www.youtube.com/watch?v=cgAJ3_JQ8Hs)]

## June 17, 2024: Arrow of Outovertime

by Philip Newman

Walkthrough of "Lobster Telephone" by Bill:

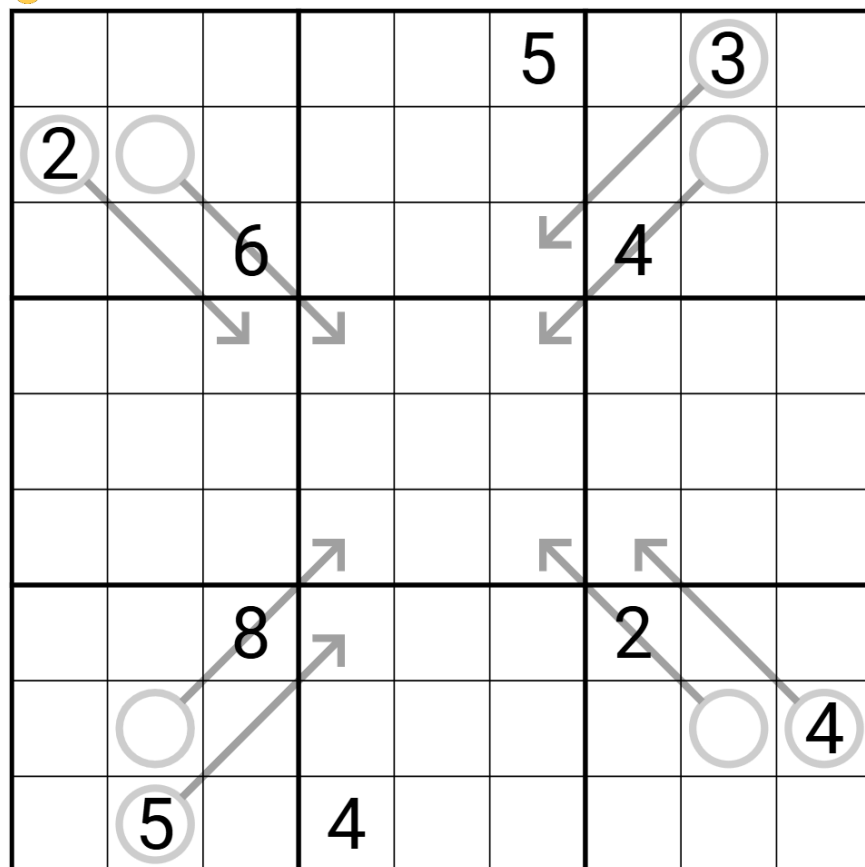
<https://youtu.be/lhUi1hRG Ao8>

Running out of time today! Insert your own intro here!

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

Normal sudoku rules apply.

**Arrow:** Digits along arrows must sum to the circled total. (Digits may repeat if allowed by other rules!)



Play on f-puzzles: <https://f-puzzles.com/?id=2dxmlc8c>

Play on SudokuPad: <https://sudokuapp.philip-newman/20240617-arrow-of-outovertime>

## June 18, 2024: Between Lines

by clover!

Walkthrough for Philip's "Arrow of Outovertime":

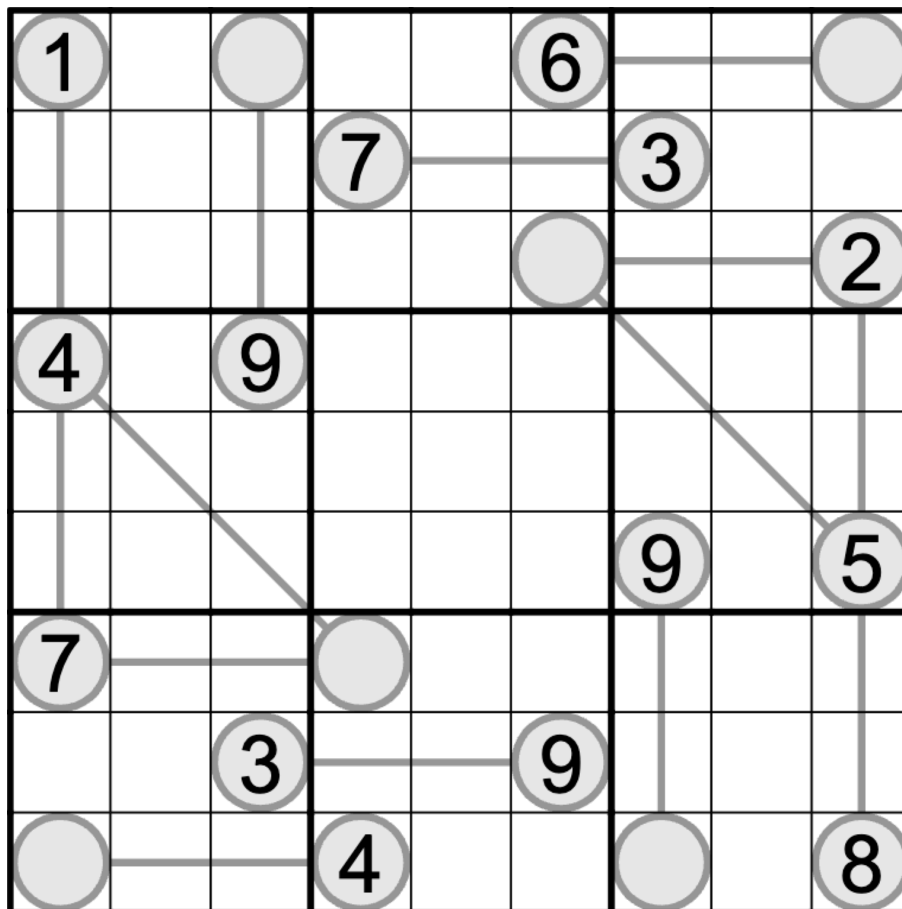
<https://youtu.be/0uGDCZBIkAI>

Look to your left: oh no, it's a lion! 🦁

Now look to your right: another lion! Eek! 🦁

That's right, you've found yourself **between lions**. 🦁 🤔 🦁

In today's **between lines** GAS, normal sudoku rules apply. Also, digits on lines must have values in between the values in the two attached circles. For instance, if two circles contain 2 and 7, digits on their line might include any combination of 3, 4, 5, and/or 6.



SudokuPad: <https://sudokupad.app/o3goq77kzi>

## June 19, 2024: Romanticist

by Bill Murphy

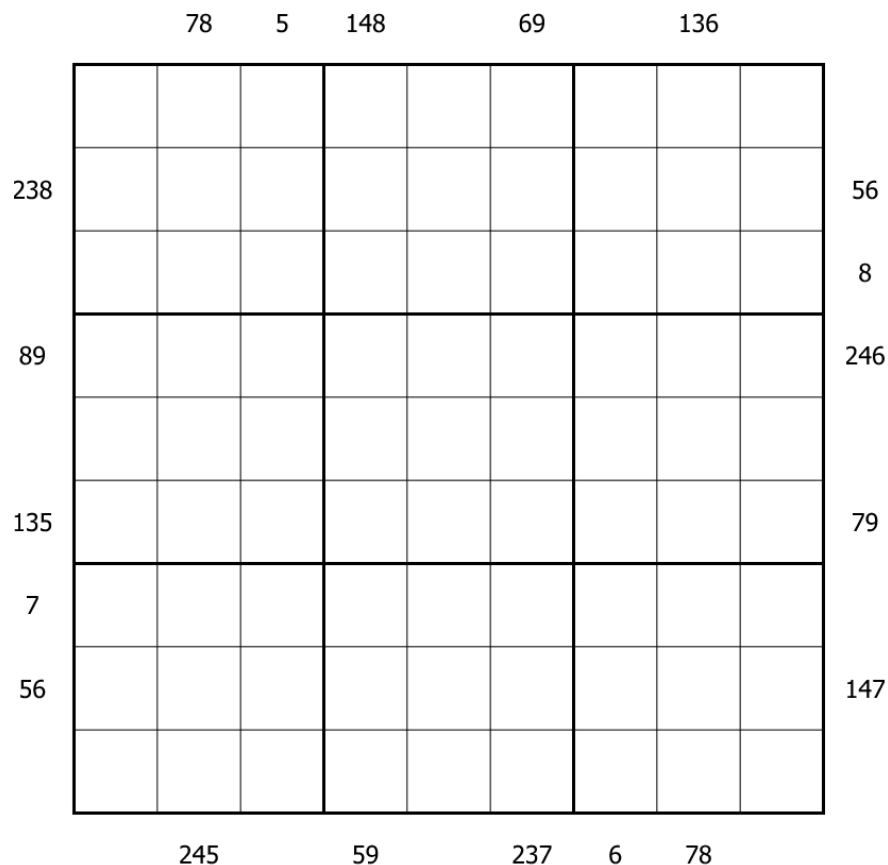
Walkthrough for Between Lines: <https://youtu.be/QPt8vR8V-V0>

Something weird happened. It's not that "haters gonna hate" and it's definitely not "haters gonna make some cogent points", but a couple of friends pointed out the ending of the *234 Outside* Sudoku from last week could've been a bit tighter and I was like, "*You know what, I agree.*" One of the things I stand by as a teacher is you can be in front of however many people and you are still allowed to grow as a person(/setter).

So let's do this again. Today's GAS is a **234 Outside Sudoku**!

*Normal Sudoku Rules Apply. Clues outside the grid give digits that must appear in the 2nd, 3rd or 4th cells as seen from the direction of the clue, in any order.*

The previous one was here if you missed it: [#daily-sudoku-puzzles](https://sudokupad.app/it0lgedfrd) [June 10 – the typesetter]



<https://sudokupad.app/it0lgedfrd>



## June 20, 2024: A Downward Spiral

by Philip Newman

Walkthrough of "Romanticist" by Bill:

<https://youtu.be/9UvI3I5p1SE>

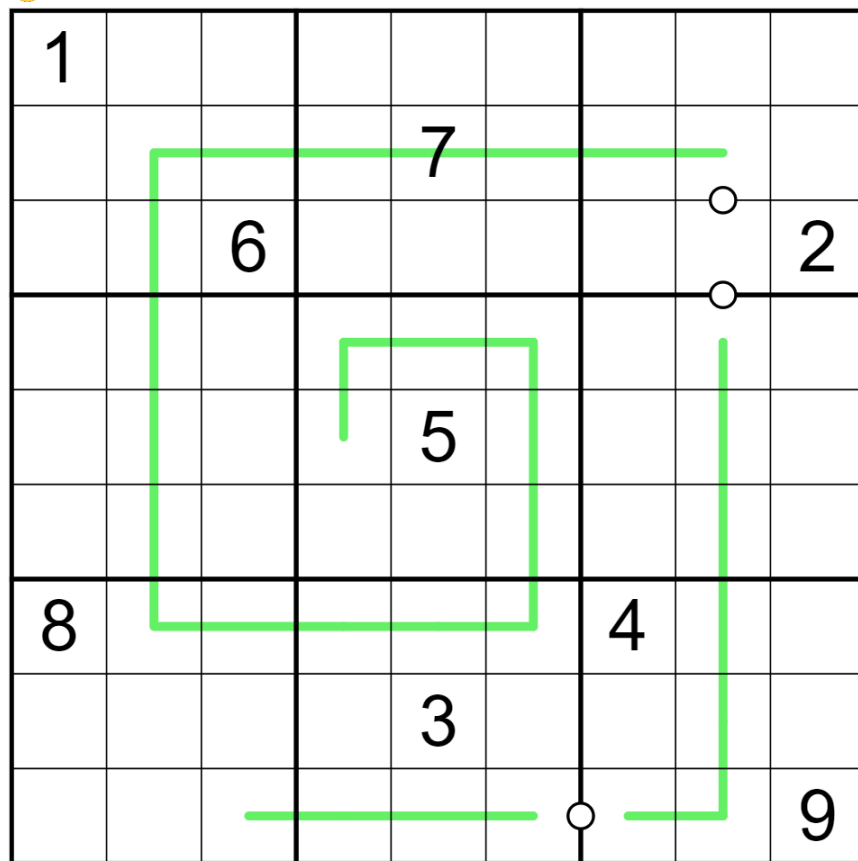
Even more out of time today! Insert your own intro here!

Today's **GAS** is an **German Whispers Consecutive Pairs Sudoku**!

Normal sudoku rules apply.

**German Whispers:** Digits in cells directly connected by a line must differ by at least 5.

**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=26mtqw7u>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240620-a-downward-spiral>

## June 21, 2024: Palindrome

by clover!

Walkthrough for Philip's "Downward Spiral": <https://www.youtube.com/watch?v=TWk9v2ImfOs>

It's **palindrome sudoku** day again today, which means I'd like to share yet another of my favorite palindromes:

10000000000000666000000000000001

That's Belphegor's prime, a very spicy, and very palindromic, prime number!

In today's GAS, normal sudoku rules apply. The digits along each gray line form a palindrome (read the same forwards and backwards).

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

SudokuPad: <https://sudokupad.app/yi6tu01153>

## June 22, 2024: Rossini Sudoku

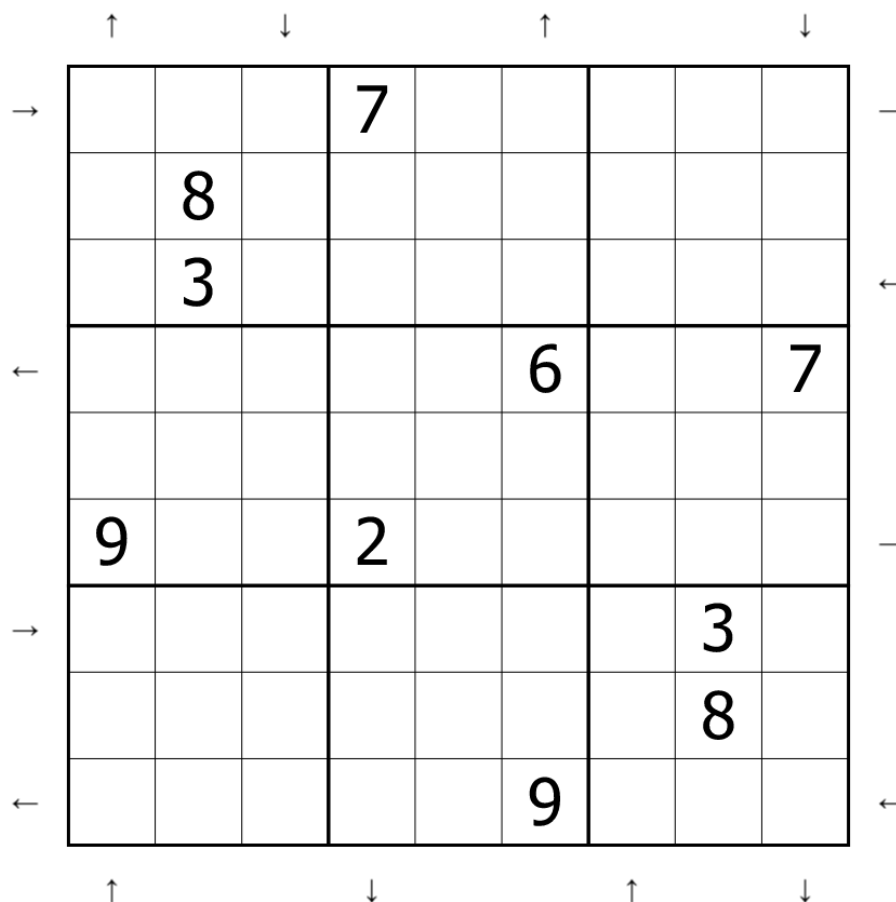
by Bill Murphy

It's Craft Week here at Murphy HQ (this is different to GAS HQ, this is where I live)!

I learnt how to use the Laser Cutter and the Heat Presses for sublimation at work this week, so in between teaching students, I've been making cute lil fridge magnets and fidget spinner drink coasters out of ply for my gf ahead of our one year anniversary next friday!

I'll save a cute story for then, but the dinosaur for today's **Rossini Sudoku** i freshly made this afternoon (it came from a kit, I assembled it so please don't expect a lot)

*Normal Sudoku Rules Apply. Arrows outside the grid indicate that the first three cells seen from that arrow must increase in the direction shown. Not all arrows are given.*



<https://sudokupad.app/ui8qbgjozi>

[note from typesetter: Bill's Walkthrough of „Palindrome“ by Clover can be seen on the GAS Youtube Channel  
<https://www.youtube.com/watch?v=zGy1MLSvH3g>]



## June 23, 2024: Rebel Diamonds

by Philip Newman

Walkthrough of "Rossini Sudoku" by Bill:

<https://youtu.be/FNvLOWiA1Ag>

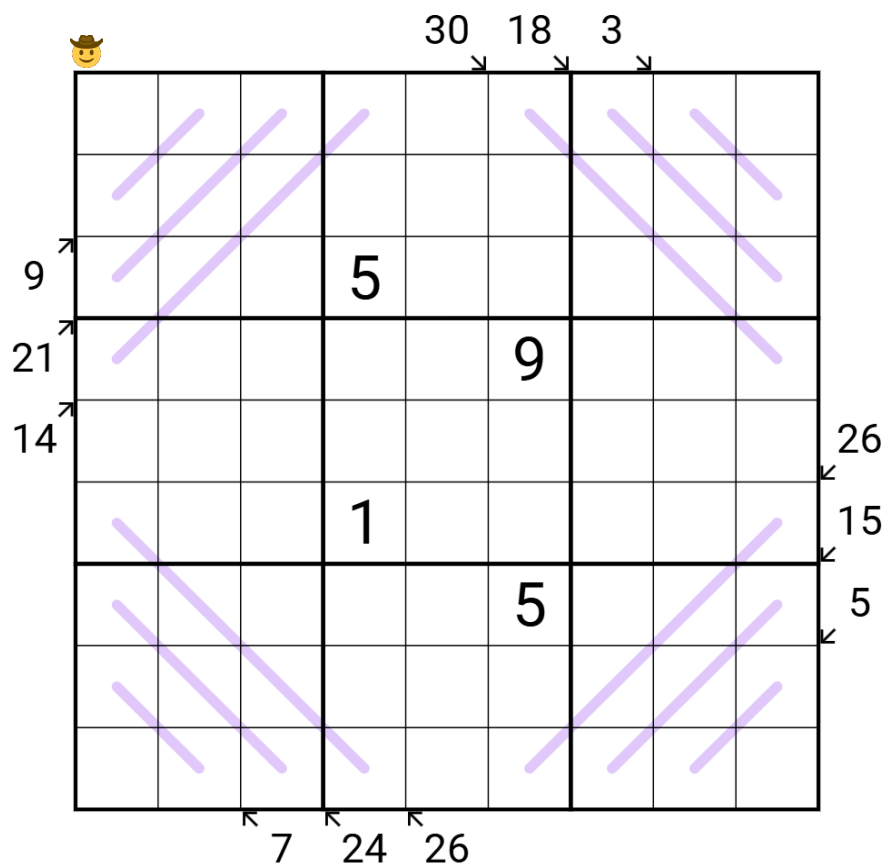
I was thinking as I looked for some lego bricks missing from one of Luke's Star Wars sets that the situation was a lot like how one sock from a pair will completely vanish. And now I'm wondering: we have the Lego Movie, we have Toy Story, what if there were a movie about the adventures of those missing socks? (A quick google search found a Czech "animated musical fantasy adventure film" about little creatures eating socks, but that's *totally* different. Where's my sock protagonist?)

Today's **GAS** is a **Little Killer Renban Sudoku**!

Normal sudoku rules apply.

**Little Killer:** Digits along the indicated diagonals must sum to the total given (digits may repeat if allowed by other rules).

**Renban:** Digits along purple lines must form a non-repeating consecutive set, in any order. (For example, a 4-cell renban line could be 4352, but not 5679 or 2312.)



Play on f-puzzles: <https://f-puzzles.com/?id=2y5jrzzw>

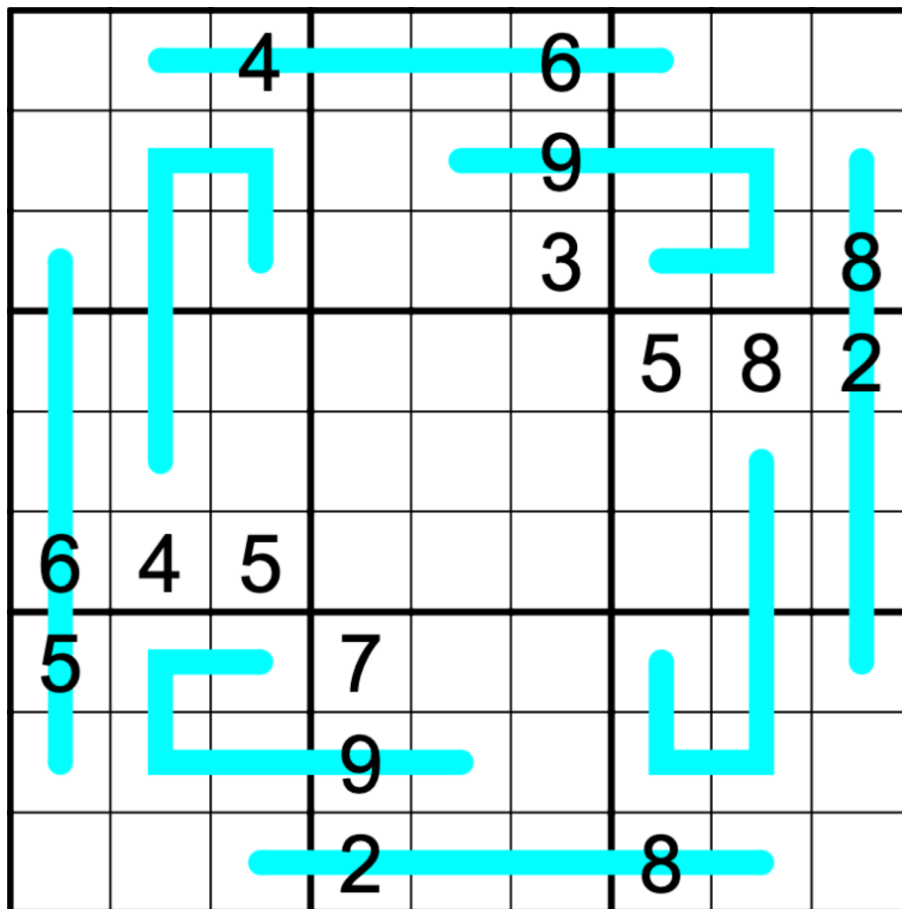
Play on SudokuPad: <https://sudokuapp.philip-newman/20240623-rebel-diamonds>

**June 24, 2024: RSL**  
by clover!

Walkthrough for Philip's "Rebel Diamonds": <https://youtu.be/HoYDQm13NIIs>

In case you were wondering why **region sum lines** are conventionally blue: it's because they taste like blueberries. 🍇 And if you doubt me, have you ever eaten one? Huh?

Normal sudoku rules apply. There are several blue lines in the grid, each of which passes through multiple regions. For each blue line, the sum of the digits on that line is the same within each region. For instance,  $r3c1 = r4c1 + r5c1 + r6c1 = r7c1 + r8c1$ .



SudokuPad: <https://sudokupad.app/pwcucfb9o6>

**June 25, 2024: XVellent Italian Greyhound**  
by Bill Murphy

Walkthrough for RSL: <https://youtu.be/1iVwYHgiQko>

Today's GAS intro brought to you by the pile of dishes I'm about to go tackle:

CUP CHECK! Do you have cups or bowls just sitting around that you can take out? Go do it! I'll add a minute onto the two hat time for you today!

Today's GAS is an **XV sudoku**!

*Normal Sudoku Rules Apply.*

*Digits separated by an X sum to 10.*

*Digits separated by a V sum to 5.*

*Not all Xs and Vs are given.*

							8	
9			3		x	x		
	x		x			v		
	x	v						
				x			2	
					x			
	1		x					x
					x		v	
								x
			v		x	4		7
		x	x					
6								

<https://sudokupad.app/6njo9rvwr1>

## June 26, 2024: Not Slow Thermo

by Philip Newman

Walkthrough of "XVellent Italian Greyhound" by Bill:

<https://youtu.be/PGmHrhs-lsc>

You know what they say: The best part of waking up is going back to sleep.

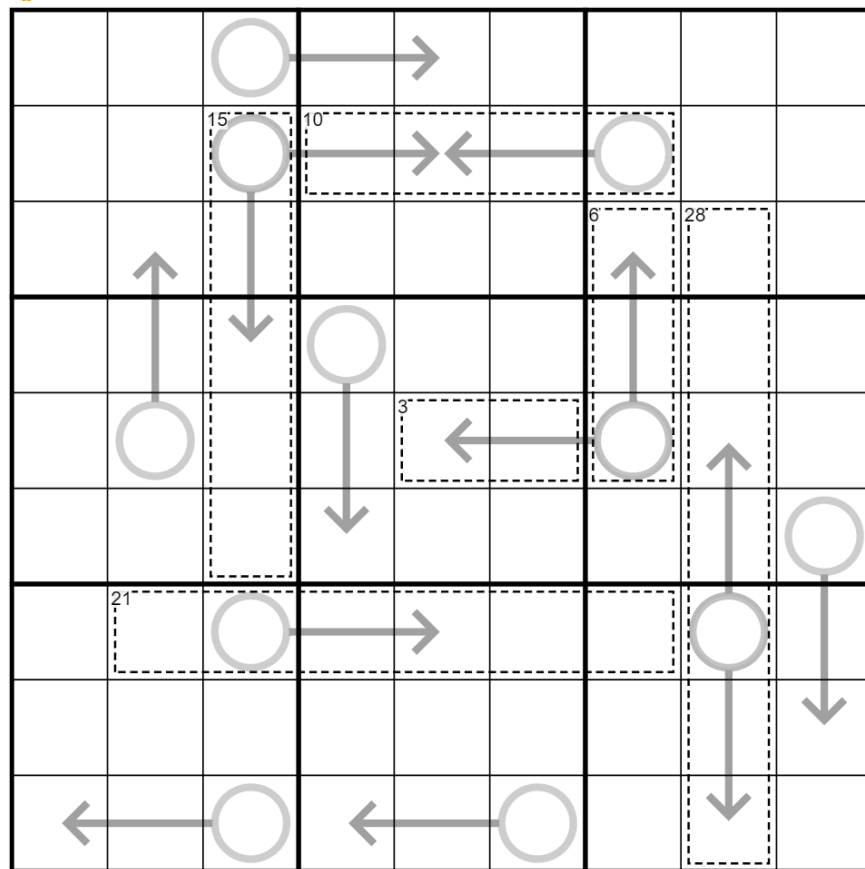
Today's **GAS** is a **Slow Thermo Killer Arrow Sudoku**!

Normal sudoku rules apply.

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

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

Teensy GAS 101 Hint: [see on the Hints page near the end of this document]



Play on f-puzzles: <https://f-puzzles.com/?id=2hgvvum5>

Play on SudokuPad: <https://sudokuPAD.app/philip-newman/20240626-not-slow-thermo>

## June 27, 2024: X Pairs Thermo

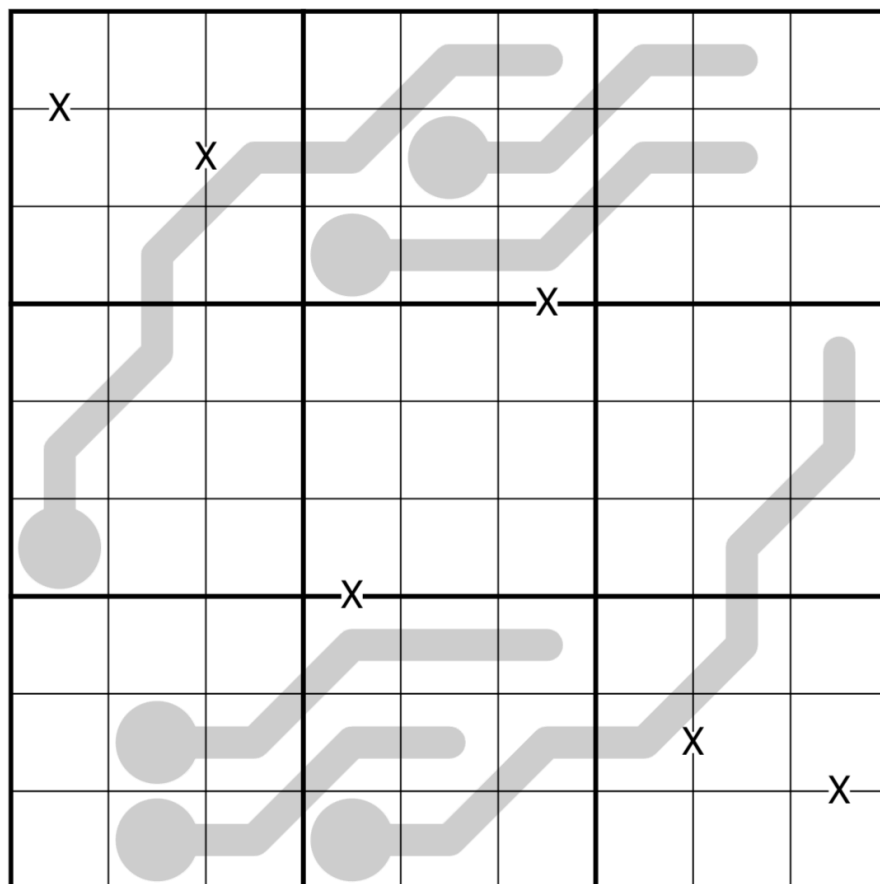
by clover!

Walkthrough for Philip's "Not Slow Thermo": <https://youtu.be/2krUsfbMQt0>

Good morning! Philip recently noted that despite having set just about every sudoku variant known to humanity over the last three years, there are still *pairs* of variants we haven't tried.

*This* isn't one of those pairs, of course, we've already done this one. 😊

In today's **X Pairs Thermo** GAS, normal sudoku rules apply. Digits along thermometers must increase, starting from the round bulb. Digits separated by an X sum to 10. Not all possible Xs are necessarily given.



SudokuPad: <https://sudokupad.app/5bhy63x2ri>



## June 28, 2024: Feel Worse / Lite Spots [two puzzles]

by Bill Murphy

Walkthrough for X Pairs when I do a thumbnail for it tomorrow, but I'm out tonight

[Note from typesetter: <https://www.youtube.com/watch?v=kfzg0MTT53Y>]

Tonight's the one year anniversary of me and my partner! On like our fifth date, I tried to explain what GAS was and that there was a large number of people waiting for me to post a puzzle. I explained the hat times and the dinosaur thing and that I didn't really care for it, but I inherited it so I keep it going. She heard that as *I'm really into dinosaurs*, so for the last 10.5ish months, she sends me every little dinosaur thing she sees and this is all your fault nerds

Anyway she takes all the photos of me for GAS thumbnails these days so she's absolutely supportive of this (we're waiting for the planetarium) and as someone who's seen the full cycle of love and loss way too close and way too young, to have someone who makes me feel loved for who I am is truly special

Anyway, Clover and Philip have set a ton of one variant in particular this week, y'all can take **Two Classic Sudoku** for GAS today and thank me later!

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

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

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

Feel Worse: <https://sudokupad.app/rhz791rfv3>

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

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

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

Lite Spots: <https://sudokupad.app/htl8mejjiH>

## June 29, 2024: Mostly Clover

by Philip Newman

Walkthrough of "Feel Worse" and "Lite Spots" by Bill:

<https://youtu.be/2zkBALFye44>

To be clear, when Bill says "Clover and Philip have set a ton of one variant in particular this week" what he actually means is "Clover has set a ton of one variant in particular this week, and Philip snuck one in".

I would never set the same variant over and over in a short period of time, I am shocked by this accusation. 🤔

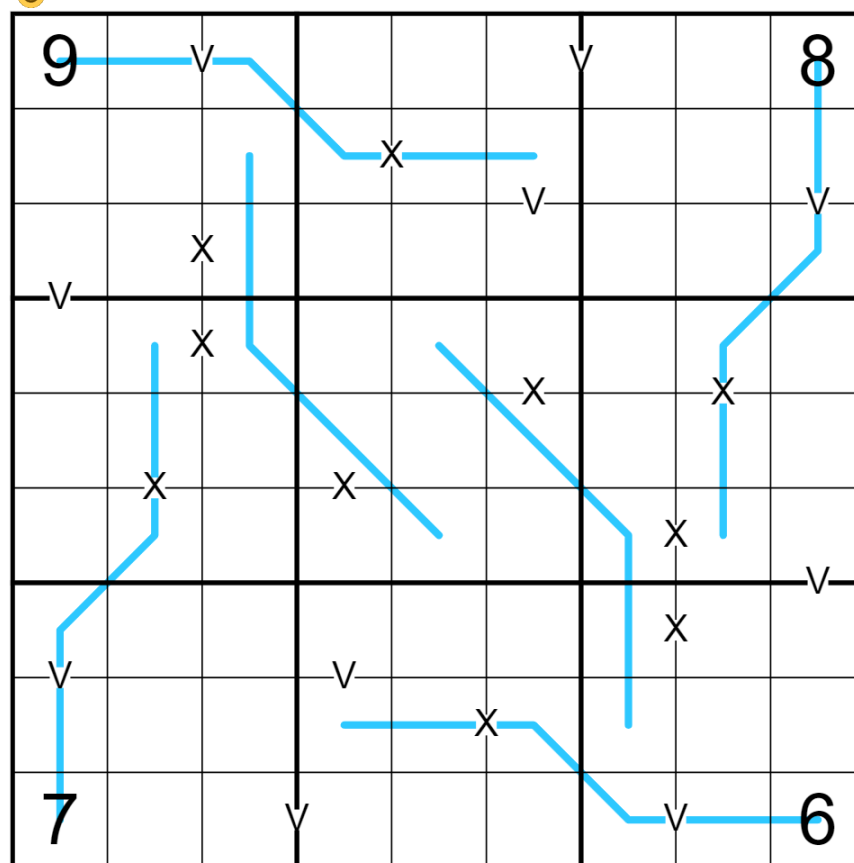
Today's **GAS** is an **XV Pairs Region Sum Lines Sudoku**!

Normal sudoku rules apply.

**XV Pairs:** Digits in cells separated by a 'V' must sum to 5; digits in cells separated by an 'X' must sum to 10. (No negative constraint - other pairs of adjacent digits may sum to 5 or 10.)

**Region Sum Lines:** Along each line, the digits in every region it passes through have the same sum. For example,  $r2c3 + r3c3 = r4c3 = r5c4 + r6c5$

**GAS 101** ~~Hint~~ Gentle Nudge: [see Hints page at the end of this document]



Play on f-puzzles: <https://f-puzzles.com/?id=2orjwh4t>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20240629-mostly-clover>

## June 30, 2024: X Pairs Renban

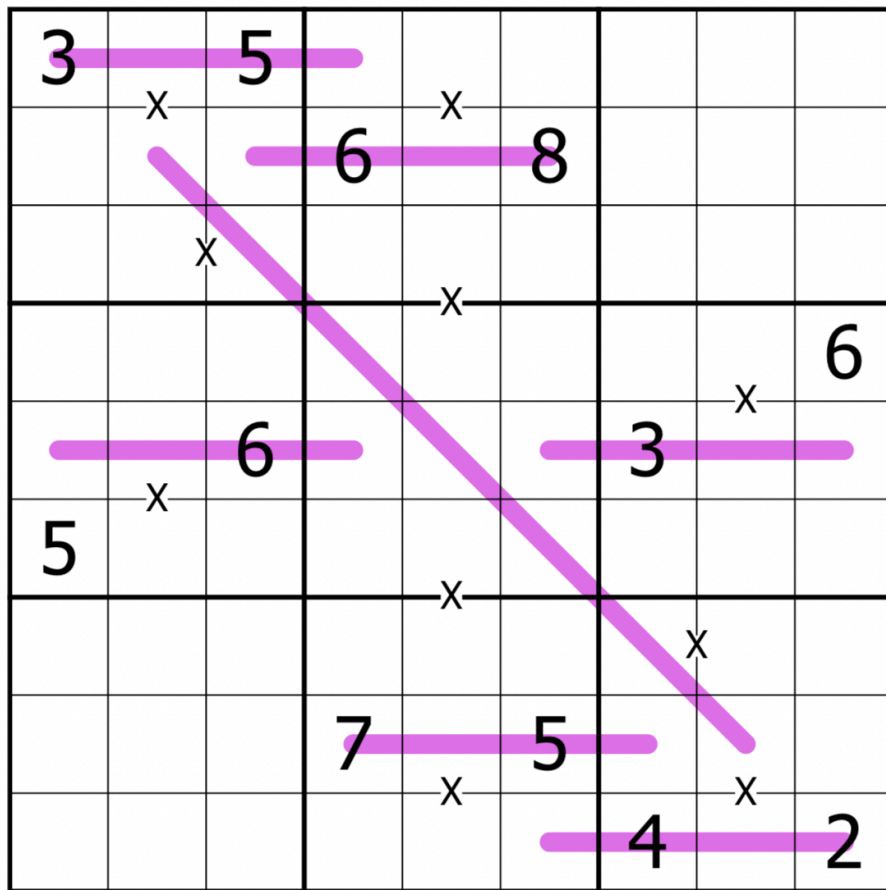
by clover!

Walkthrough for Philip's "Mostly Clover":

[https://youtu.be/j\\_3GAq8\\_jdU](https://youtu.be/j_3GAq8_jdU)

GAS, from Entirely Clover:

Today's GAS is an **X pairs renban sudoku**! Normal sudoku rules apply. Digits separated by an X sum to 10; not all possible X clues are necessarily given. Each pink line contains a set of consecutive digits, which may appear in any order (such as 2435).

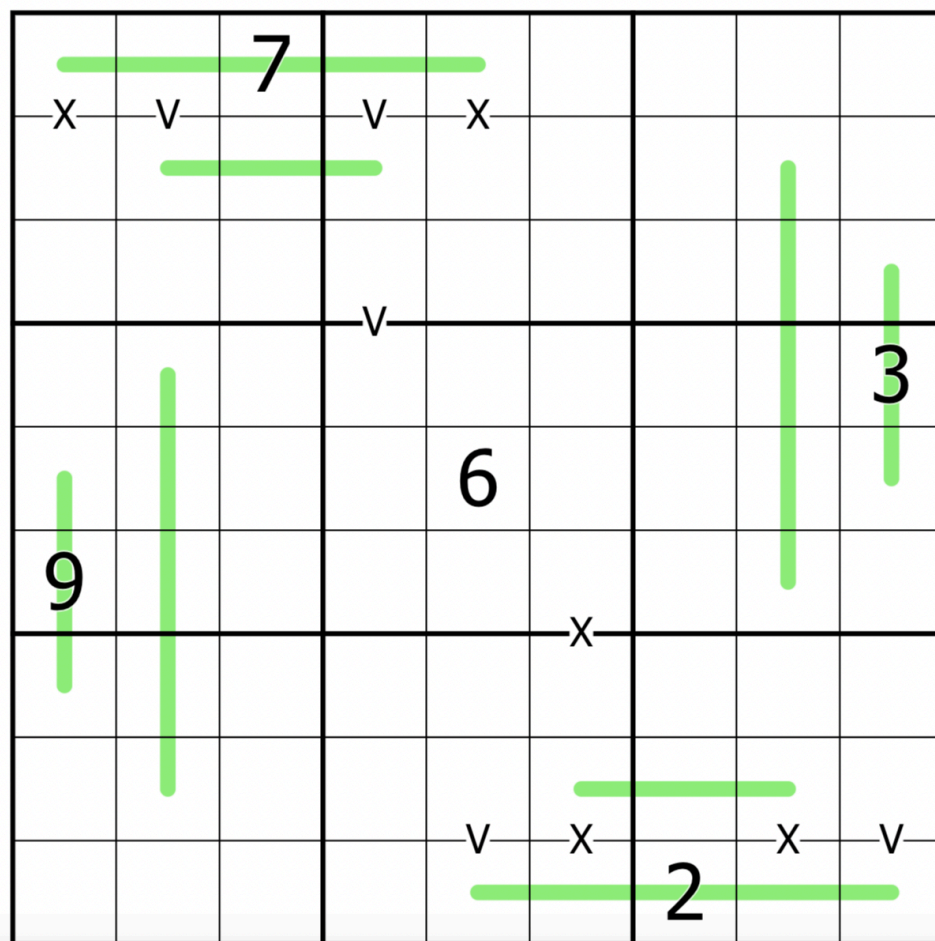


SudokuPad: <https://sudokupad.app/f4zrva06tx>

### Bonus 1: XV/German Whispers Sudoku

Clover

Normal sudoku rules apply. Along each green line, adjacent digits have a difference of 5 or more. Digits separated by an X sum to 10; digits separated by a V sum to 5. Not all possible Xs or Vs are necessarily given.

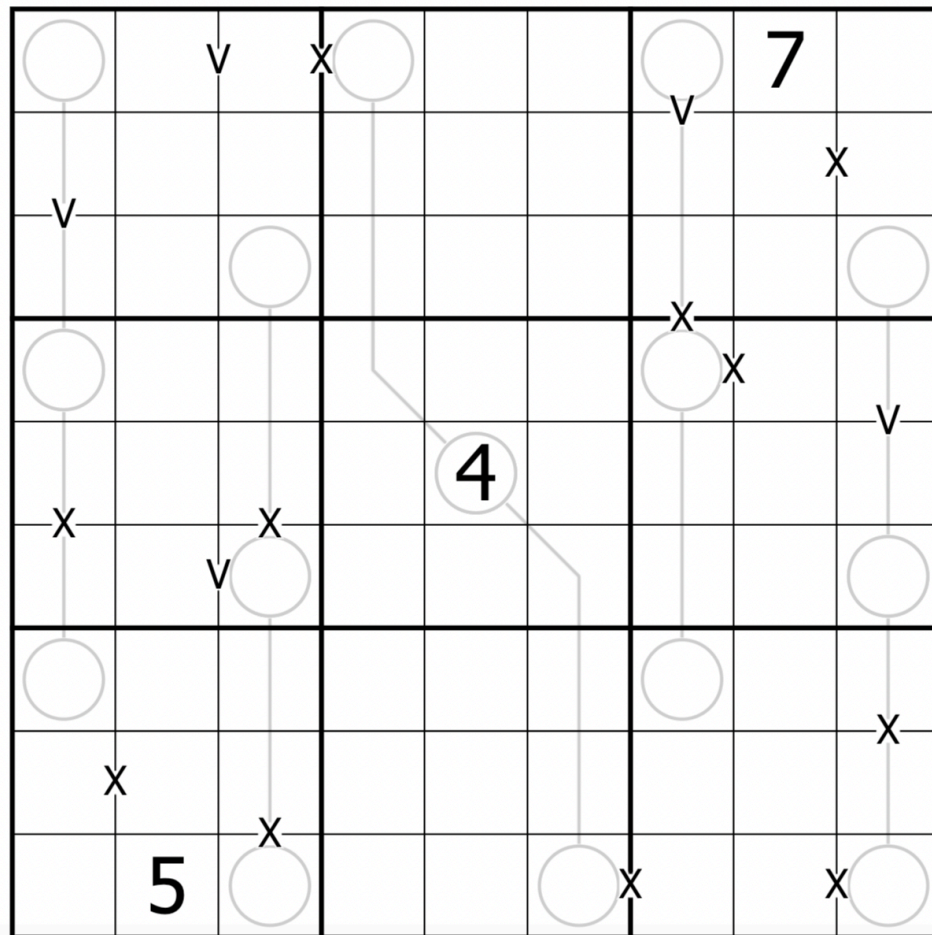


<https://sudokupad.app/mrp3weh7zi>

## Bonus 2: XV/Between Sudoku

Clover

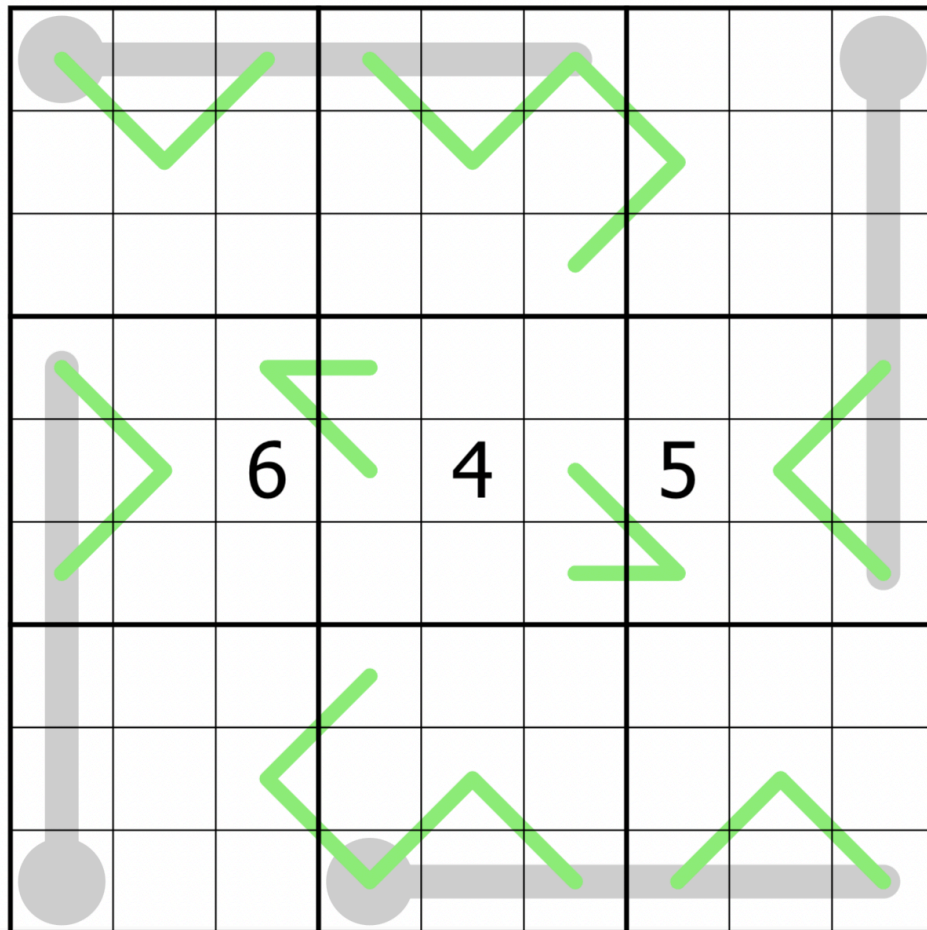
Normal sudoku rules apply. Digits along a line must have values in between the values in the attached circles. For instance, if two attached circles contain 4 and 8, digits on their line can include any combination of 5s, 6s, and/or 7s. Digits separated by a V sum to 5; digits separated by an X sum to 10. Not all possible Xs or Vs are necessarily given.



<https://sudokupad.app/xrcpy4ktwh>

### Bonus 3: Thermo/Whispers Sudoku

Normal sudoku rules apply. Digits along thermometers must increase, starting from the round bulb. Along each green line, adjacent digits must have a difference of 5 or more.



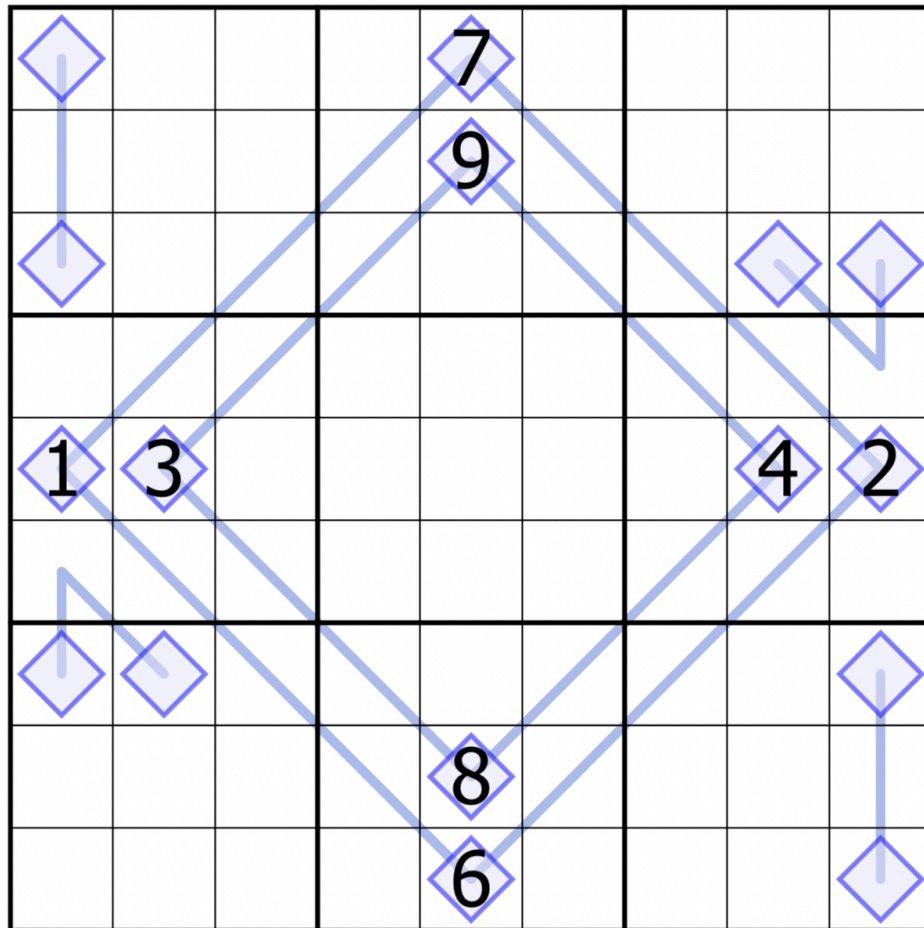
<https://sudokupad.app/gkur8k9ebu>



#### Bonus 4: The Opposite

Bill Murphy

Normal Sudoku Rules Apply. Digits along lines must NOT be numerically between (or equal to) the digits in the diamonds at each end. Digits in diamonds at each end of a line must have a difference of at least 4.

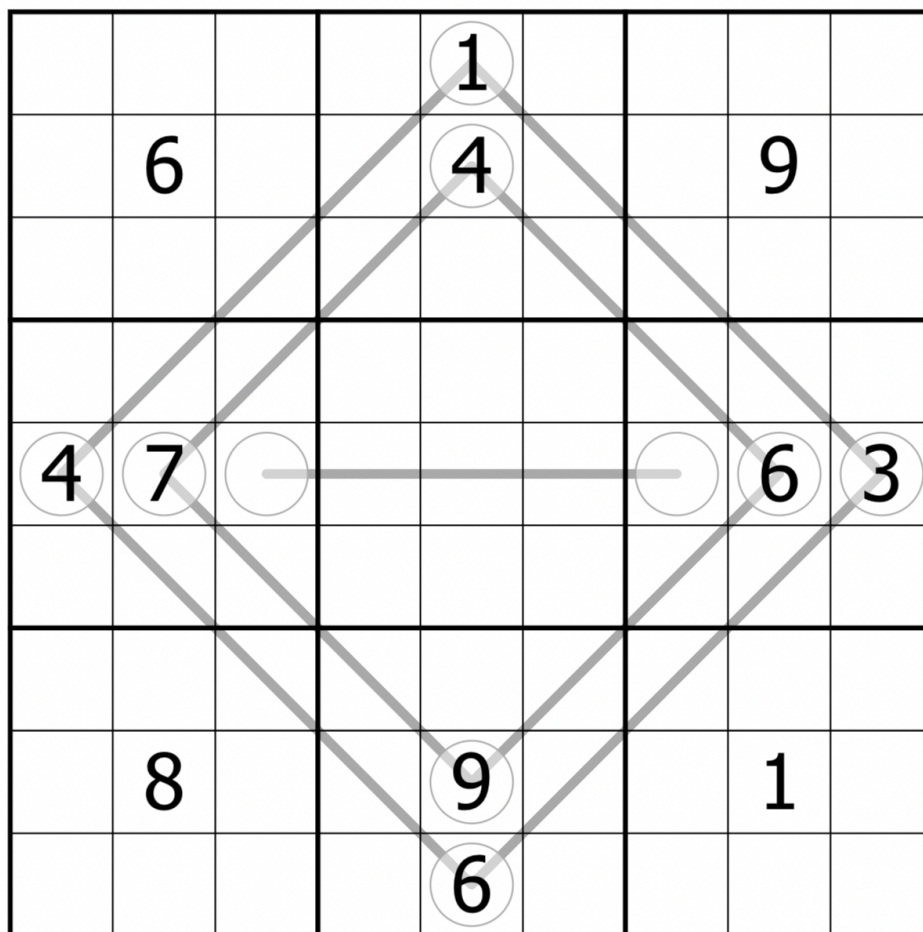


<https://sudokupad.app/6cscwp0px5>

### Bonus 5: Cards on the Table




Bill Murphy

Normal Sudoku Rules Apply. Digits along lines must be between the digits in the circles at each end.



<https://sudokupad.app/15bmuztaiq>

## Time Benchmarks

			
	Two party hats	One party hat	Todays dinosaur:
June 1, 2024	12:00	21:00	Ominous Ornithodesmus
June 2, 2024	7:00	13:00	European Eutitanosauria
June 3, 2024	6:00	11:00	even-tful Epidendrosaurus
June 4, 2024	7:00	13:00	LGBTQIALlosaurus, but with more added Glitter.
June 5, 2024	7:30	14:00	Useful Unaysaurid
June 6, 2024	6:00	11:00	quiet Quaesitosaurus
June 7, 2024	14:00	24:00	Progressive Prosaurolophu
June 8, 2024	6:30	13:00	Baked Bagualosaurus
June 9, 2024	7:00	13:00	avoidant Adasaurus
June 10, 2024	7:00	13:00	Competitive Cryptovolans
June 11, 2024	6:00	12:00	Serpentine Saturnaliid
June 12, 2024	6:00	11:00	tantalizing Tanycolagreus
June 13, 2024	7:30	15:00	Noodly Notohypsilophodon
June 14, 2024	7:00	13:00	Prescient Pradhania
June 15, 2024	6:00	11:00	(ren)banned Bambiraptor
June 16, 2024	6:30	12:00	Hiking Hexinlusaurus
June 17, 2024	7:00	13:00	Xingxiulong Xylographer
June 18, 2024	6:00	11:00	leonine Lilienssternus
June 19, 2024	7:00	13:00	Eloquent Eustreptospondylus
June 20, 2024	8:30	16:00	Germanic Glacialisaurus
June 21, 2024	6:00	11:00	prime Prenoceratop
June 22, 2024	7:30	14:00	Built Brontosaurus
June 23, 2024	7:00	13:00	Micro Macrocollum
June 24, 2024	7:30	14:00	blue Beishanlong
June 25, 2024	7:00	12:00	shellAchelousaurus
June 26, 2024	8:00	16:00	Massive Massospondylid
June 27, 2024	6:00	11:00	pairwise Parasaurolophus
June 28, 2024	a year	two years	Loved Laquintasaura Indeterminate ISI R277 (ISI R277 is the label for material found in the Upper Maleri Formation belonging to a currently unnamed guaibasaurid. So today's dino is... whatever species that was!)
June 29, 2024	6:00	14:00	
June 30, 2024	6:30	12:00	Cloverian Claosaurus

## Hints and Spoilers

### Spoiler for June 2, 2024

Today's **GAS** is a **Quadruples Renban Sudoku!** Because I am left-handed for a bit, I figure it's a good time to bring back some good ole GSP, so I only have to make half a puzzle >\_>

### Hint for June 26, 2024:

Teensy GAS 101 Hint: All of the cages in this puzzle are minimal for their size.

### Hint Gentle Nudge for June 29, 2024:

**GAS 101** Hint Gentle Nudge: What do the given digits and the V clues on the longer Region Sum Lines tell you about the line?