

GAS Leak

Genuinely Approachable Sudoku
from the CtC Discord

Volume 34:

Nov 1 – Nov 30, 2023

Welcome to November!

We got a full month of GAS puzzles for you, one better than the other. Some are strange-shaped or are of unusual types, one or two have negative constraints – but all are Genuinely Approachable.

At the beginning of the month there was the SudokuCon Twitch stream, which you will find mentioned in most puzzles near this date. At the end of the month there were two new events: the GAS team opened their own Youtube channel with walkthroughs of the puzzles ([Genuinely Approachable Sudoku – YouTube](#)) – and there's now a GAS website! <https://sudokutheory.com/gas/>

Staying on the technical side: we have a few puzzles where for technical reasons there's only one link.

Also you'll notice a lack of tinyurl links starting this month: for these puzzles the setters switched from app.crackingthecryptic.com to sudokupad.app as domain. The engine still is from Sven and everything behaves the same, but the links are shorter and can be customised. In case you changed the settings (e.g. the 3-In-The-Corner-Effect) you have to set these again, since they are saved per-domain.

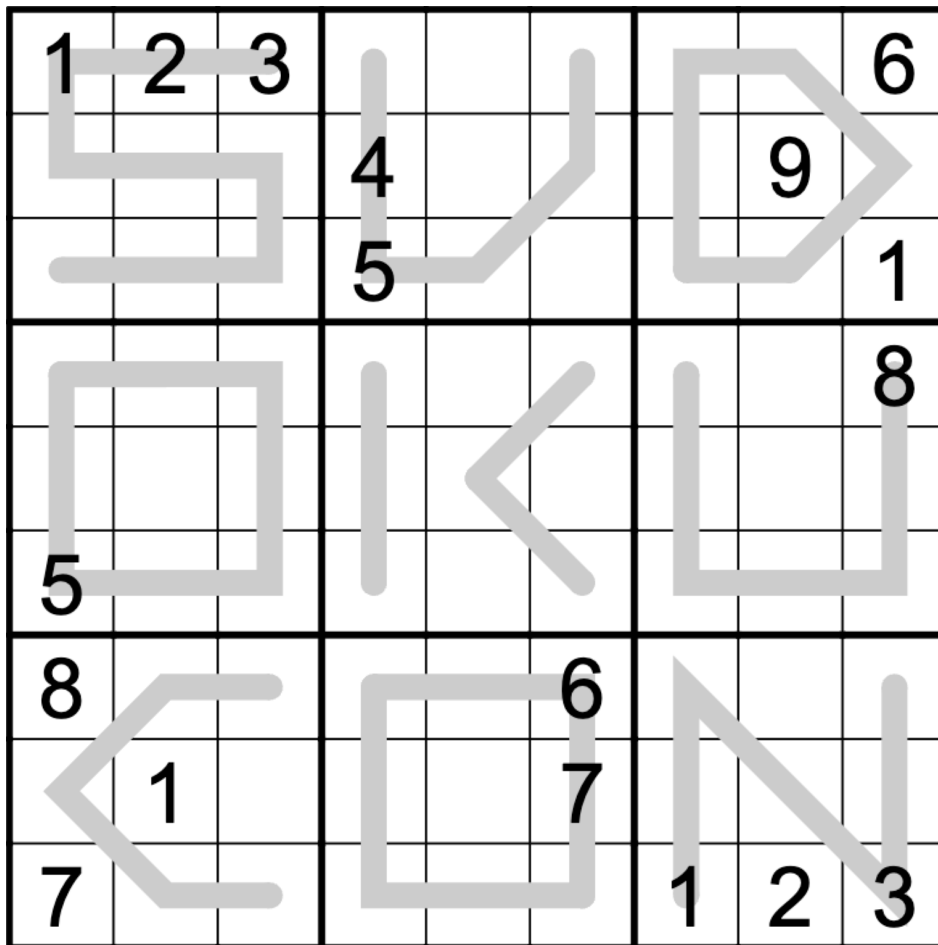
Have fun solving!

Engy

November 1, 2023: SUDOKUCON
clover!

I have a funny feeling that today's odd/even lines GAS is attempting to communicate something. It's hard to say exactly what it's so excited about. If we go to <https://twitch.tv/sudokucon> at 4. November 2023 19:00 and listen very carefully, maybe we'll find out.

Normal sudoku rules apply. Along each gray line, digits alternate between odd and even.



f-puzzles: <https://f-puzzles.com/?id=ynd59acp>
CtC: <https://sudokupad.app/clover/nov-1-2023-sudokucon>

November 2, 2023: Two Classic Sudoku

Bill Murphy

Hi! Went for a job interview today where I was asked to teach a five minute activity and I was like "Oh yeah, I could absolutely do a **classic sudoku**." So I spent a week thinking about how I was going to do it, what I was going to teach, how I was going to make it approachable, how I would make a second one which would demonstrate the same techniques but slightly trickier, only to decide 45 minutes before to audible out and do something completely different.

Honestly, classic (sudoku) me. (I think it went well before you ask)

Today's GAS, because they shouldn't go to waste, is **Two Classic Sudoku!**

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

[The times at the end of this document are for both combined]

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

Classic 1: (New Wave)

f-puzzles: <https://f-puzzles.com/?id=2xa6q7ey>

CTC: <https://tinyurl.com/39wzkdvY>

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

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

Classic 2: (Pressed)

f-puzzles: <https://f-puzzles.com/?id=yng525gu>

CTC: <https://tinyurl.com/yphktdyo>

November 3, 2023: One-Armed Bandit

Philip Newman

Things Philip can do with an arm in a sling:

- 1 Type this intro, slowly.
- 2 Go trick-or-treating as a one-armed bandit.
- 3 Solve a Rubik's cube, very slowly.
- 4 Open "child-proof" pill bottles. (This is concerning to me.)
- 5 Celebrate the Rangers' World Series win!

Things Philip can't do one-handed:

- 1 Zip a Ziploc bag.
- 2 Open jars for my wife.
- 3 Perform the secret GAS handshake. 🤝🤝👍🦖👊🤝🤝🤝 **H I 5** 🤝👍

To Be Determined:

- 1 Speed-solve on the SudokuCon livestream tomorrow??

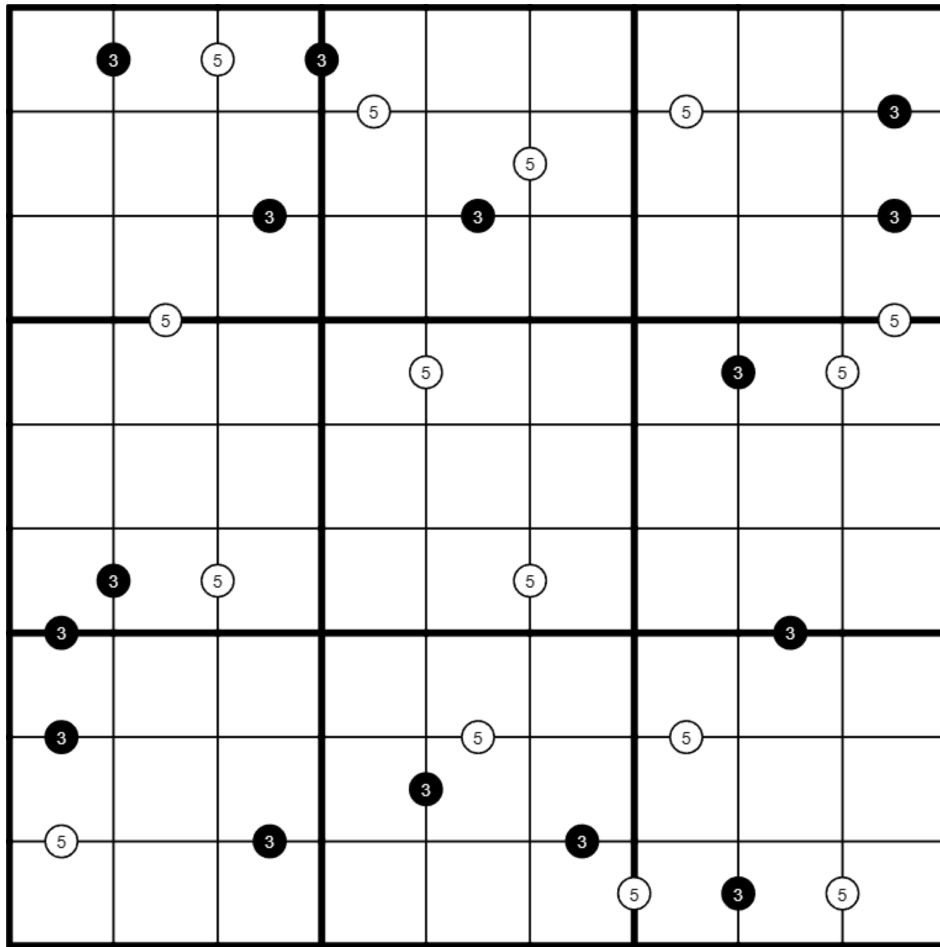
Today's **GAS** is a **Gamma & Epsilon Sudoku!**

Normal sudoku rules apply.

Gamma and Epsilon: Digits in cells separated by a white dot must have a difference of 5. Digits in cells separated by a black dot must have a ratio of 3:1.

(No negative constraint - adjacent cells separated by no dot may have a difference of 5 or ratio of 3:1.)

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



Play on f-puzzles: <https://f-puzzles.com/?id=y/lwb52dd>
Play on SudokuPad: <https://sudokuapp.philip-newman/20231103-one-armed-bandit>

November 4, 2023: Distance Sudoku (Unordered)
clover!

Today I just want to say 'thank you.'

Maybe I'm just tired. Maybe it's that the 24-hour puzzle stream starts **today** (<https://www.sudokucon.com/>), and I'm overwhelmed with gratitude to see my ideas made real by a team of brilliant and capable people. But I've been thinking, this morning, about how very grateful I am for all of you. So many places and things in this world have gotten worse in the time I've known them, but the GAS community has only gotten better. It's a privilege to make puzzles for you all. I can only hope I've given you half as much as you've all given me. 😊

Today's GAS, by community request, is a **distance sudoku (unordered)**! 🌟 Note the rules carefully, as this variant is different from the similar-looking puzzle from a few days ago. 🌟

Normal sudoku rules apply. Clues outside of the grid each indicate two digits and a distance. The distance is the number of steps from one of those digits to the other within that row or column. **The digits may appear in either order.** For instance, a clue of "3-4: 1" above a column would tell you that 3 and 4 were immediately adjacent in that column.

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

7-8: 8-9: 4-9: 8-9: 4-5: 5-6:

6 5 3 1 5 6

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

SudokuPad:

<https://sudokupad.app/clover/november-4-2023-distance-sudoku-unordered>

November 5, 2023: Do It Faster

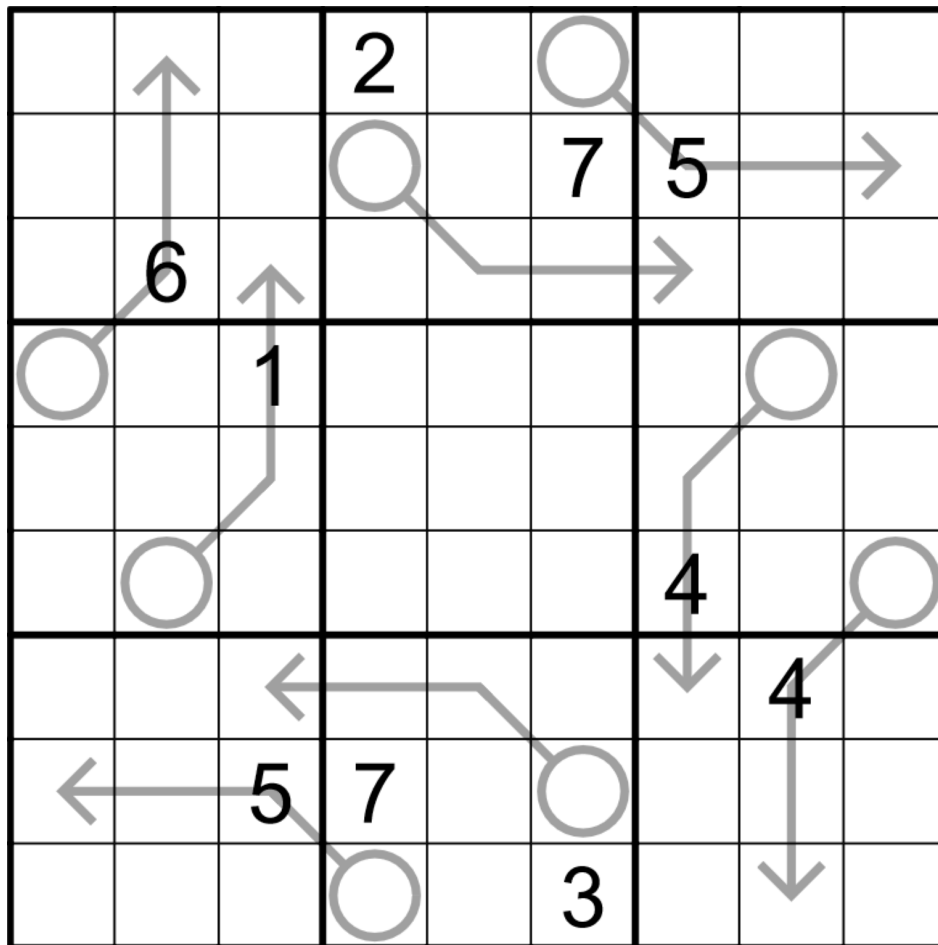
Bill Murphy

Whatcha doing here? We're over 2/3 of the way through the Sudokucon stream (<https://www.twitch.tv/sudokucon>) and coming up soon, they're gonna be live solving Clover and Philip's ~~monstrosity~~ pairdoku from earlier.

(Sorry for those of you who wanted all three of us, but unfortunately I was suffering from the worst technical difficulty of all, being Australian.)

Today's GAS is an **Arrow Sudoku**, but it'll be here when you come back.

Normal sudoku rules apply. Digits along an arrow sum to the digit in the bulb.



f-puzzles: <https://f-puzzles.com/?id=2xg7aqt2>

CTC: <https://tinyurl.com/475pr949>

November 6, 2023: Find X (Here It Is)

Philip Newman

Thank you to everyone who supported the SudokuCon livestream! If you missed any of it, it's all available to watch at <https://www.twitch.tv/sudokucon> (eventually it will also be on youtube). The highlight for me was definitely the pure chaos of setting a pairdoku with @clover, almost entirely using constraints provided via donations, and then watching @jonn and @It's Stark Jr.! solve it!

During block C we were treated to a speed solving exhibition by Prasanna Seshadri and newly crowned World Sudoku Champion Tantan Dai, and today's **GAS** was set after Tantan mentioned **X-Sums** as a favorite variant. It also has **X Pairs**!

Normal sudoku rules apply.

X-Sums: Clues outside the grid tell you the sum of the first X digits in the corresponding row or column, starting with the digit adjacent to the clue and continuing away from the clue, where X is the adjacent digit. (For example: ?????7534 (19) would be a valid fill for a row where 19 is the sum of the rightmost 4 digits.)

X Pairs: Digits in cells separated by an X must sum to 10. (No negative constraint, other pairs of digits may sum to 10.)

GAS 101 Hint: [see Hints page at the end of this document]

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	x		x	1		x		
					5			
35	x							3
	7						x	1
			5					
		x			x			x
				9				

Play on f-puzzles: <https://f-puzzles.com/?id=yllhb9z4h>
Play on SudokuPad: <https://sudokupad.app/philip-newman/20231106-find-x-here-it-is>

November 7, 2023: Cupid Sudoku
 clover!

Hey, what kind of dinner does Cupid like to eat?

A heart-y one.

Today's GAS is a **cupid sudoku**. Normal sudoku rules apply. Also, digits in arrow cells must appear at least once more in the direction that the arrow is pointing to. For instance, if r5c4 were a 6, then there would need to be at least one other 6 along the diagonal indicated by that arrow (r6c3, r7c2, r8c1).

	4	5				6	8	
		7	↙		↗	1		
	↘	↘	↙		↗	↘	↘	
1	3						4	2
2			↘	7	↘			3
	↘	↘		3		↘	↘	
	5	↙				↗	1	
	6	1				9	7	

Sudokupad: <https://sudokupad.app/clover/november-7-2023-cupid-sudoku>

November 8, 2023: The Ghostbusters II of Sudoku

Bill Murphy

Sometimes with setting GAS you run out of cute things to do with killer cages or thermometers.

So you go on the hunt for new ideas. But sometimes that's hard or nothing you find is inspiring.

So you go back into your old catalogue looking for to redo something better, or inspiring depths you can still plumb, and you better believe I struck **gold** baby!

That's right, like the ghostbusters 2 of sudoku, the sequel literally nobody asked for, welcome back **Greek Carpets Sudoku!**

Mark will do his best impression of the John Cena entrance music when he reads this out

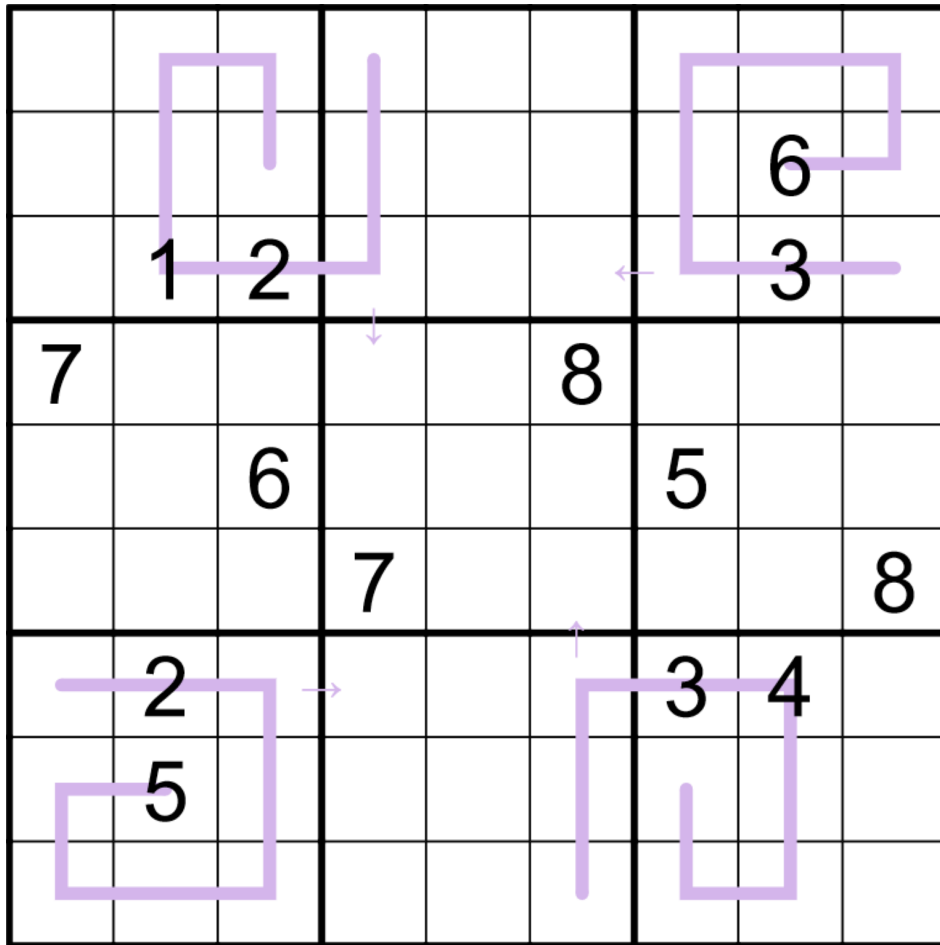
Normal sudoku rules apply. Digits along grey lines will read the same when you roll out the grey line along the row or column, e.g. the line in box 3 would "unroll" along row 3 and would read the along row 3 as it does r2c8 to r3c9.

If that made absolutely no sense to you or if you'd like a refresher on Greek Carpets Sudoku, you can have a little lookie here at my previous GAS, where there's an example image and a whole practice puzzle if you would like the vibe:

daily-sudoku-discussion [daily-sudoku-discussion](#) [note from typesetter: this is the GAS from October 11, 2022, also available in GAS Leak 21]

N.B. There's a little arrow to tell you along which row or column it unrolls.

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



f-puzzles: <https://f-puzzles.com/?id=ykza6l8e>
 Sudokupad: <https://tinyurl.com/5nha6bf3>

November 9, 2023: You Best Not Miss

Philip Newman

We here at GAS HQ set a lot of puzzles, but in order to refine our craft we also solve a lot of puzzles.

If you've ever muttered under your breath something along the lines of "this is supposed to be genuinely approachable, Philip, what's wrong with you" and want to participate in a bit of karmic schadenfreude, @clover and I will be solving/attempting to solve an Infamously Unapproachable Sudoku on Saturday (afternoon GAS HQ time)! Details in tomorrow's intro. 🤪

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

Normal sudoku rules apply.

Antiking: Cells separated by a (chess) king's move cannot contain the same digit.

This one may be a bit tricky to get started, so the one hat time is a bit more generous!



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

Play on f-puzzles: <https://f-puzzles.com/?id=yszxjuw2>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20231109-you-best-not-miss>

**November 10, 2023: Odd/Even/Diag
clover!**

Today's GAS is an odd/even diagonal sudoku. Be warned, the middle box is just a tiny bit trickier than the opening. But only a tiny bit. You can't spell 'clover' without 'the easiest part is in the four corner boxes' (I'm very bad at spelling).

I also want to follow up on Philip's announcement yesterday to tell you about **three** interesting things happening on the SudokuCon twitch channel (<https://twitch.tv/sudokucon>). Later today, our friend @Gliperal, also known as 'the guy with the really not at *all* approachable puzzles', will be speedrunning some really vicious 4x4 sudoku. Then, November 11, 2023 19:00 UTC, @Philip Newmesis and I will be doing battle with @DiMono's infamous Orb 2. Finally, there's a stream on Sunday afternoon featuring @carabet, @Tallcat, and @James Sinclair. Please follow to be notified when we go live!

In today's GAS, normal sudoku rules apply. Also, digits do not repeat along the (marked) main diagonals of the grid. Digits in gray circles are odd; digits in gray squares are even.

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

f-puzzles: <https://f-puzzles.com/?id=yryt3dae>
SudokuPad: <https://sudokupad.app/clover/nov-10-2023-oddevendiag>

November 11, 2023: Pharmacist

Bill Murphy

The flip side of being so far ahead in setting puzzles for GAS is that sometimes it'll be a while before a puzzle gets posted and eventually, I come back two months later and have to try and figure out what I was on about all that time ago, laugh out loud and go "ahahaha, what's wrong with me?"

Anyway, I'm sure y'all will be fine, today's GAS is an **Anti-Knight Sudoku!**

Normal sudoku rules apply. Cells that are a chess knight's move apart must not contain the same digit.

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

f-puzzles: <https://f-puzzles.com/?id=25p8ewrb>

SudokuPad: <https://sudokuapp.com/l2qqntqitw>

November 12, 2023: 9ABK

Philip Newman

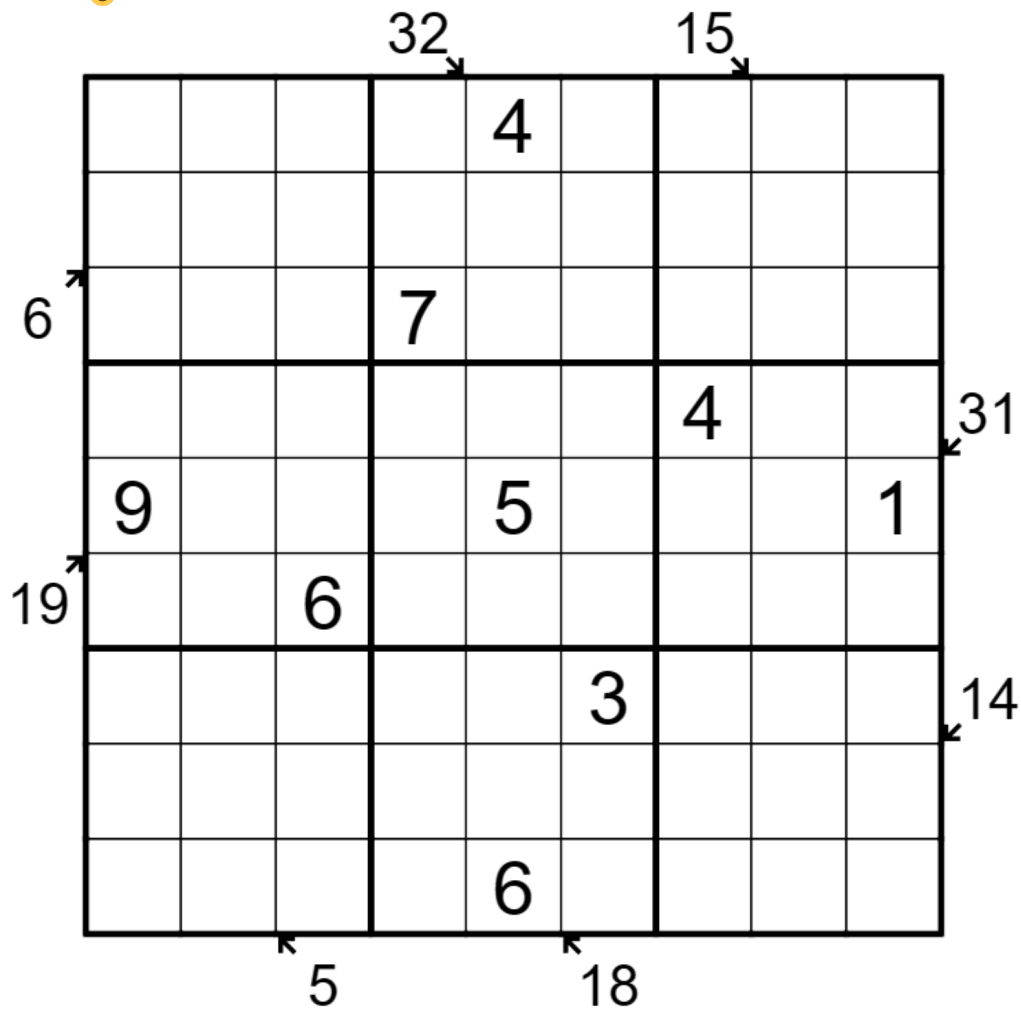
If you get the reference in today's puzzle title, thank you for joining yesterday to watch @clover and I struggle. 🤔

Today's **GAS** is a **Little Killer 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).

Solve in 6:00 or less for two party hats 🎩 :twohats::; solve in K:00 12:00 or less for one party hat 🎩. All other solvers will receive a DisORBiented Dachongosaurus 🦖!



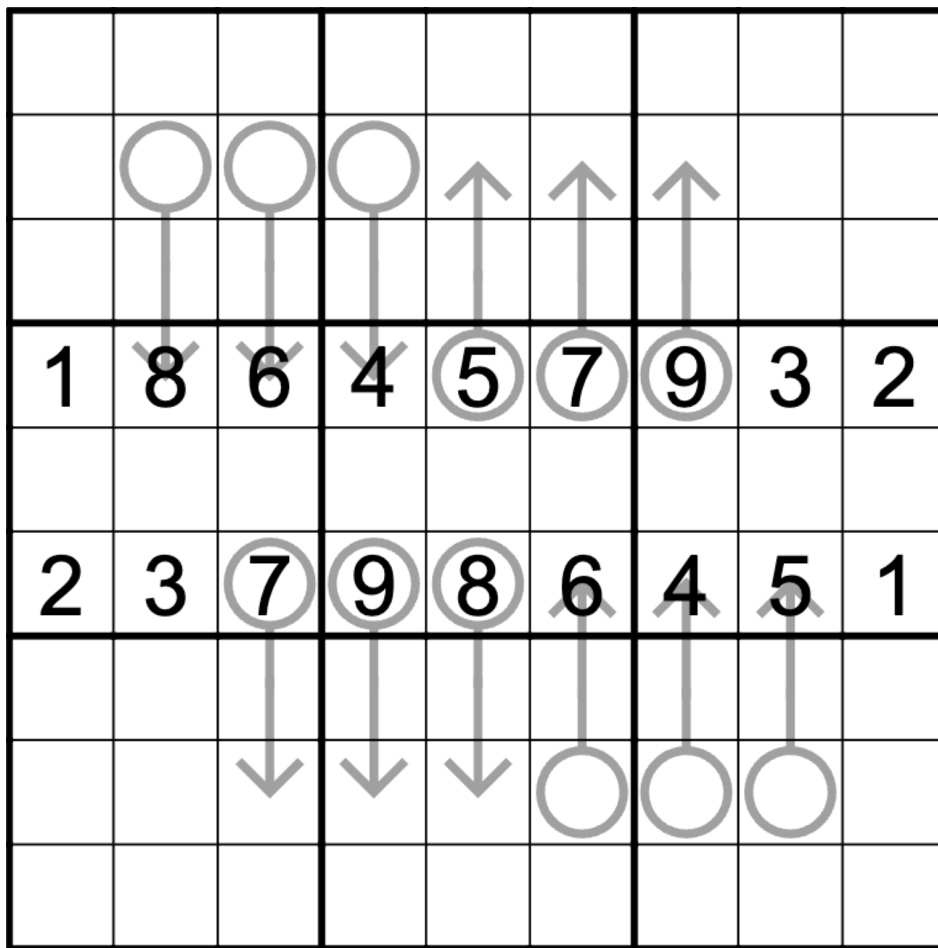
Play on f-puzzles: <https://f-puzzles.com/?id=yv9z3plm>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20231112-9abk>

**November 13, 2023: Arrow
clover!**

You've heard of two-dimensional sudoku, three-dimensional sudoku, and perhaps even four-dimensional sudoku (that's when somebody shuffles your 3-d sudoku Rubik's cube over the course of time, while you're trying to solve it). But how about a brief foray into one-dimensional sudoku? Today's GAS is an **arrow sudoku** in which the givens are all neatly lined up. If you want a second dimension today, you'll need to work for it.

Normal sudoku rules apply. Digits along arrows must sum to the value in the attached circle.



f-puzzles: <https://f-puzzles.com/?id=yqdxjuds>
 SudokuPad: <https://sudokupad.app/clover/november-13-2023-arrow>

November 14, 2023: Orbway 2 Tha Dangerzone
 Bill Murphy

Us here at GAS HQ love to wind each other up and occasionally shoot cheeky jabs at each other, one-upsmanship over puzzle variants, etc. etc. But occasionally, we're lovely and supportive and as a kind and supportive gesture for Phil and Clover tackling the infamous Orb 2, I made today's **Gattai Sudoku** as a show of support for my dear friends as they made terrible choices in the name of fundraising and I stood way back. WAY WAY way way WAY WAY way way back.

Place the digits 1-6 in each box, row and column in each 6x6 grid. (2x2 regions with a solid red and dotted black line region are overlapped and count in each grid.)

					4
	6				
		3			1
	5			2	3
		4		1	4
				3	5
1				4	6
	3				
		3		1	
					5
		4			

Penpa: <https://tinyurl.com/ymbqzm2s>
 Sudokupad: <https://sudokupad.app/5nerx2ezhs>

November 16, 2023: Numbered Rooms
 clover!

GAS solver, *your rooms are numbered!* It's time to meet your fate!

In today's **numbered rooms sudoku**, normal sudoku rules apply. Also, clues are given outside of some rows and columns. Every time there is a clue adjacent to a row or column, look at the first digit in that row or column (closest to the clue). Call that first digit N. The clue digit must appear in the Nth cell in that row or column, counting from the direction where the clue is written.

For instance, imagine that r1c9 were a 7. Because there is a 1 clue to the right of r1, 1 would appear in the 7th position from the right in that row (r1c3).

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

November 17, 2023: Prague Star Sudoku

Bill Murphy

Here's a list things we at GAS HQ strive for when setting cool fun puzzles for normal people to enjoy:

Make it easy to scan!

Include a sudokupad link for easy access!

Definitely under no circumstances take a normal thing and make it weird for no real reason!

Unfortunately, Barry the GAS HQ janitor took the tapestry that hangs in our office down for cleaning for an hour and in that time I accidentally made this **Prague Star Sudoku!**

Place digits from 1 to 9, so that they don't repeat in marked triangles and rows of cells in each direction.

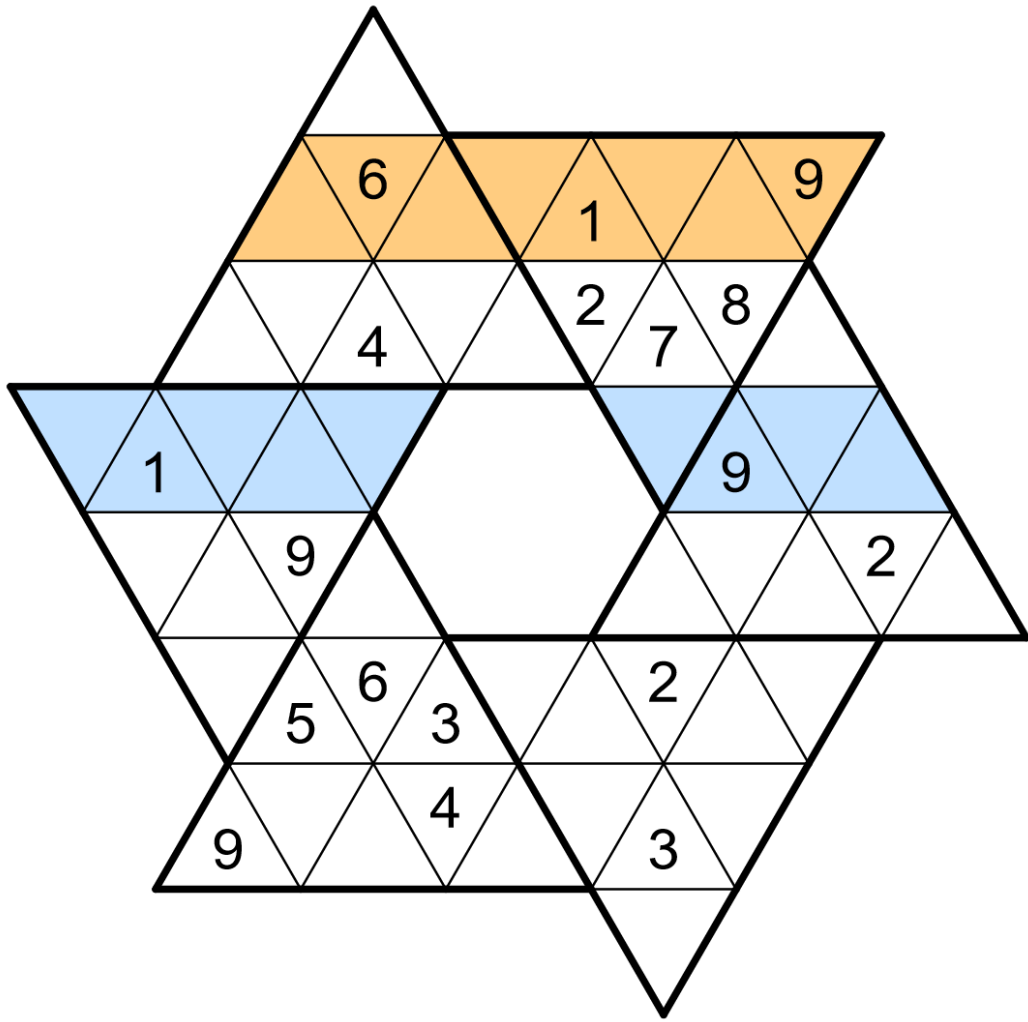
 **Two things to note about this puzzle** 

Rows pass over the gap in the middle of the puzzle. (as highlighted in blue in the attached image)

Not all rows contain 9 digits, but still they cannot repeat (as highlighted in orange in the attached image)

(Honestly, if you jump into the puzzle without reading the blurbs, you are missing out)

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



No sudokupad today!
Penpa: <https://tinyurl.com/ytduhhf8>

November 18, 2023: An Opening Secret

Philip Newman

This puzzle might look familiar to you, either because you just tested it (thanks Bill!) or because you remember that I did something like this before (March 30, 2022!)... or because someone else has done something like this before or because it looks like an early iteration of a Sierpiński Carpet or...

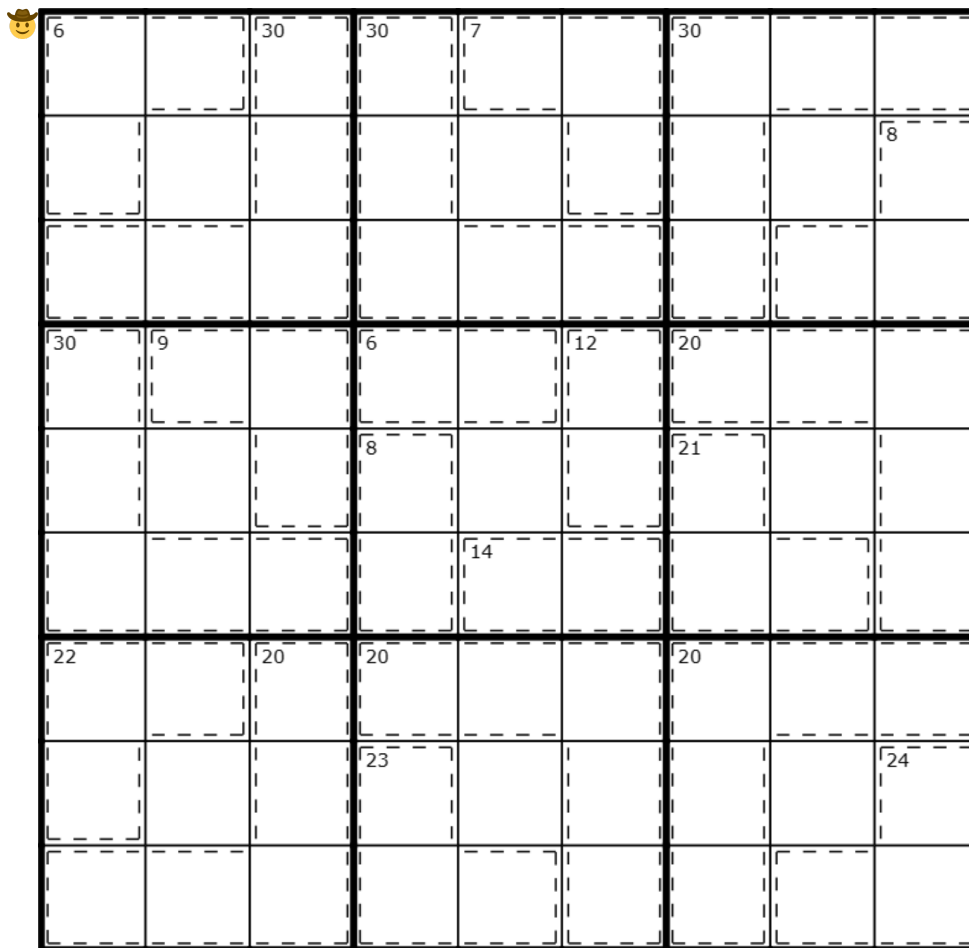
(Fun fact: Sierpiński's given name was Waclaw, a borrowing of the Czech "Václav", which can be Latinized as Wenceslaus or Wenceslas - as in the Christmas carol "Good King Wenceslas". Yeah, yeah, too early for Christmas trivia, but by the time we find out if Mark can pronounce Polish and Czech names...)

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

Normal sudoku rules apply.

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

GAS 101 Hint: [see Hints page at the end of this document]



Play on f-puzzles: <https://f-puzzles.com/?id=ypm64zvn>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20231118-an-opening-secret>

November 19, 2023: Heavy Ratio
 clover!

Today's GAS is brought to you by a childhood experience that I'm wondering if anybody else here shares. Were any of you also taught about the dangers of quicksand with absolute seriousness, as if your parents and teachers were utterly convinced that you might someday stumble into a quicksand swamp and only have your wits and your memories of third-grade science class to help you survive? Alas - I, for one, have somehow made it to my thirties without ever having seen quicksand in the wild. Just me?

In today's **heavy ratio GAS**, we have a 🌟 weird take on a familiar constraint 🌟. You have been warned. Specifically, the "heavy" digits in each ratio always sink to the bottom! Normal sudoku rules apply. Also, digits separated by a black dot are in a 1:2 ratio, **with the larger digit being on the bottom**. Not all possible dots are necessarily given.

			5					
		5				6	•	•
					•		5	
•	•	•	•					
	4						2	
	9				•	•	•	•
		1	•			9		
•	•				9			

f-puzzles: <https://f-puzzles.com/?id=yqhavl3l>
 SudokuPad: <https://sudokupad.app/clover/nov-19-2023-heavy-ratio>

November 20, 2023: Min-Max Sudoku

Bill Murphy

You know, I think at the end of the day, we get to choose what matters to us and I think that's brilliant. Life is a pile of good things and bad things and while neither cancel each other out, we get to be the **sum of the low** points **and the high** points of our life and I carry them all with me. I came home from being out all of yesterday and was preparing myself to cook dinner for my girlfriend who'd been using my office as her workspace while she was on the clock for 8 hours only to find that she'd done the dishes, ordered groceries and had them delivered and had spent two hours making stock and congee and let me tell you I wouldn't trade the experience of how full my heart was last night for the world.

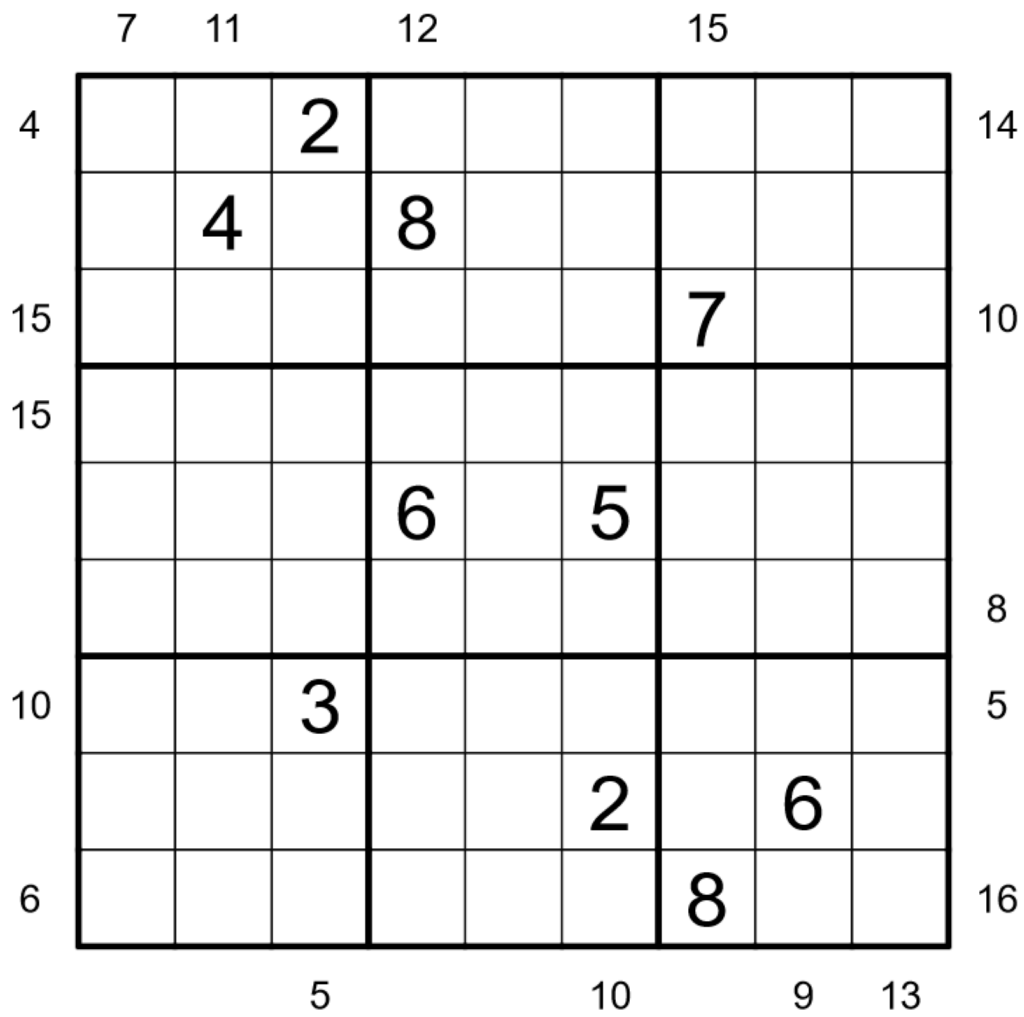
Anyway, I was going to write something more profound but I had to be louder than 50-ish 12 year olds in a gym today (I did easily, my wardrobe is not the only thing loud about me) and i'm tired.

Today's GAS is a **Min-Max Sudoku!**

Normal sudoku rules apply. Clues outside the grid give the sum of the highest digit and the lowest digit in the first three cells seen in the direction of the clue.

I don't know if a GAS 101 is necessary, but I'll put one here just to be on the safe side [now available on the Hints page at the end of this document]

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



f-puzzles: <https://f-puzzles.com/?id=yprqbd5w>
 SudokuPad: <https://tinyurl.com/bp93uwy7>

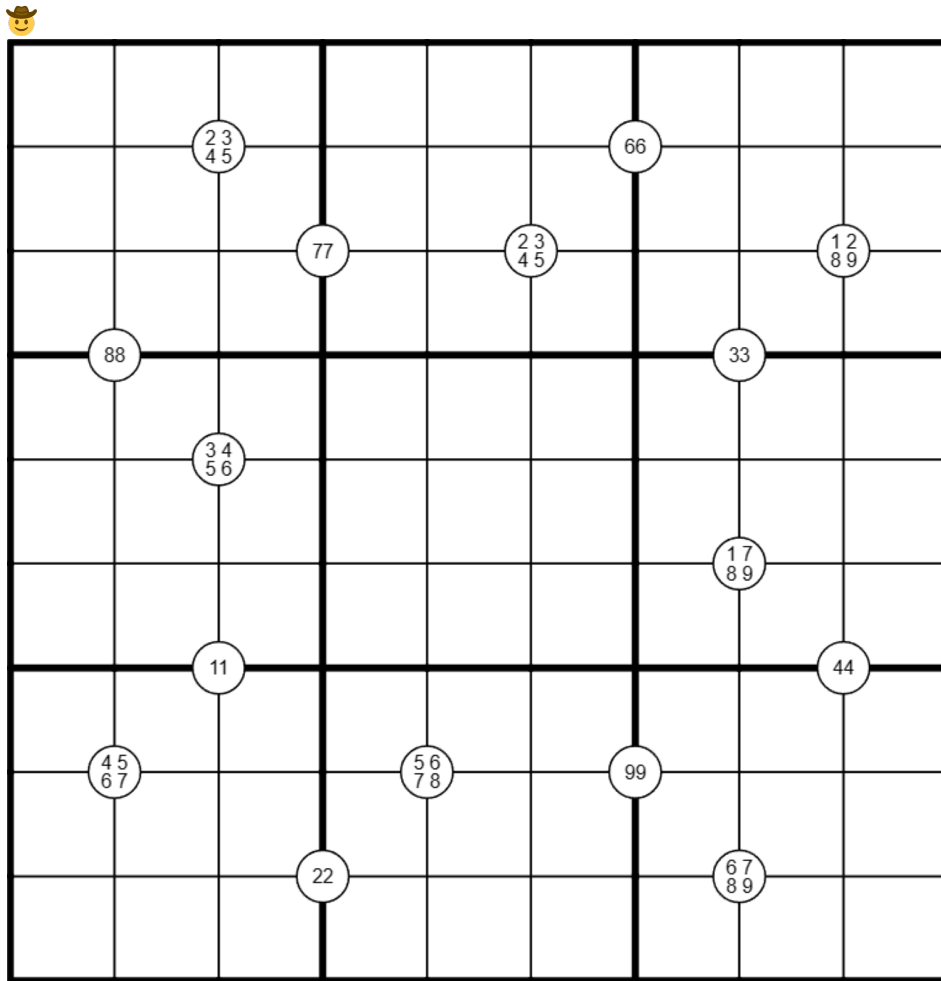
November 21, 2023: Mrtn Guessed This!
Philip Newman

Why is there a Tuesday but no Foursday? 🤔

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

Normal sudoku rules apply.

Quadruples: Digits in corner circles must appear in the surrounding four cells, in some order. (If a digit appears twice in a circle, it must appear twice in the surrounding four cells.)

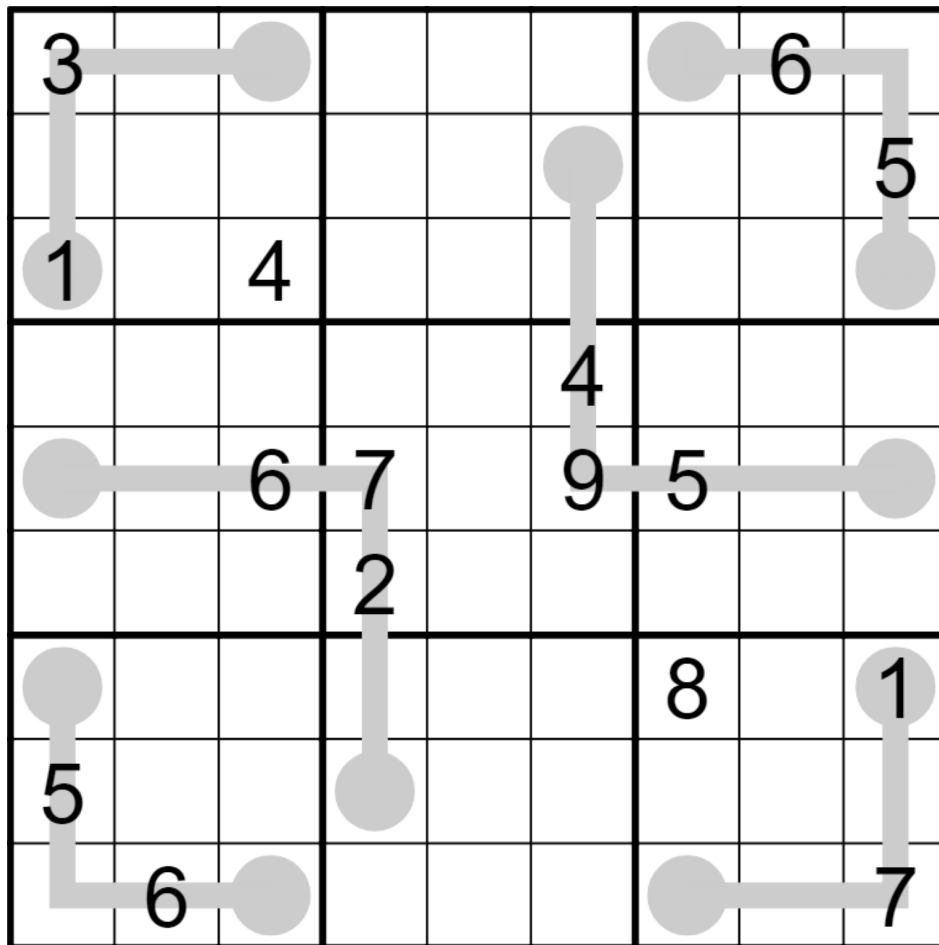


Play on f-puzzles: <https://f-puzzles.com/?id=yr4melho>
Play on SudokuPad: <https://sudokuapp.philip-newman/20231121-mrtn-guessed-this>

November 22, 2023: Odd/Even Bridge
 clover!

I'm happy to hear that you all share my extremely serious concerns about quicksand. In the interest of staying safely out of harm's way, let's build an **odd/even bridge**. 😊

Normal sudoku rules apply. Also, each line connects two circles; one circle contains an odd digit and the other contains an even digit. The odd digit indicates the total number of odd digits along the line (not including itself); the even digit indicates the total number of even digits along the line (not including itself).



SudokuPad: <https://sudokupad.app/oecdxtj7g>

November 23, 2023: Battenburg Sudoku II

Bill Murphy

🚨 WOOP WOOP 🚨
🚨 THAT'S THE SOUND OF NEGA-TIVE 🚨
🚨 WOOP WOOP 🚨
🚨 IT'S THE CONSTRAINT THAT YOU MISS 🚨

Today's GAS is a **Battenburg Sudoku**! Today's times will be generous, not because I think today's puzzle is all that challenging, but I know y'all love to colour and I'm here for you. (don't dawdle though, it's four weeks left in the school year, what patience and sanity I have left months back)

Normal sudoku rules apply. Digits in cells surrounding a checkerboard pattern must alternate odd and even. All checkerboards are given.

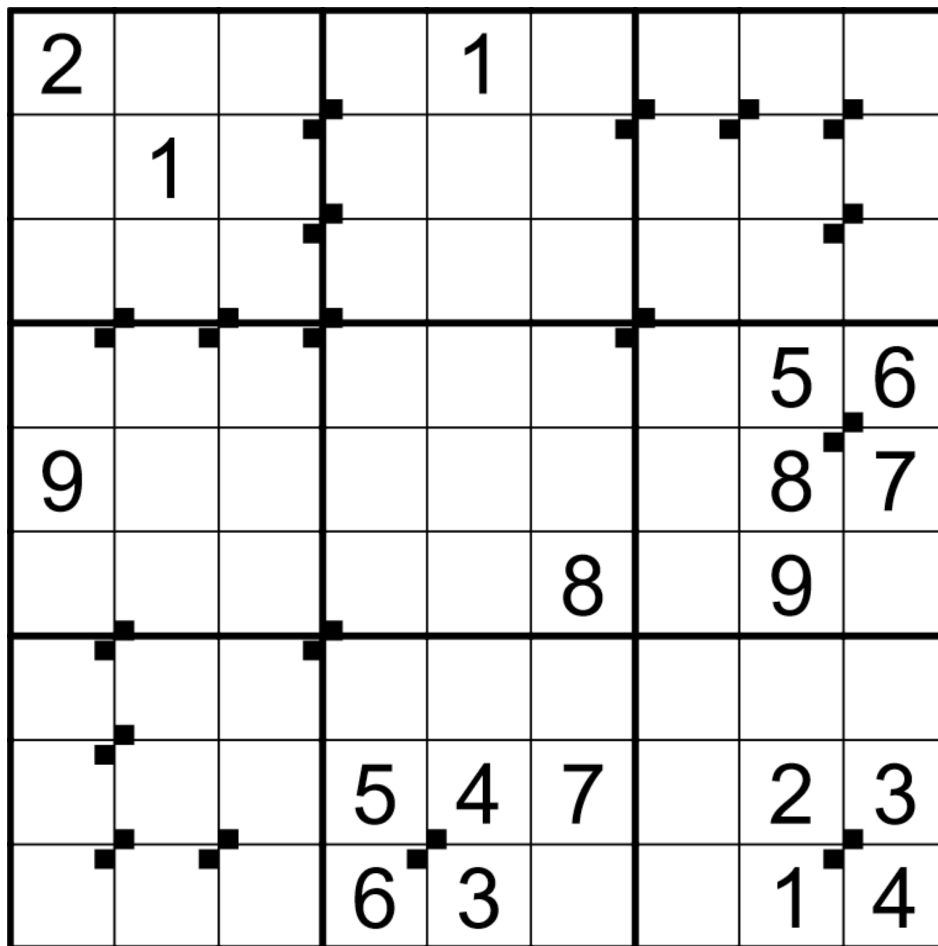
That's right, there's a 🚨 **negative constraint** 🚨 at play today! So, the little □ symbol means that the four cells surrounding it must either be:

ODD EVEN or EVEN ODD
EVEN ODD ODD EVEN

If there's no pattern, it must not do that! If you forget, that's on you!

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

🌟 negative constraint 🌟



f-puzzles: <https://f-puzzles.com/?id=yk924thg>
SudokuPad: <https://app.crackingthecryptic.com/iix40twg6n>

EDIT: Some people are having issues with the checker board symbols not appearing so here's one with blue squares in the intersections instead

<https://app.crackingthecryptic.com/vpqtqxzu06>

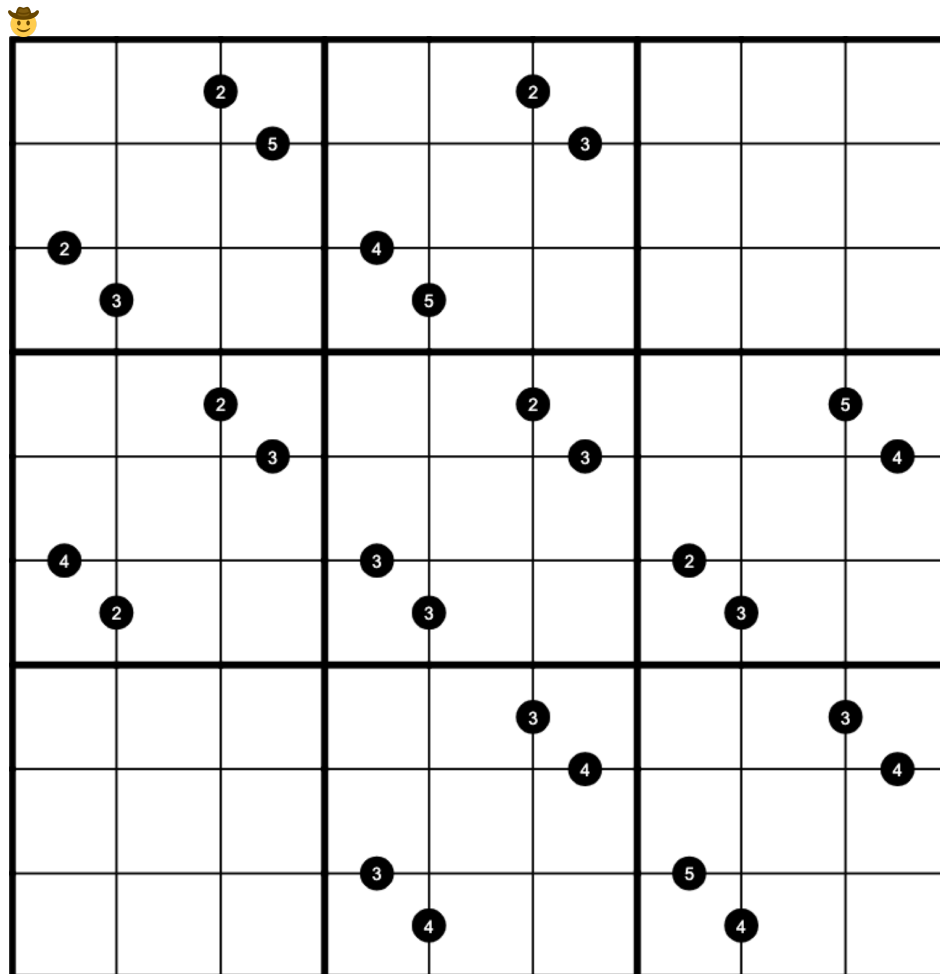
November 24, 2023: Black Dot Friday
Philip Newman

Black Friday deals are here at GAS! You want digits? Place 1, get 2, 3, 4, or even 5 absolutely free!

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=ys6d42dv>
Play on SudokuPad: <https://sudokupad.app/philip-newman/20231124-black-dot-friday>

November 25, 2023: Parity Sweeper
clover!

WHAT UP GASLORDS it's ya girl CloverMoon45 comin at ya from sudoku headquarters and today we're bringing you our TOP 10 FAVORITE SUDOKU DIGITS! Make sure you watch to the very end if you want to see the CRAZY thing that happened while we were filming this! And make sure you WATCH THE ADS and SMASH THAT SUBSCRIBE BUTTON and POUND THAT LIKE BUTTON and WHACK THAT NOTIFICATIONS BELL and LEAVE A COMMENT WITH YOUR OWN FAVORITE DIGIT to show us some love!!!!!! Today's GAS sponsored by NordVPN, HelloFresh, ScentBird, and Sven's SudokuPad.

Just kidding, here's a solution walkthrough for Philip's 11/24 puzzle. This is our YouTube channel and GAS has walkthroughs now, it's been a long time coming. 😊
https://www.youtube.com/watch?v=9B0S3_Ah8-o&feature=youtu.be

Today's GAS is a **parity sweeper sudoku**! Normal sudoku rules apply. Also, there are some circles in the grid. If a circle contains an ODD digit, then the digit in that circle tells you exactly how many of the surrounding (up to eight) cells contain odd digits, not including the circled digit itself. If a circle contains an EVEN digit, then the digit in the circle tells you exactly how many of the surrounding (up to eight) cells contain even digit, not including the circled digit itself.

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

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

No f-puzzles today, I'm having some technical problems 😞

SudokuPad: <https://sudokupad.app/5pxehnj1f>

November 26, 2023: Double Arrow Sudoku

Bill Murphy

Walkthrough of Clover's Parity Sweeper: <https://youtu.be/qY212ffa4m4>
(I will die on the hill of the date format, sorry Clover and Phil)

Double, double, toil and trouble,
Numbers bubble, Sudoku subtle.
In the cauldron, digits align,
A puzzle brewed, quite by design.

Circle, circle, mystery guide,
Digits dance on arrows wide.
To the left and to the right,
Their sum shall match, a sacred rite.

One, two, three, a magic brew,
Sudoku's secret, old and new.
Genuinely approachable, the game,
Double arrows carry the fame.

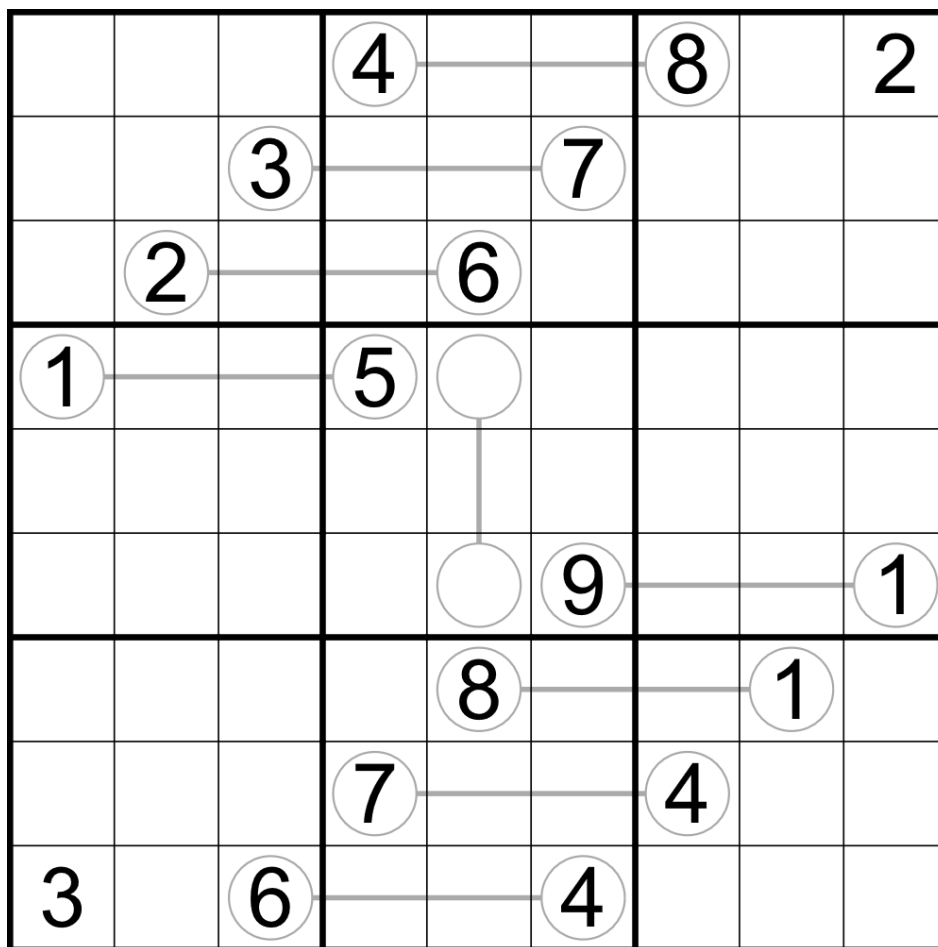
Digits in lines, they intertwine,
In Double Arrow's grand design.
Sum at the end, in circles bright,
A mystic challenge, day or night.

Beware the challenge, take a look,
Crack the code, like an open book.
For in the numbers' dance so grand,
The magic of Sudoku, rules the land.

Today's GAS is a **Double Arrow Sudoku**, btw.

Normal sudoku rules apply. Digits along lines are equal to the sum of the digits in the bulbs at either end.

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



Sudokupad: <https://sudokupad.app/v2m1f8gtlp>

(i'll do an f-puzzles link as soon as someone tells me how i can do cosmetic circles and not have the lines go over the top of them)

2023-11-27: ISO 8601

Philip Newman

Walkthrough of "Double Arrow Sudoku" by Bill:

<https://www.youtube.com/watch?v=aLhS6pyBSIA>

Today's **GAS** is a **Classic Sudoku** which reminded me of a clock, so let's talk about time!

We Americans tend to use the absolutely cursed date format of MM-DD-YYYY. My preference in GAS historically has been to write out the name of the month, but limitations on the title length have often caused me to revert to this abominable format out of habit.

Meanwhile, Bill prefers the somewhat less cursed DD-MM-YYYY, because he's upside down.

The format I'm using today is the officially recommended one for calendar dates (which I often use as a programmer, so I don't know why I still have bad American habits). We could use ordinal dates instead... what do you think of 2023-331?

(See also: <https://xkcd.com/1179/> 🐕)

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

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

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

Play on f-puzzles: <https://f-puzzles.com/?id=yI5bs48k>

Play on SudokuPad: <https://sudokupad.app/philip-newman/20231127-iso-8601>

November 28, 2023: Loopdoku
clover!

Here's a walkthrough for yesterday's GAS: <https://youtu.be/cJDyiTzSgKk>

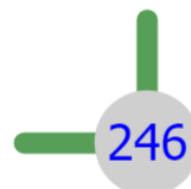
Why does it smell like pencil puzzles in here? Hey, quit trying to hide that copy of "Infamously Brutal Slitherlink Variants For Extremely Savvy Solvers" behind your back. I know what you're up to, you sneaky sausages. It's loop drawing time!

Today's GAS is a **loopdoku**! Normal 6x6 sudoku rules apply: Fill the grid with the digits 1 through 6 so that each row, column, and outlined 2x3 region contains each digit exactly once.

Also, draw a loop in the grid that **visits every cell** once and never crosses itself, traveling in straight horizontal and vertical lines and only turning at 90 degree angles. Every time the loop passes through a cell with a circle, it tells you something about the digit in that cell: if the loop **TURNS** in the circle cell, then it contains an **EVEN** digit. If the loop goes **STRAIGHT THROUGH** the circle cell, then it contains an **ODD** digit. If there is no circle in a cell, you don't know anything about the digit in that cell.

[Special award:]If you post any variation on the words "this doesn't belong in GAS," you'll earn an irritated owl.

○	○	5	○	○	4
	○			2	○
4					○
○					3
○	3			○	
2	○	○	1	○	○



Penpa: <https://tinyurl.com/ys9564sh>

SudokuPad: <https://sudokupad.app/clover/nov-28-2023-loopdokux>

November 29, 2023: Heart of Gold

Bill Murphy

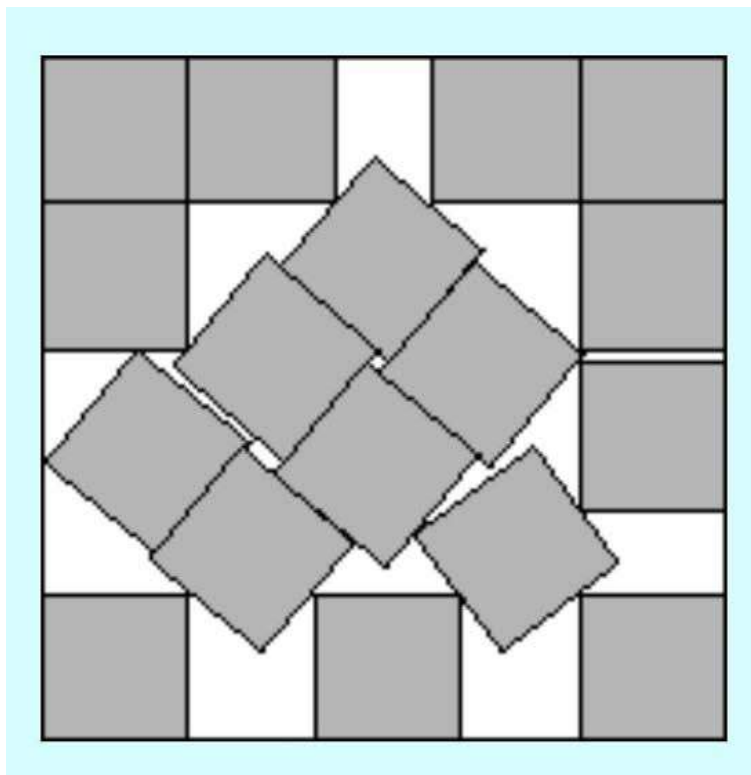
Walkthrough of Sloopdoku: <https://www.youtube.com/watch?v=lpeEJNITth8>

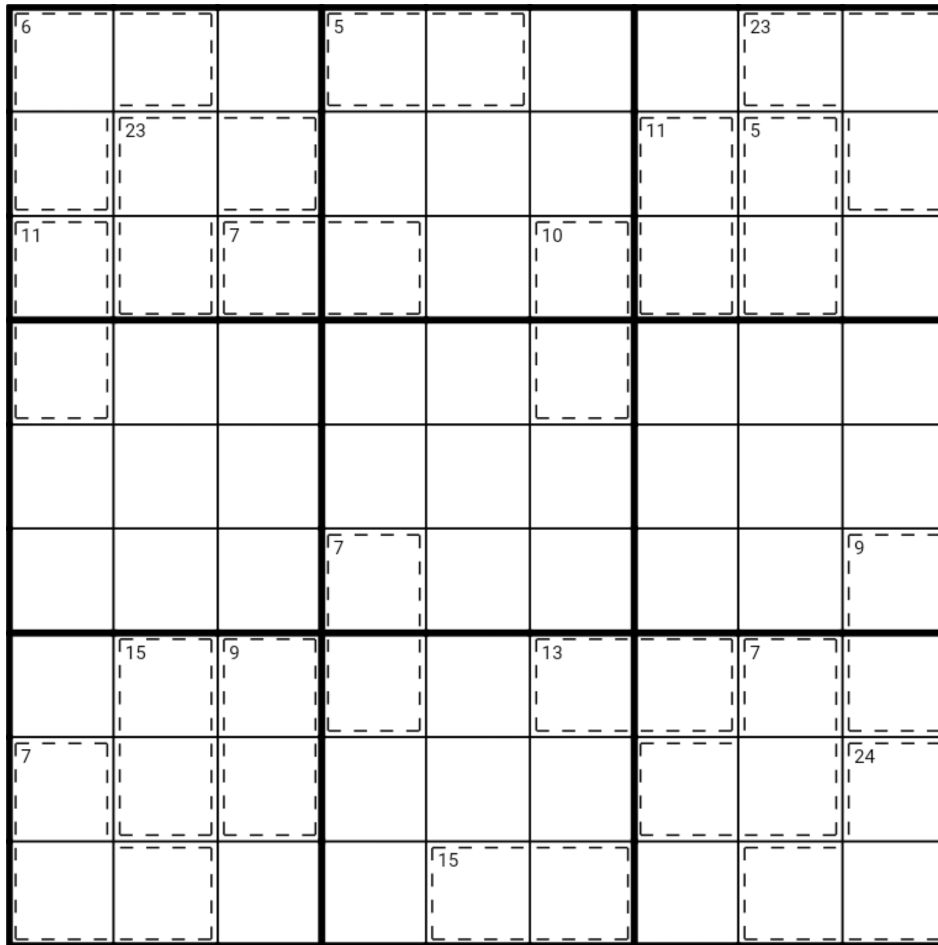
The square packing problem is a type of geometry problem. The goal is to find the smallest possible "outer square" that will fit N "inner squares" that are each 1 unit wide and 1 unit tall.

Sometimes the optimal solution looks very "sloppy" to human sensibilities. The lack of a uniform grid or pattern, where some squares look to be misaligned or a lot of space looks wasted, counterintuitively leads to a smaller value for 's' than something more "organized" might be. 'N=17' is one such "frustrating" solution.

Today, you're going to have to pack a bunch of similar numbers into a small amount of squares in this *Killer Sudoku*!

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





F-puzzles: <https://f-puzzles.com/?id=ys95pn3u>
CTC: <https://tinyurl.com/49yhvm9d>

November 30, 2023: Say What You See

Philip Newman

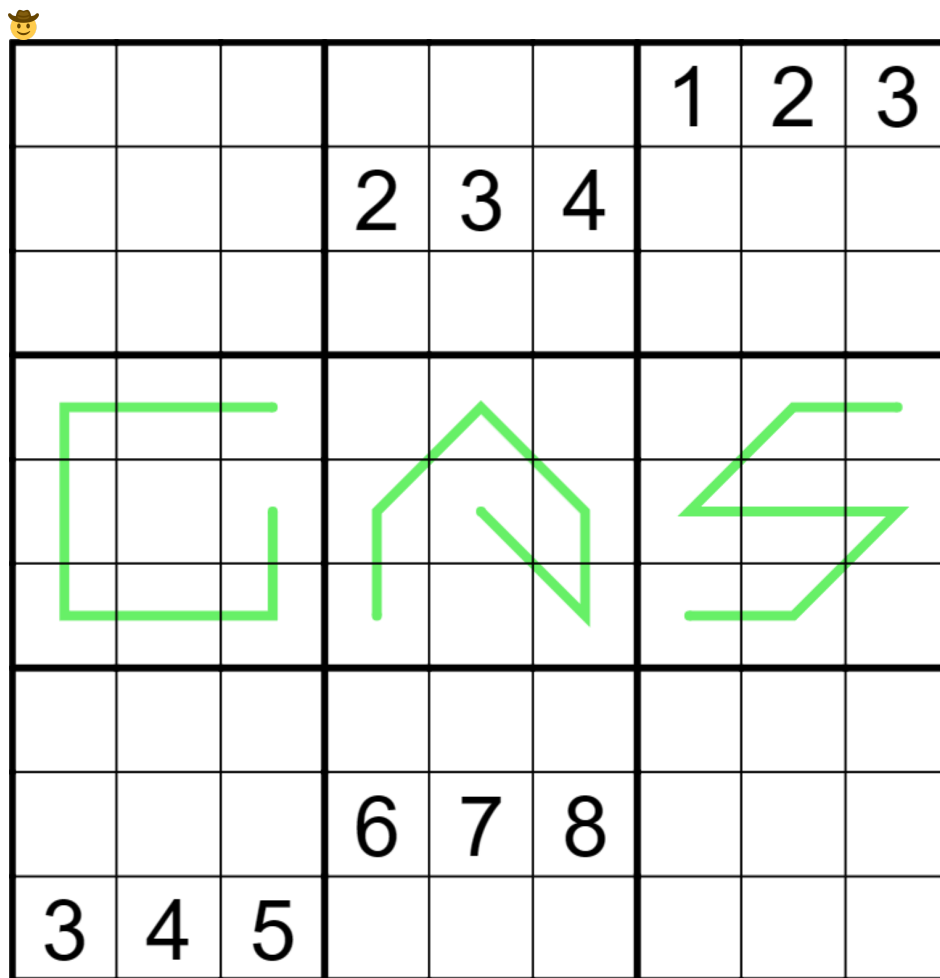
Walkthrough of "Heart of Gold" by Bill:

<https://www.youtube.com/watch?v=aC7h8CnYlwk>

Today's GAS is a **German Whispers Sudoku**; it doesn't come with an intro, it comes with a special announcement post!

Normal sudoku rules apply.

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



Play on f-puzzles: <https://f-puzzles.com/?id=ysqhcb6t>

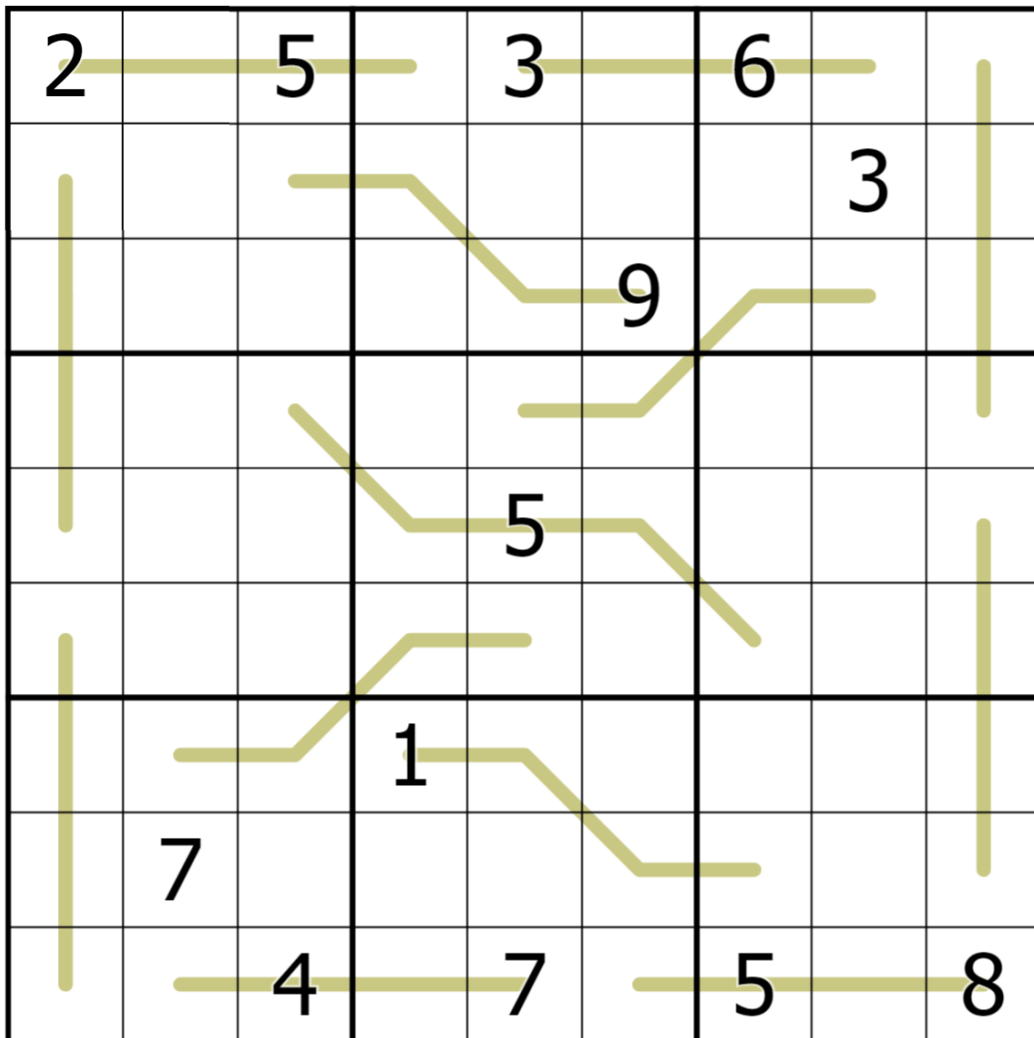
Play on SudokuPad:

<https://sudokupad.app/philip-newman/20231130-say-what-you-see-v2>

Bonus 1: Nabner

Philip Newman

Normal sudoku rules apply. Gold lines never contain digits that are equal or consecutive: for instance, if an 8 appears on a line, then 7, 8, and 9 must never appear anywhere else on that line.



<https://sudokupad.app/philip-newman/nabner-sudoku>

Bonus 2: Bakpao Took Over 2 Minutes

Bill Murphy

Normal Sudoku Rules Apply. Cells containing a circle must contain a 1, 2 or 3. Cells containing a square must contain a 4, 5 or 6. Cells containing neither must contain a 7, 8 or 9.

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

<https://app.crackingthecryptic.com/bill-murphy/bakpao-took-over-2-minutes>

Bonus 3: Max Pair Sudoku

Clover

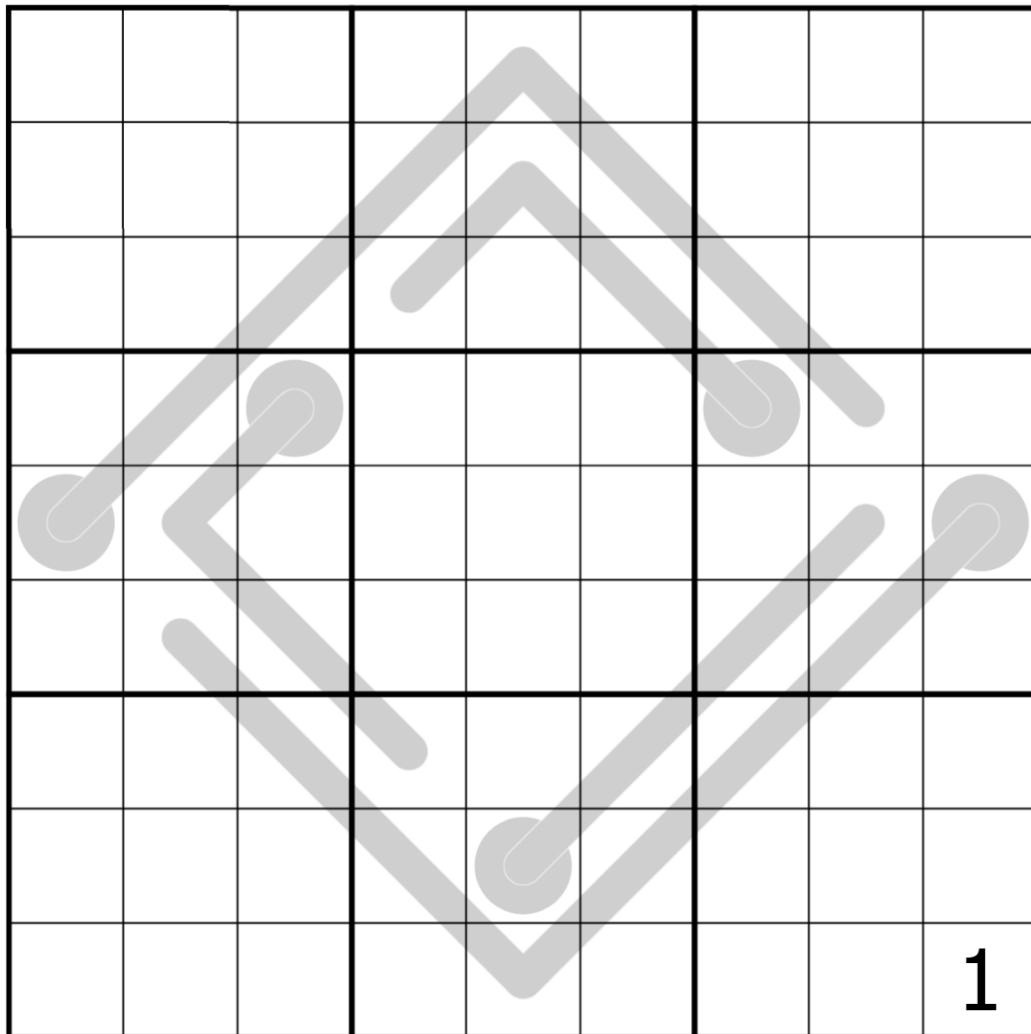
Normal sudoku rules apply. Clues outside of the grid give the largest possible sum of any pair of adjacent digits in that row or column. For instance, if a "13" appears above a column, there must be at least one pair of adjacent digits in that column that sum to 13, and no pairs have a sum greater than 13.

		11			17	13	17			11
11	7				9					8
			8							
17							2		1	
13										
17	1		7							
						9				
11	9				8					7

<https://sudokupad.app/clover/max-pair-sudoku>

Bonus 4: Thermo
Philip Newman

Normal sudoku rules apply. Digits along thermometers must strictly increase, starting at the round bulb.

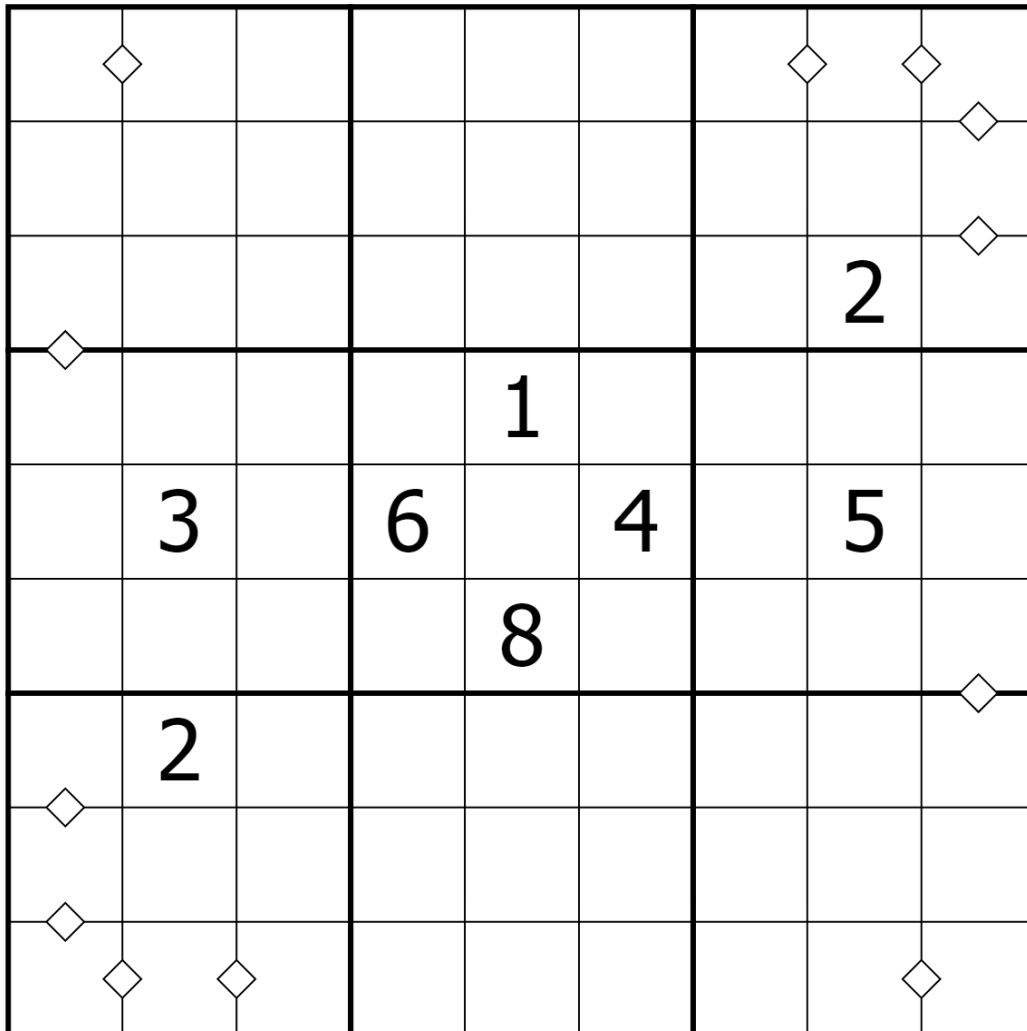


<https://sudokupad.app/philip-newman/thermo-sudoku>

Bonus 5: Perfect Squares Sudoku

Bill Murphy

Normal Sudoku Rules Apply. A diamond between two cells indicates that the two-digit number formed by those two cells is a perfect square. All diamonds are given.



<https://app.crackingthecryptic.com/bill-murphy/perfect-squares-sudoku>

Special Announcement

Philip Newman

We have a website!

<https://sudokutheory.com/gas/>

I will be maintaining an archive of the GAS Leak PDFs here in case you don't feel like searching through discord pins; there are also links to our Patreons and other resources relevant to GAS or the team. (I might also update the layout rather than stick with something I hacked together over lunch. If @clover lets me.)

Time Benchmarks

	 Two party hats	 One party hat	 Today's dinosaur:
Nov 1, 2023	6:00	12:00	con-niving Conchoraptor
Nov 2, 2023	9:30	17:00	Interviewing Ilokelesia
Nov 3, 2023	8:00	15:00	Armed Arkharavia
Nov 4, 2023	8:30	16:00	weary Willinakaqe
Nov 5, 2023	7:00	13:00	Streaming Struthiomimus
Nov 6, 2023	6:16 = 4 Tantans	15:40 = 10 Tantans	sauropod to be named later Named-Later Normanniasaurus 
Nov 7, 2023	6:00	11:00	lovable Lophorhothon
Nov 8, 2023	6:30	12:00	Unnecessary Unaysaurus
Nov 9, 2023	6:30	16:00	Blobsweat Buriolestes 
Nov 10, 2023	6:00	11:00	cunning Compsognathus
Nov 11, 2023	7:00	13:00	Silly Similicaudipteryx
Nov 12, 2023	6:00	K=00 12:00	DisORBiented Dachongosaurus
Nov 13, 2023	6:00	11:00	Linhenykus
Nov 14, 2023	6:00	11:00	Spherical Sphaerolithus
Nov 15, 2023	8:36	16:38	Carpeting Chondrosteosaurus
Nov 16, 2023	6:00	11:00	menacing Mendozasaurus.
Nov 17, 2023	6:30	11:30	Six-Pointed Siamodon
Nov 18, 2023	8:00	16:00	Additive Astrodon
Nov 19, 2023	6:30	12:00	self-rescuing Struthiomimus
Nov 20, 2023	8:30	16:00	Heart-Warming Hagryphus
Nov 21, 2023	7:30	15:00	Quotidian Qijianglong
Nov 22, 2023	7:00	13:00	engineering Elmsaurus
Nov 23, 2023	8:30	15:00	KRS-OMEisaurus
Nov 24, 2023	7:14	13:39	Leftover Loricosaurus
Nov 25, 2023	7:30	14:00	hyped Harpymimus
Nov 26, 2023	7:00	13:00	Shakespeare, Willinakaqe
Nov 27, 2023	PT5M30S	PT11M0S	ISOLated Inawentu
Nov 28, 2023	6:00	11:00	loopy Loricatosaurus
Nov 29, 2023	7:00	13:00	Off-Centre Opisthocoelicaudia
Nov 30, 2023	8:00	15:00	Announcing Anhuilong

Hints

Hint for November 6, 2023

GAS 101 Hint: For large X-Sums values, "outies" are very important! Remember, an entire row or column has a sum of 45.

Hints for November 18, 2023:

GAS 101 Hint: All those 5-cell cages are only to allow for the Opening SECRET - you should start by determining the central digit in each box!

Hints for November 20, 2023:

I don't know if a GAS 101 is necessary, but I'll put one here just to be on the safe side. Some of these totals are very restricted. If you want to take a second before this puzzle, look at both the 15 clue and the 14 clue adjacent to box 3 and convince yourself there's only one possible way to make those combinations under this constraint.