

# GAS Leak

Genuinely Approachable Sudoku  
from the CtC Discord

Volume 30:

July 1 – July 31, 2023

Welcome to July!

We got a full month of GAS puzzles for you, one better than the other. Clover gave us a few unusual puzzle types, Philip had a series of Monty Python references and Bill made sure we don't forget how to solve classic sudoku. We also had a T-Rex among our prizes.

The very last puzzle starts the August series where you can get bonus hats by predicting correctly the puzzle type of the following day. Obviously GAS Leak readers have to wait a full month to get the solution to this prediction.

Have fun solving!

**July 1, 2023: Renban Walls**  
clover!

The Great Wall of Renban, shown in the attached image, can be seen quite clearly from low Earth orbit - one of few human-made structures to achieve this distinction. (The same is only arguably true of the Great Wall of China; according to astronaut Ed Lu, "It's less visible than a lot of other objects. And you have to know where to look.")

Normal sudoku rules apply. Also, there are some vertical purple lines in the grid called "renban walls". For each of these walls, the following are true:

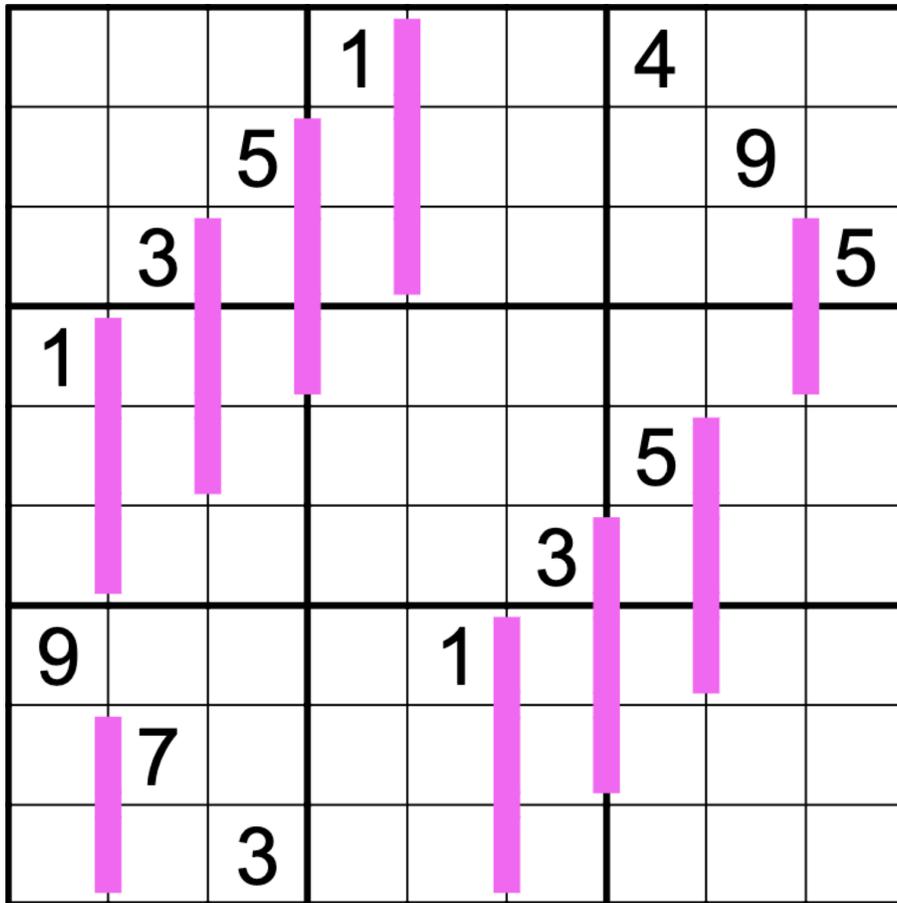
The cells touching one side of the wall contain a set of consecutive digits, in any order.

The cells touching the other side of the wall also contain a set of consecutive digits, in any order.

When taken together, all of the cells touching the wall contain a set of consecutive digits, in any order.

For example, r456c1 form a consecutive set, r456c2 form a consecutive set, and all six of those cells together also form a consecutive set.

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



f-puzzles: <https://f-puzzles.com/?id=25tebn7h>  
 CtC: <https://tinyurl.com/4wybsbmr>

Shoutout to @heliopolix for sharing the constraint with me and also typesetting and testing the f-puzzles/CtC versions of today's GAS! 🙌

**July 2, 2023: Favor**  
 Bill Murphy

For reasons enough of you will understand, I have a fear of deep water. I had it before, but I absolutely had it after. My secret to dealing with it? Every time I'm near a large body of water, I take a photo of myself flipping it off (giving it the middle finger) as an absolute sign of disrespect and a complete and utter refusal to let my fear control me. (I'm at the Sydney Harbour tonight and you better believe that it is about to receive maximum disrespect)

What's this gotta do with GAS? Today's GAS is a fortress sudoku and I just wanted to let my emotional walls down a little 😊

*Normal Sudoku Rules Apply. Digits in grey cells must be greater than digits in orthogonally adjacent white cells.*

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

f-puzzles: <https://f-puzzles.com/?id=2fbvw6fs>  
 CTC: <https://tinyurl.com/uzj39kw7>

## July 3, 2023: Clone Vats

Philip Newman

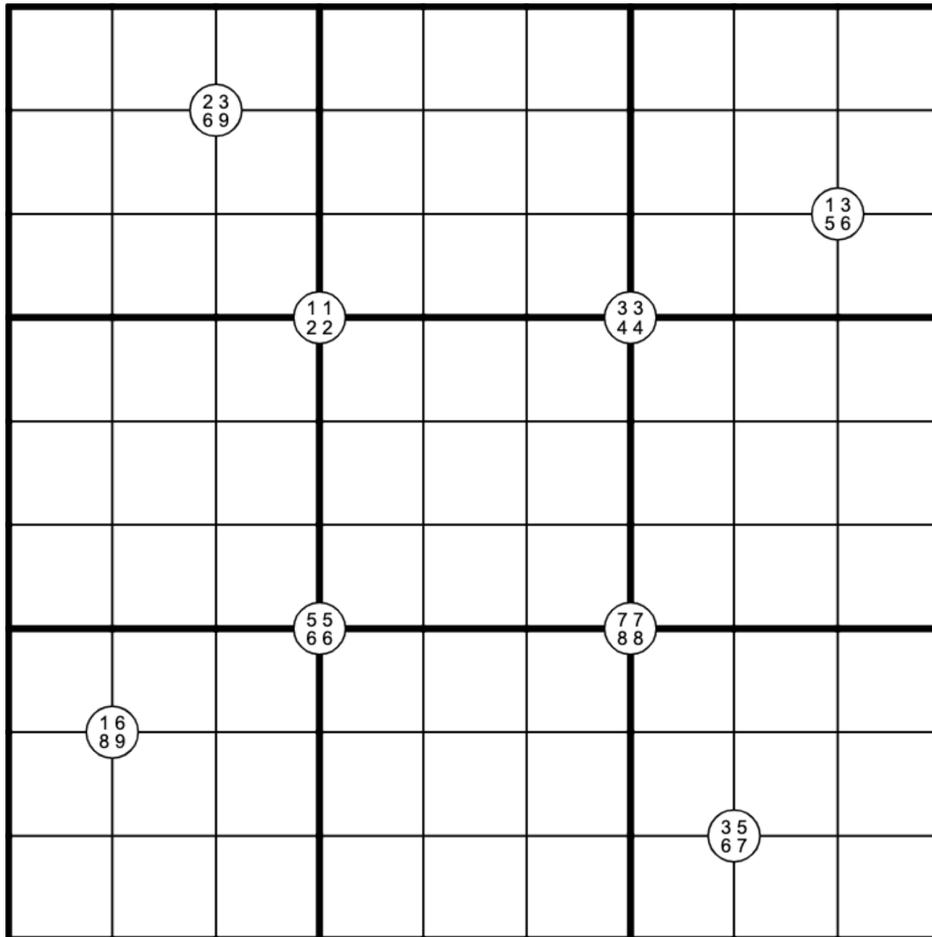
Did you ever wonder how we grow our clone puzzles here at Groovy Attractive Setters, Inc.? No? Well, tough, you're about to find out anyway.

Our organic free range Clone Sudoku start out as tiny eggs. Each egg initially obeys normal sudoku rules; however, by chanting "YLPPA TON OD SELUR UKODUS LAMRON" over them, we cause a digit duplication to occur within. Eventually, these tiny eggs hatch and ooze their clone regions all over the grid in a process that can only be described as "something Philip just made up".

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=25kqnwt3>

Play on CTC App: <https://tinyurl.com/4dbzj7um>

**July 4, 2023: X-Sums Sudoku**  
 clover!

Today's GAS is an **x-sums sudoku**. The "x" stands for "xI'm sick and overslept, sorry."

Normal sudoku rules apply. Clues outside of the grid tell you the sum of the first X digits in that row or column, counting from the direction of the clue. "X" is the value of the digit nearest the clue in that row or column. So, for instance, if a row starts with 3475, its clue would be  $3+4+7 = 14$ .

The grid is an 8x8 square with a 4x4 sub-grid structure. Clues are circled numbers placed outside the grid. Pre-filled numbers are placed inside the grid cells.

			7	8	9				
							5		
			4	5	6				
		4							

Clues (circled numbers):

- Row 1: 5 (above col 1), 11 (above col 3), 24 (above col 5), 45 (above col 6)
- Row 2: 3 (left of col 1)
- Row 3: 19 (right of col 8)
- Row 4: 16 (left of col 1)
- Row 5: 3 (right of col 8)
- Row 6: 45 (below col 1), 12 (below col 2)
- Row 7: 11 (below col 4), 5 (below col 6)

f-puzzles: <https://f-puzzles.com/?id=2xoz5fyb>  
 CtC: <https://tinyurl.com/8a3jfbrx>

**July 5, 2023: Crow**  
Bill Murphy

It's the GAS HQ Janitor Baz here, Bill left his laptop open and an envelope on his desk. He's not around, but the envelope said "In case of emergency" and the people need those puzzles, so I opened it.

It said:

*Hey there,*

*if you're reading this, I'm out and about at the minute. I'm either still in sydney or even more unthinkable, on a date. Whoever finds this should post this Classic Sudoku in my absence. I'll be back soon!*

*Love, Bill*

He then went on to say, *Put the digits 1-9 in each box, row and column.* [He also wrote about times and dinos, which are now in the table in the back]

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

f-puzzles: <https://f-puzzles.com/?id=2xtduxu4>

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

Oh well, back to cleaning!

## July 6, 2023: Squaring the Square

Philip Newman

Do you ever feel like you've seen everything the internet has to offer? You've run out of Tom Scott videos, twitter is a dumpster fire, and you can no longer tell whether the cute animal pictures are real or part of the AI takeover of the world.

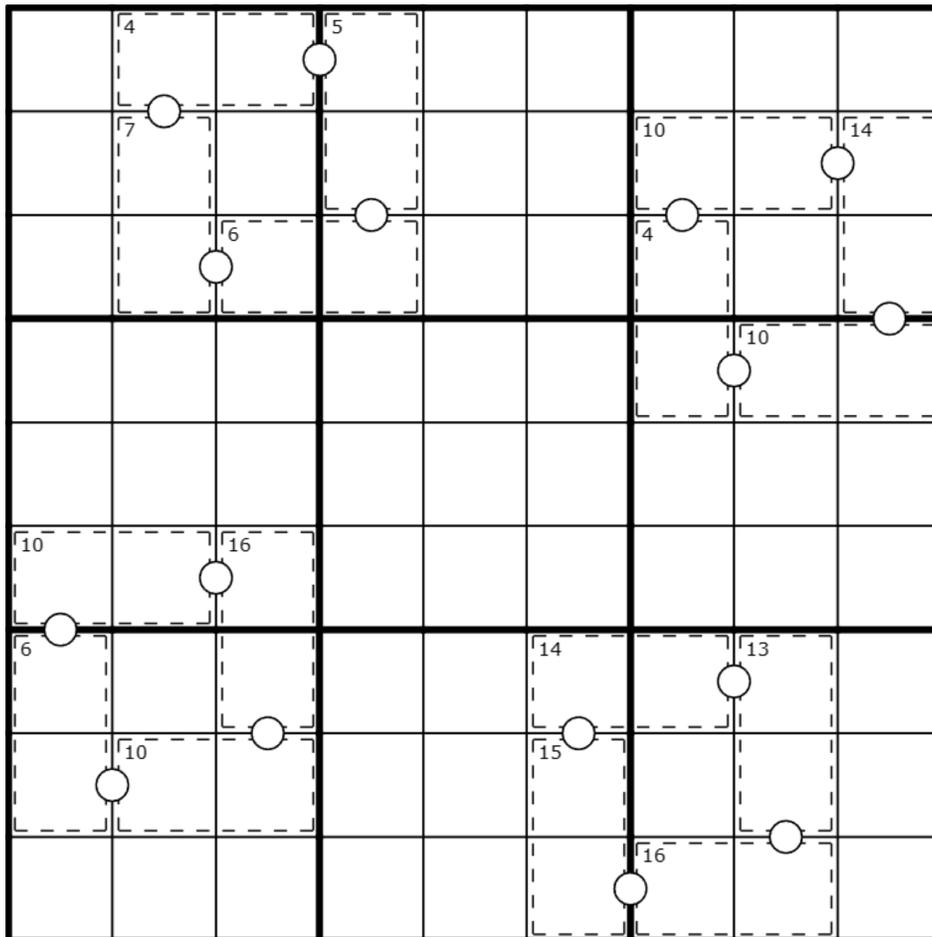
Well, that's where I am with writing intros. (Maybe I should get back on ChatGPT...)

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

Normal sudoku rules apply.

**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.)

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



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

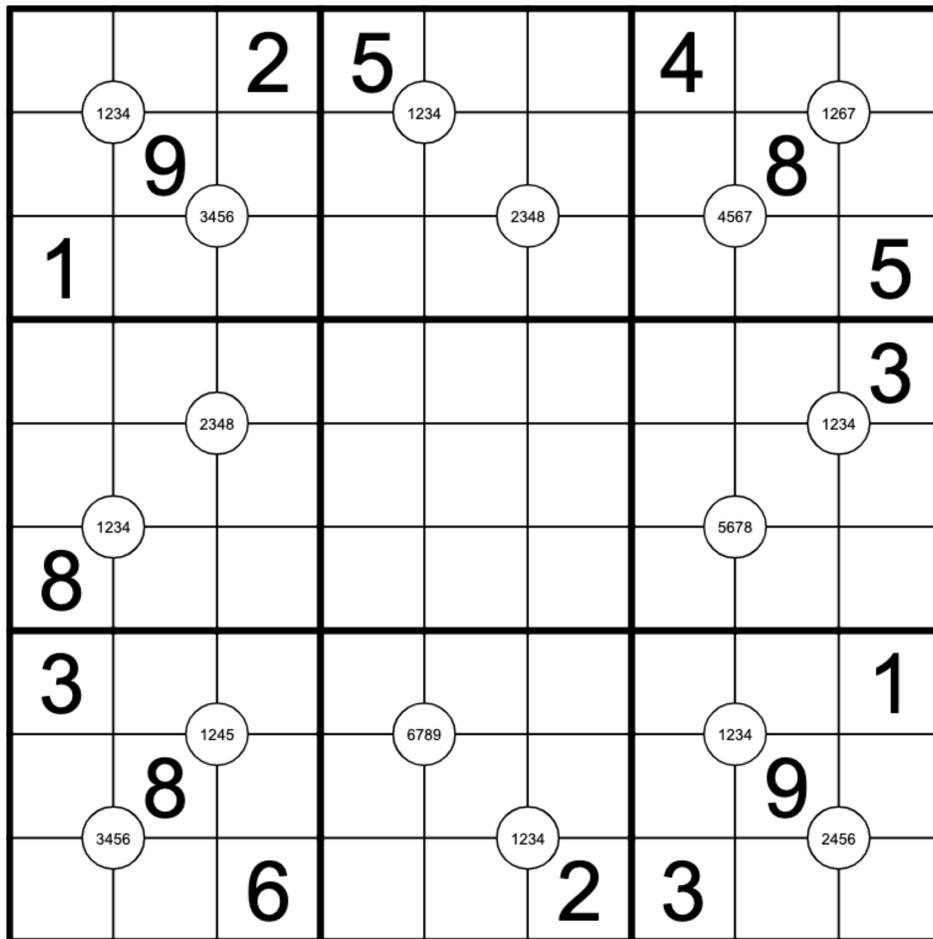
Play on CTC App: <https://tinyurl.com/mv25jy6z>

**July 7, 2023: Half Correct Quadruple  
clover!**

I try to avoid writing the date on my GAS puzzles in abbreviated (MM/DD/YY) form, because getting teased by Europeans feigning confusion isn't my favorite way to start the morning. 😊 But today is 7/7, the perfect day to post a **half-correct quadruples** GAS with an extra-long title, squeeze the date in, and still make everybody happy!

Side note: today's GAS uses a sudoku variant that appears in this weekend's round of the Sudoku Grand Prix. Usual bonus hat offers apply, please see pinned posts for details.

Normal sudoku rules apply. The grid also contains some white circles, each of which contains four different digits. For each of these circles, exactly two of the four indicated digits appear somewhere in the four cells surrounding the circle; the other two digits do not appear anywhere in those four cells.



f-puzzles: <https://f-puzzles.com/?id=2yd3wrn7>  
 CtC: <https://tinyurl.com/2ckf7dk9>

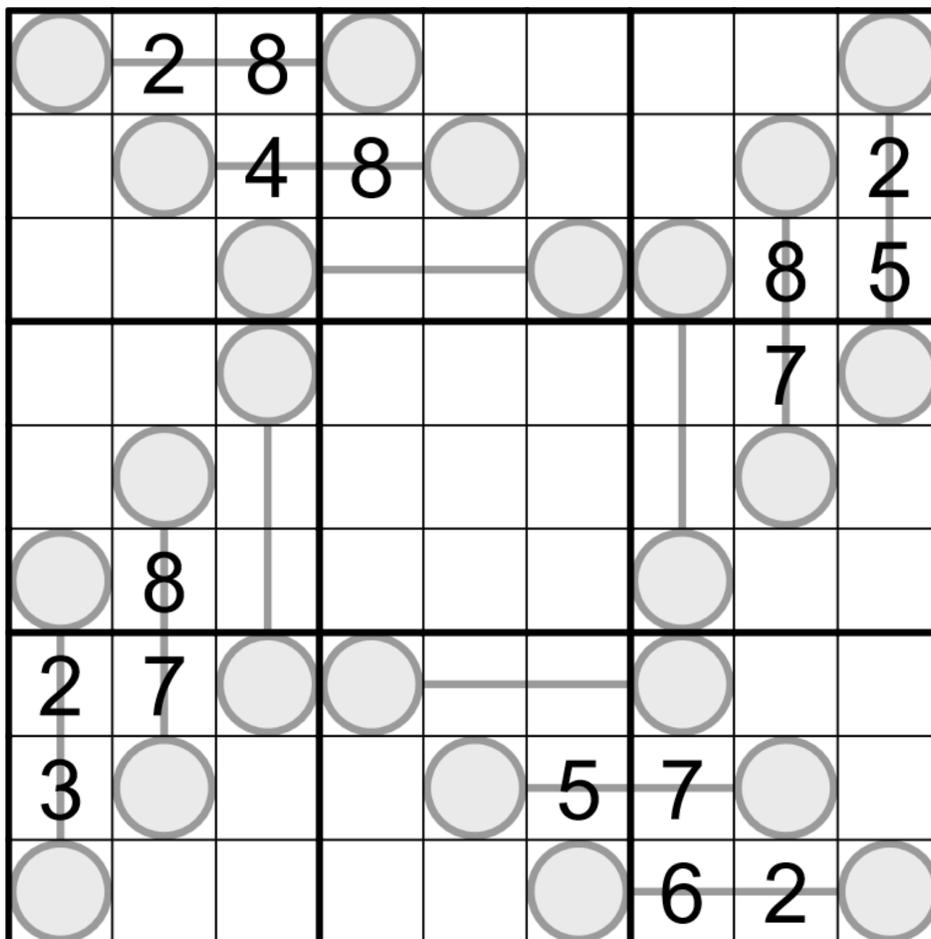
## July 8, 2023: Between the Bars

Bill Murphy

Howdy y'all, the next round of the Sudoku World Cup is up, with the Italians delivering a delightful range of puzzles. The IB is out and the bonus offer stands, one hat for attempting a puzzle, one hat for completing the booklet. (The Half-Correct Quadruples puzzle from yesterday is one of the rulesets from it) (I'm calling them Halfruples and nobody can stop me)

Has anyone ever given you a bit of advice that you've taken to heart? I'm not talking about the classic proverbs like "Too many cooks spoil the broth", "Better late than never", "Easy come, easy go" etc. I'm talking like real *life advice*. My grandfather once told me Beware the *P-Plater in the White Commodore* (That one's for my Australian homies) and My Mum once told me *Don't date someone who doesn't have a butt*. Sound off in the comments if you've got a memory like that.

Today's GAS is a Between Lines Sudoku. *Normal sudoku rules apply. Digits on lines connecting circles must lie between the circled digits numerically.*



f-puzzles: <https://f-puzzles.com/?id=2o85gclk>

CTC: <https://tinyurl.com/4dkt496e>

**July 9, 2023: Amongst Our Variantry**  
Philip Newman

NOBODY EXPECTS PHILIP POSTING EARLY!

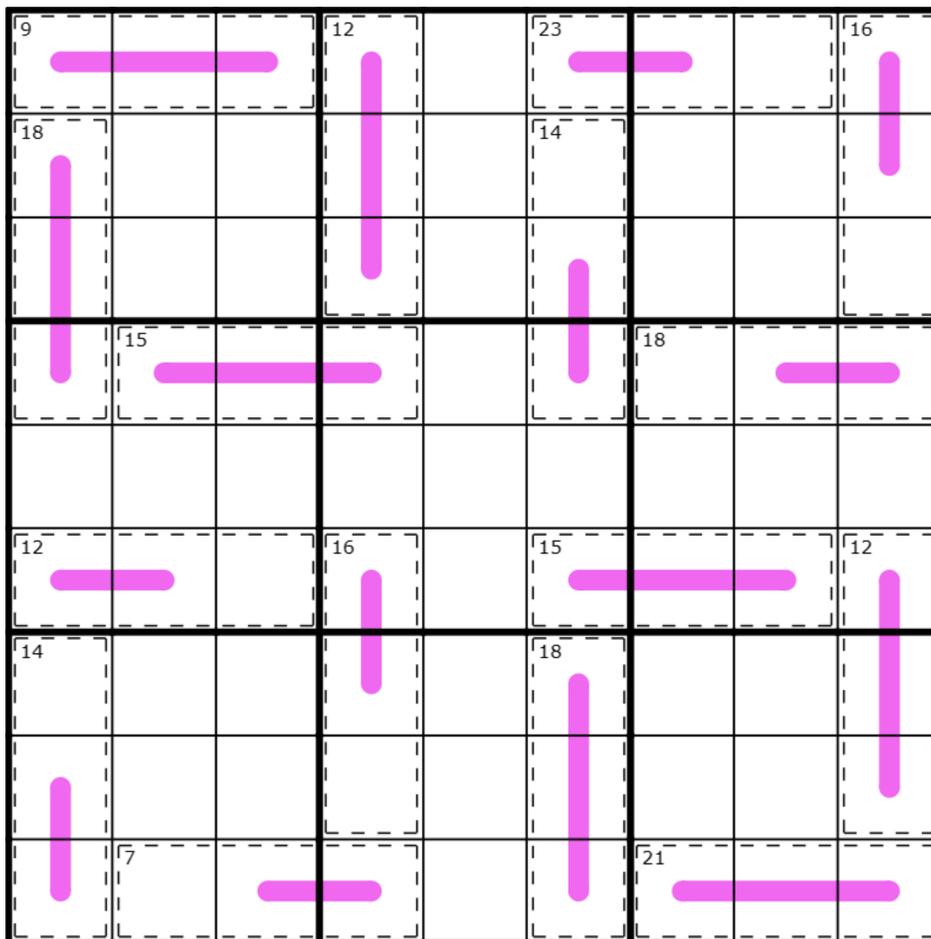
[JARRING CHORD]

Amongst today's **GAS** variants are **Killer Renban Sudoku!**

Normal sudoku rules apply.

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

**Renban:** Digits along purple renban 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=286vrjuh>

Play on CTC App: <https://tinyurl.com/5at8mjye>



**July 10, 2023: Caterpillars**  
clover!

Today's **entropic lines/kropki pairs** GAS celebrates the **processionary caterpillar**, a little fella who always travels nose-to-tail with his friends for safety. (He's also responsible for most of the damage done by pests to coniferous trees in parts of Europe, but hey, nobody's perfect.)

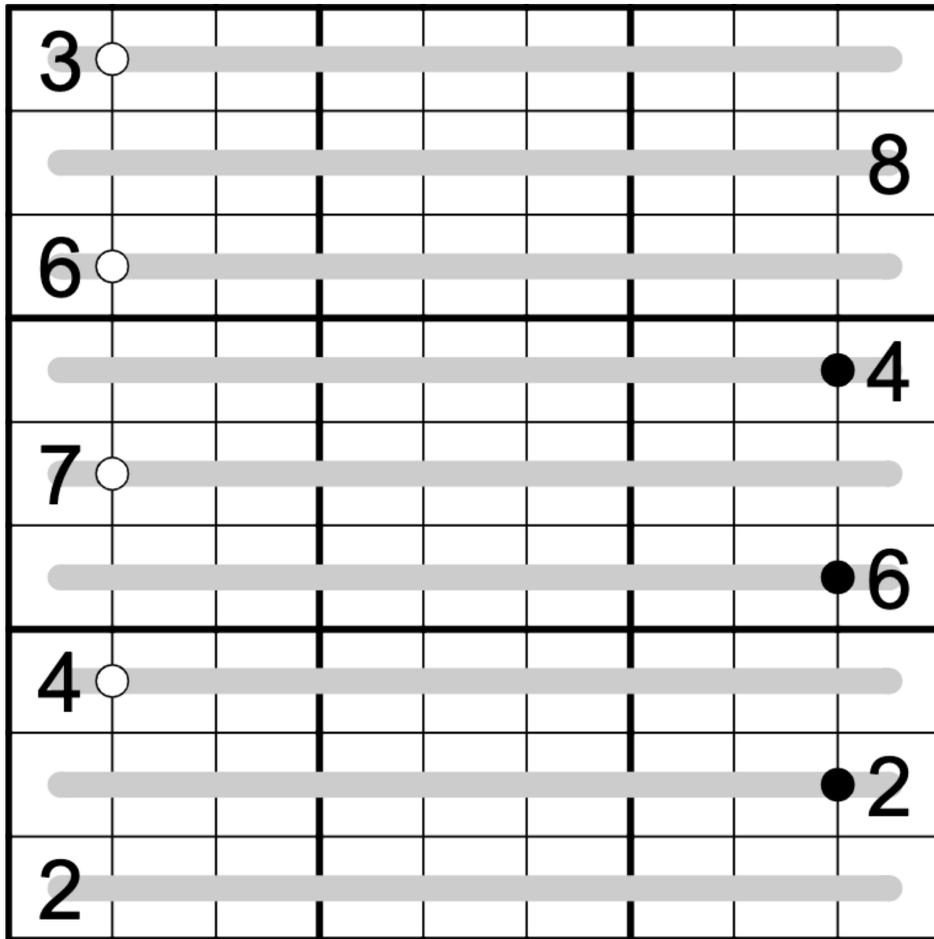
Normal sudoku rules apply.

Along each line, every set of three contiguous digits includes one low (123), one medium (456), and one high (789) digit. (Note that this causes digits along each line to alternate in a pattern, such as LHMLHMLHM).

Digits separated by a white dot are consecutive. Digits separated by a black dot are in a 1:2 ratio. Not all possible dots are necessarily given.



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



f-puzzles: <https://f-puzzles.com/?id=24m8usxe>  
 CtC: <https://tinyurl.com/4d583p9v>

## July 11, 2023: Relative Fiction

Bill Murphy

Hi!

I'm at pub trivia tonight, so here is an trivia question for you, a bonus hat if you can find the fake Australian Town in this list of Australian towns:

Useless Loop

Prominent Nob

Foul Bay

Woolloomooloo

Yanying

Banana

Come By Chance

Greg Greg

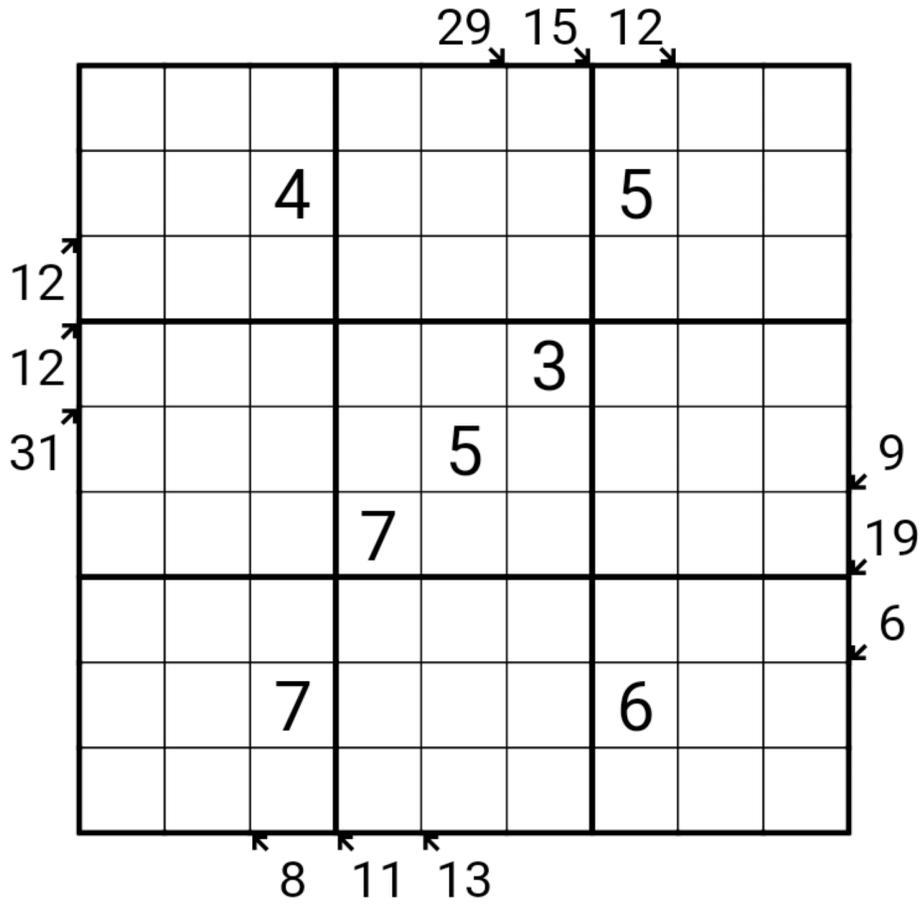
Dead Cat Gully

Today's GAS is a Little Killer Sudoku.

*Normal Sudoku Rules Apply. Clues outside the grid give the sum of cells along the indicated diagonal.*

[Typesetters note: the solution to the quiz is at the end of this document]

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



f-puzzles: <https://f-puzzles.com/?id=2q2v2ml2>  
 CTC: <https://tinyurl.com/yw77bs46>

## July 12, 2023: Mr. Rightside

Philip Newman

NOBODY EXPECTS A MUSICAL NUMBER!

[LESS-JARRING CHORD 🎵]

[Redacted Hint at the end of this document]

Some grids in life are tough  
They can really make you huff  
Pencilmarks just make you swear and curse  
When you're feeling out of GAS  
And your solve's at an impasse  
Just remember you can bifurcate instead  
And

Always look on the right side of grid  
Those are all the givens that I did

If GAS feels jolly rotten  
There's something you've forgotten  
Your cursor's likely hov'ring over it  
Forget about the hats  
In advance I say "congrats!"  
A dino waits (as long as you don't quit)  
And

Always look on the right side of X  
Starting on the left will just perplex...

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

Normal sudoku rules apply.

Diagonal: Digits along the indicated diagonals cannot repeat.

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

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

Play on f-puzzles: <https://f-puzzles.com/?id=2yxjb86t>

Play on CTC App: <https://tinyurl.com/3rccempd>

**July 13, 2023: GAS, Kansas**  
 clover!

Let me introduce you to a place just down the road from me: the town of Gas, Kansas. Their water tower is painted red and labeled "GAS KAN," and the town motto is *Don't pass Gas, stop and enjoy it.* (Mark, I swear this is true. Fact check me.)

For today's GAS (, Kansas), normal **8x8** sudoku rules apply: that is, fill the grid with the digits 1 to 8 so that each row, column, and 2x4 region contains each digit exactly once. Also, for every pair of digits separated by a bold region border, one of the digits is odd and the other is even.

~~bonus hat offer: One bonus hat 🎩 for the first solver to include, along with their time, a good explanation of why this puzzle is 8x8 instead of 9x9: claimed by Niverio!~~

[Note from the typesetter: you can still solve this for yourself and check with Niverio's solution (printed at the end of this document)]

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

f-puzzles: <https://f-puzzles.com/?id=2z34dld2>

CtC: <https://tinyurl.com/ycyy4ahr>

**July 14, 2023: Waiting Room**  
Bill Murphy

I've been making GAS puzzles for a nearly a year now and I'm still fascinated by this and really enjoy pushing myself to be better and come up with interesting nonsense. The question I tried to answer with today's **Classic Sudoku** is "What's the fewest number of givens I can have if I limit myself to just [redacted, see at end] as the necessary techniques and still keep it fun and GAS? I'm quite proud of this one and I hope you enjoy.

*Normal Sudoku Rules Apply.*

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

F-puzzles: <https://f-puzzles.com/?id=23sp3a23>  
CTC: <https://tinyurl.com/yc6xzh2r>

## July 15, 2023: The Ministry of Random Walks

Philip Newman

As has been documented *extensively* in the past, we here at GAS, Inc. take security very seriously.

To ensure that no one can break into our top secret labs twice the same way, the constantly changing path through HQ has been designed by one of our security consultants, The Ministry of Random Walks.

*Ministry of Random Walks? I wasn't expecting a third Monty Python reference in a row...*

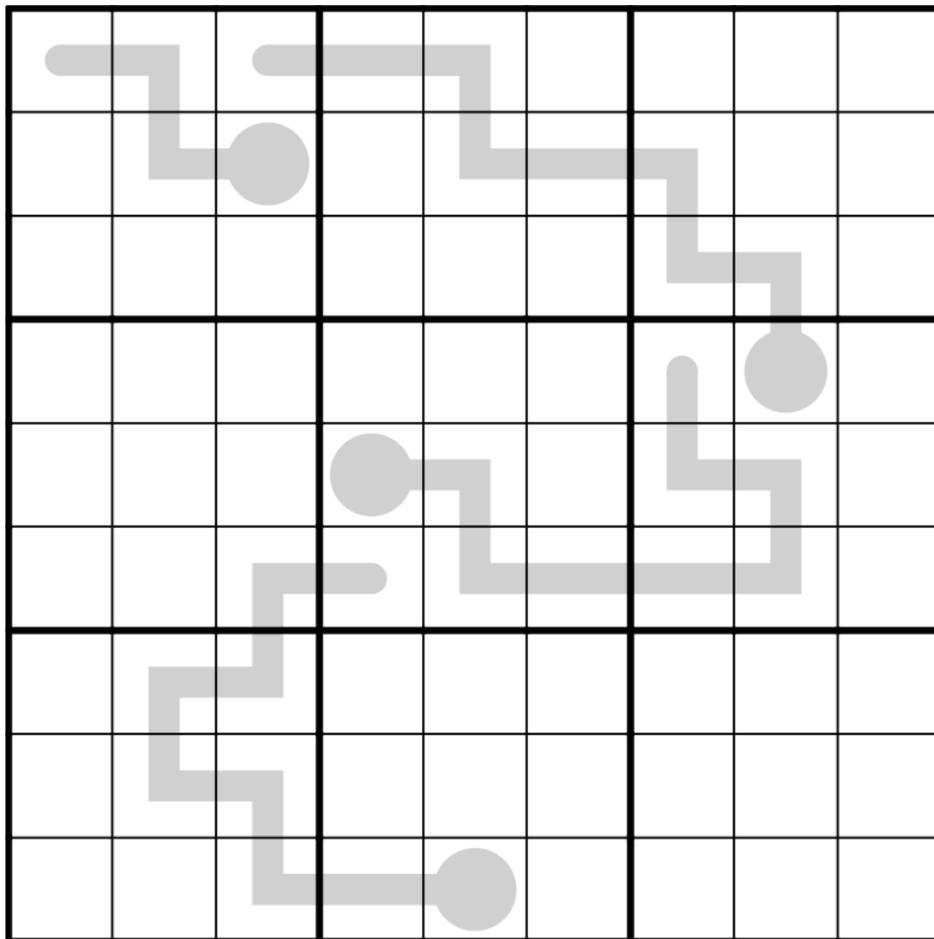
NOBODY EXPECTS A THIRD MONTY PYTHON REFERENCE IN A ROW

[JARRING CHORD]

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

Normal sudoku rules apply.

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



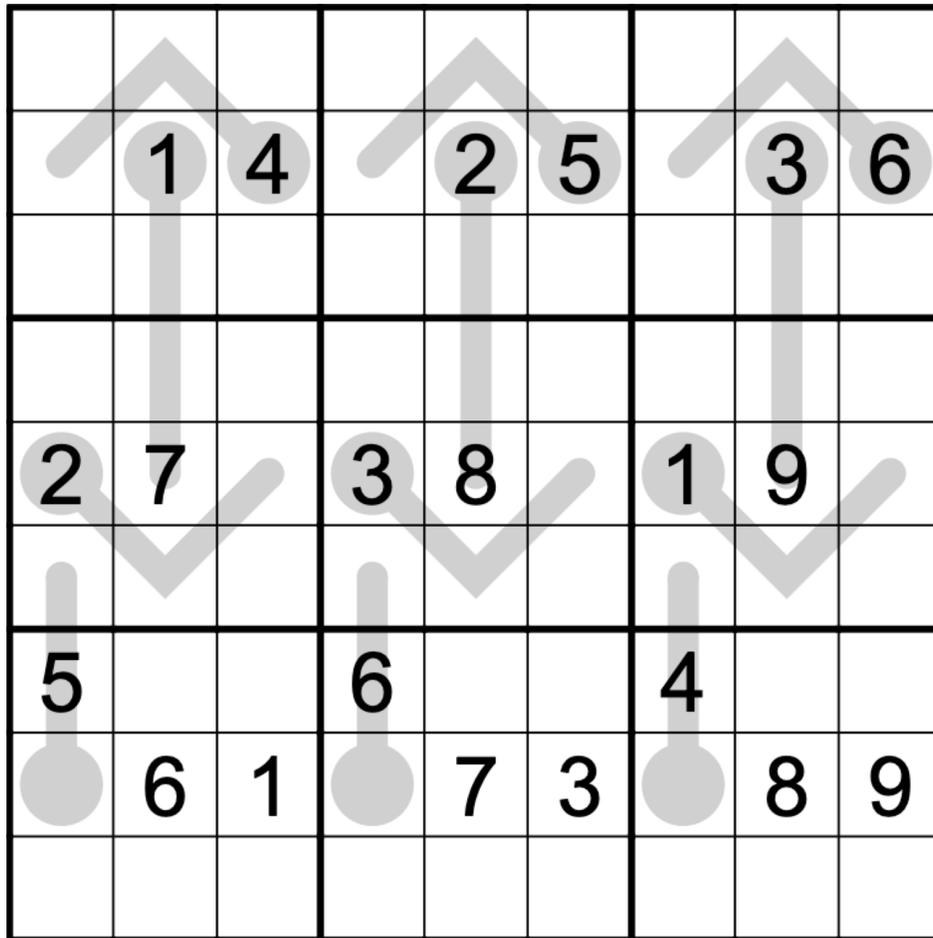
Play on f-puzzles: <https://f-puzzles.com/?id=2fjpdprpe>

Play on CTC App: <https://tinyurl.com/ymsnsr3y>

**July 16, 2023: Speed-Up Thermo**  
 clover!

Quick, let's go, get a move on, hurry up, shake a leg, chop chop, pick up the pace, get yer skates on, and solve this speed-up thermo GAS. 🏃🏃🏃 If you're quick enough, the relativistic effects of solving at a tremendous speed may even slow your aging process, giving you more time for puzzles.

Normal sudoku rules apply. Digits along thermometers must increase, starting from the round bulb. Also, each pair of digits along a thermometer, counting from the bulb, must have a strictly greater difference than the previous pair. For instance, 148 is a valid thermo, because the difference between 4 and 8 is greater than the difference between 1 and 4. However, 147 and 158 are not valid.



**July 17, 2023: Average Arrows Sudoku**  
Bill Murphy

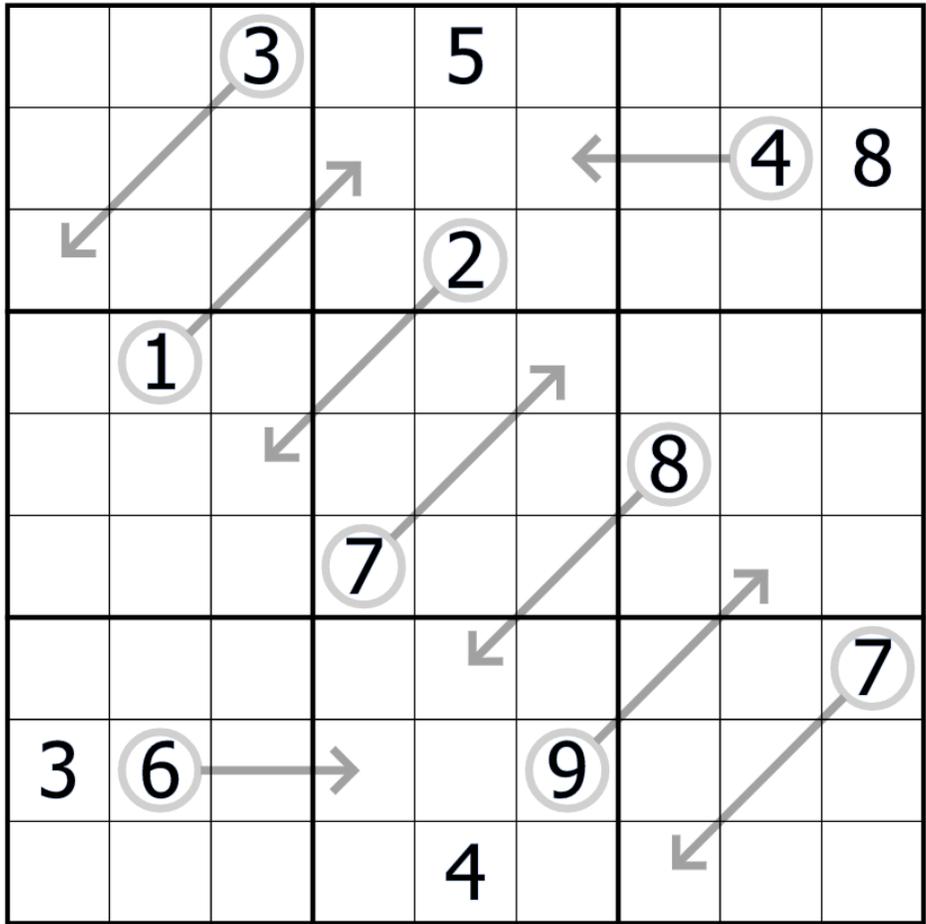
Did your parents tell you that you're special? They're right!

In the 1950's, the US Air Force discovered that nobody is average. WWII Pilots wore baggy uniforms to allow for different body sizes, but as the planes improved, the extra body space disappeared and they needed to tighten up. They sent 14 measurers to record 132 measurements of 4063 air force pilot bodies from which they covered things such as Nipple Height, Nose Length and Buttock-Knee Length. The Team computed the mean, standard deviation, range, quartile percents of this data with punch cards on early IBM machines and then they ordered uniforms to fit the "middle 30% of all measurements". Not a single person of all 4063 measured met all ten points on the tailored uniforms. The uniforms didn't fit anyone. Nobody's truly average 😊

This all points to today's GAS: **Average Arrows Sudoku!** (Thank you, I'll be here all week)

*Normal Sudoku Rules Apply. A digit in the bulb of the arrow is the average of digits along the arrow. (An average is the sum of the digits along the arrow divided by the number of digits, eg. the average of 5&7 is 6.)*

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



penpa: <https://tinyurl.com/2yljyf2f>  
 CTC: <https://tinyurl.com/dtps29e2>

**July 18, 2023: 20 is Right Out**  
Philip Newman

*Behind the scenes at GAS.*

**Philip:** I have another Monty Python reference. How, um — how many intros in a row can include one?

**bakpao:** Consult the Book of Introductions!

**Brother Murphy:** Introductions, chapter two, verses nine to twenty-one.

**Clover:** And Saint Capplemon-Limes raised the Holy Intro up on high, saying, 'O Lord, bless this Thy GAS Intro that, with it, Thou mayest confuse Thine solvers... in Thy mercy.'

And the Lord did grin, and the people did feast upon the birds 🐦, and crabs 🦀, and sloths 🦥, and —

**GAPP Team:** How dare you.

**Clover:** And the Lord spake, saying, 'First shalt thou take out the Monty Python references. Then, shalt thou count to three. No more. No less. Three shalt be the number of references thou shalt count, and the number of the counting shall be three. Four shalt thou not count, neither count thou two, excepting that thou then proceed to three. Five is right out. Once at the number three, being the third number be reached, then, lobbest thou thy Holy Intro of GAS towards thy solver, who, being speedy in My sight, shall laugh at it.'

**Philip:** Right! One! Two! Three! Four!

🚓 [police siren] 🚓

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

Normal sudoku rules apply. And that's it!

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

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

Play on f-puzzles: <https://f-puzzles.com/?id=2f92qpl8>

Play on CTC App: <https://tinyurl.com/5bbh63xu>

[redacted comment is at the end of this Leak]

**July 19, 23: SymSum Antiknight**  
 clover!

The Cantonese brunch tradition of dim sum translates literally to "touch the heart." If you eat some dim sum while solving this **sym-sum**, maybe you'll discover true love along the way - or at least you'll have a delicious puzzly meal. ❤️

🌟 *weird rule warning: this puzzle contains a new twist on a familiar ruleset.* 🌟

Normal sudoku rules apply. Digits separated by a knight's move, as in chess, must not be equal. Also, digits that are rotationally opposite each other (such as r1c2 and r9c8, or r5c4 and r5c6) always sum to 10. (See the attached image for more examples of rotationally opposite digits).

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

f-puzzles: <https://f-puzzles.com/?id=2p6w9jfx>

CtC: <https://tinyurl.com/bdeczdjw>

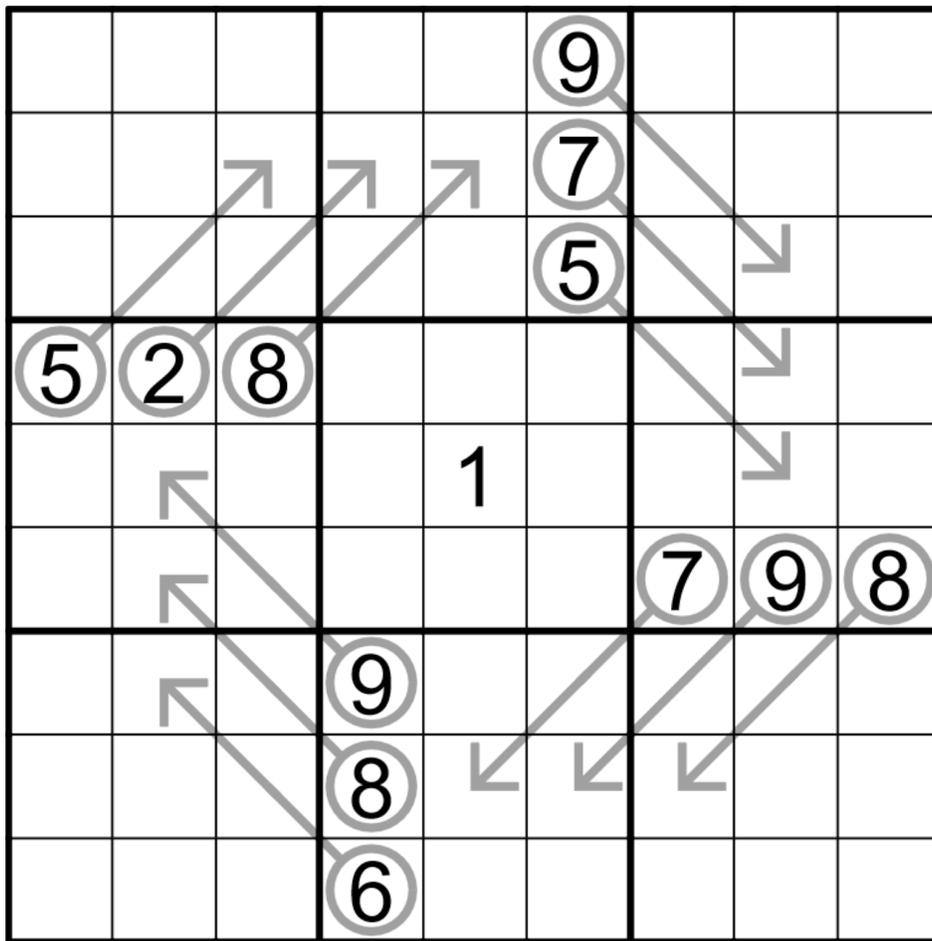
⇓⇓ (Hint image for the puzzle is on the next page) ⇓⇓

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

**July 20, 2023: Get My Bearings**  
Bill Murphy

Today's GAS is an **average Arrow** Sudoku. Not an average arrow sudoku, I mean. Not an sudoku where you calculate the mean of some arrows. Not an average solving sudoku either where your mode entering numbers will affect your time whether on web browser or phone, just a regular ol' **Arrow Sudoku**.

*Normal Sudoku Rules Apply. Digits along an arrow sum to the digit in the bulb.*



f-puzzles: <https://f-puzzles.com/?id=2ksgufch>  
CTC: <https://tinyurl.com/fttv8phz>

**July 21, 2023: Stinking Bishop**  
Philip Newman

Have you suddenly come over all peckish? Esurient, perhaps? Did you think to yourself 'a little fermented curd will do the trick'?

Well then, curtail your Walpoling activities, sally forth, and infiltrate our place of purveyance to negotiate the vending of some cheesy comestibles.

Today's **Cheese Shop** is a...

What's that? You'd like some Red Leicester? I'm afraid we're fresh out. Tilsit? Never at the end of the week, always get it first thing on Monday. Four ounces of Caerphilly? Been on order for two weeks, was expecting it this morning. Camembert?

Ah! We do have some Camembert. It's very runny... oh, the dino's eaten it.

Smoked Austrian? Sage Darby? Pippo Crème? Danish Fynbo? Czechoslovakian Sheep's Milk Cheese? Venezuelan Beaver Cheese? Not today, no.

Do we have any cheese at all? Well, no, but we do have a **Killer Kropki+XV Pairs Sudoku**.

Normal sudoku rules apply:

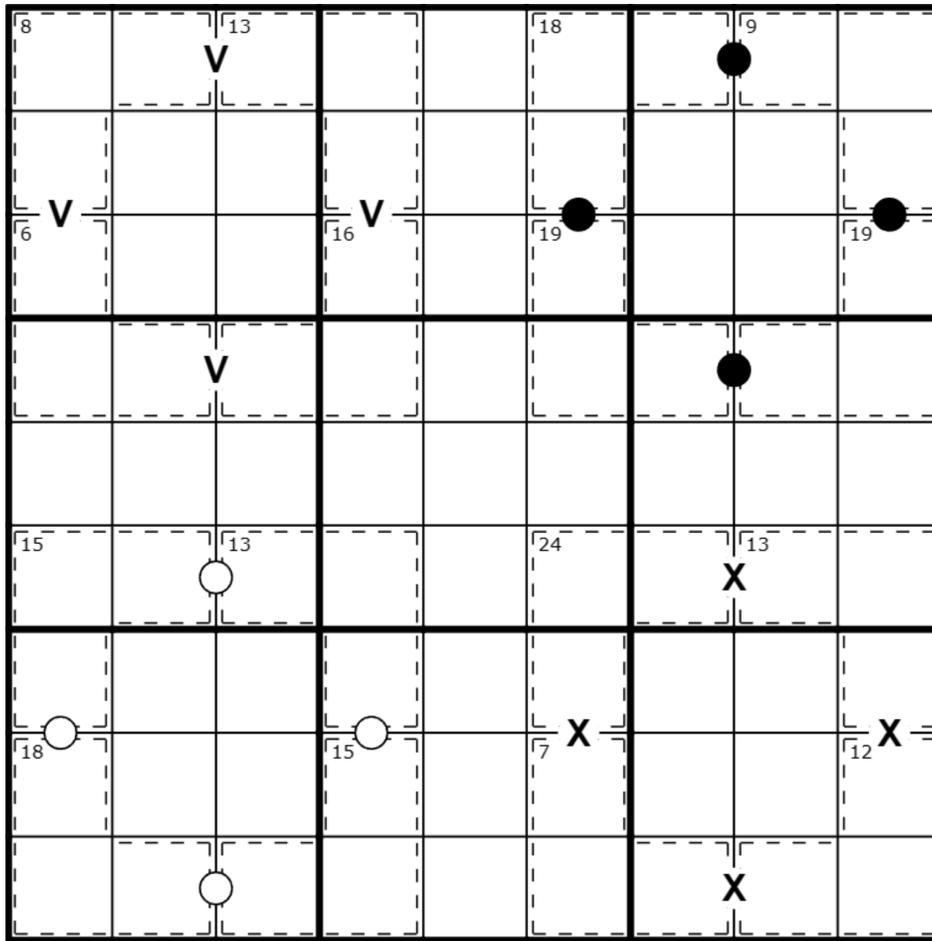
**Killer: Digits in cages cannot repeat and must sum to the total given.**

**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.)

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

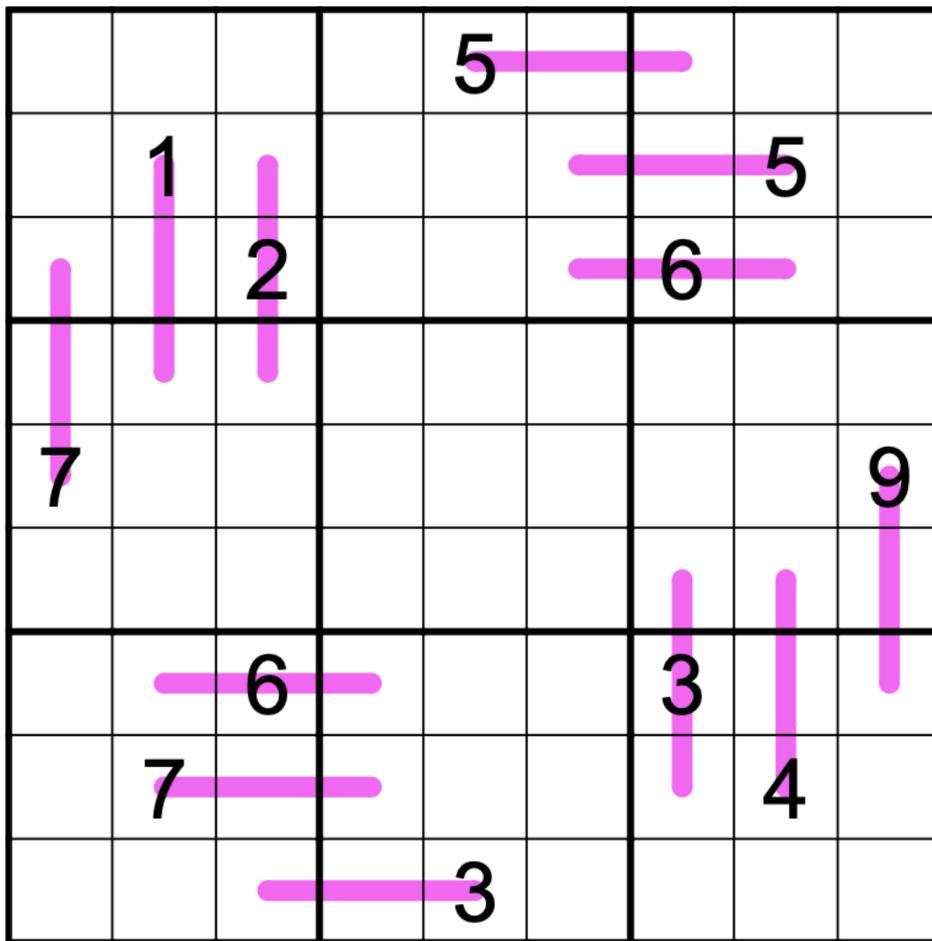


Play on f-puzzles: <https://f-puzzles.com/?id=2psd6dps>  
 Play on CTC App: <https://tinyurl.com/mtkc6x3k>

**July 22, 2023: Renban Sudoku**  
clover!

*Back in my day* (mid 2020, give or take), renbans weren't pink, and they weren't even lines! We had somethin' called *renban groups* and they looked like little gray rectangles and we were happy about it. f-puzzles didn't even have cosmetic tools yet - and SudokuPad? It wasn't even a twinkle in Sven's eye! GAS, what's that? If you've got GAS, honey, I have some Mylanta in the medicine cabinet... 🤔

In today's **renban sudoku**, normal sudoku rules apply. Also, each pink line contains a set of consecutive digits in any order, such as 243 or 876.



f-puzzles: <https://f-puzzles.com/?id=2eycms9k>  
CtC: <https://tinyurl.com/bdeeapcf>

July 23, 2023: 22  
Bill Murphy

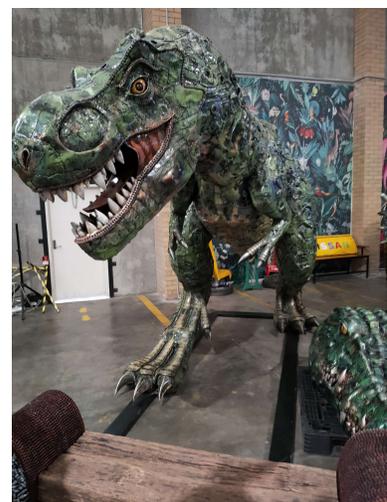
You see, Phillip misheard me, I said 22 is the minimum givens for a **good** genuinely approachable classic sudoku. 🙄😏 Easy mistake.

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

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

f-puzzles: <https://f-puzzles.com/?id=2jm594tz>

CTC: <https://tinyurl.com/5ev472pf>



**July 24, 2023: Fish Slapping Dance**  
Philip Newman

And now for something completely different...

The following video is a reenactment of what happens when I send Bill one too many whispers puzzles to test.

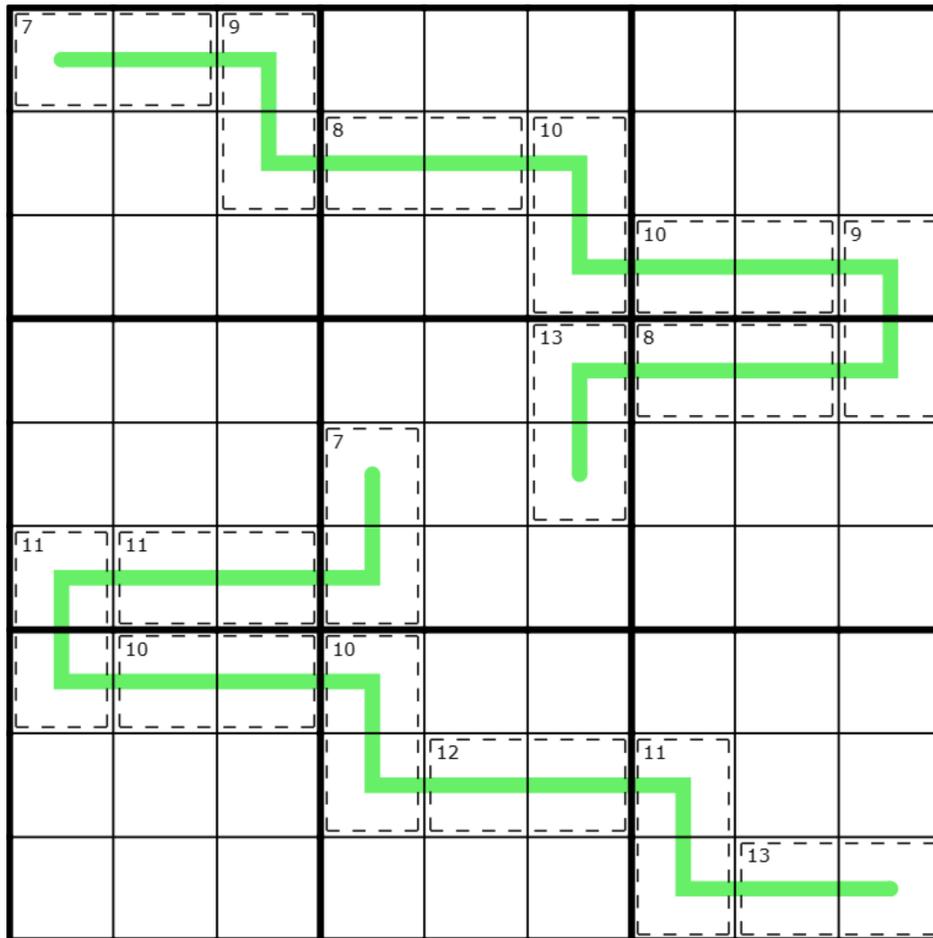
<https://youtu.be/lhJQp-q1Y1s> [Monty Python, Fish Slapping Dance]

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

Normal sudoku rules apply.

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

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



Play on f-puzzles: <https://f-puzzles.com/?id=25fs7b8w>

Play on CTC App: <https://tinyurl.com/2rj75xnj>

**July 25, 2023: Big and Small**  
 clover!

My partner often tests these puzzles for me before they're published (which is awesome). But I've been putting off posting this particular puzzle for weeks because I inadvertently bamboozled the aforementioned partner with it so thoroughly that I was afraid I'd turned them off of sudoku forever. 😊 In the interest of avoiding further bamboozling, I've included - in spoilers - two things you may want to read if you get stuck.

Normal sudoku rules apply. Also, there are some clues outside of certain rows and columns. These clues tell you the LARGEST of the three digits nearest the clue in that row or column. (For instance, the largest digit in r2c123 is a 5, and the other two digits in those cells are less than 5.)

[Both reminders are at the end of this document]

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

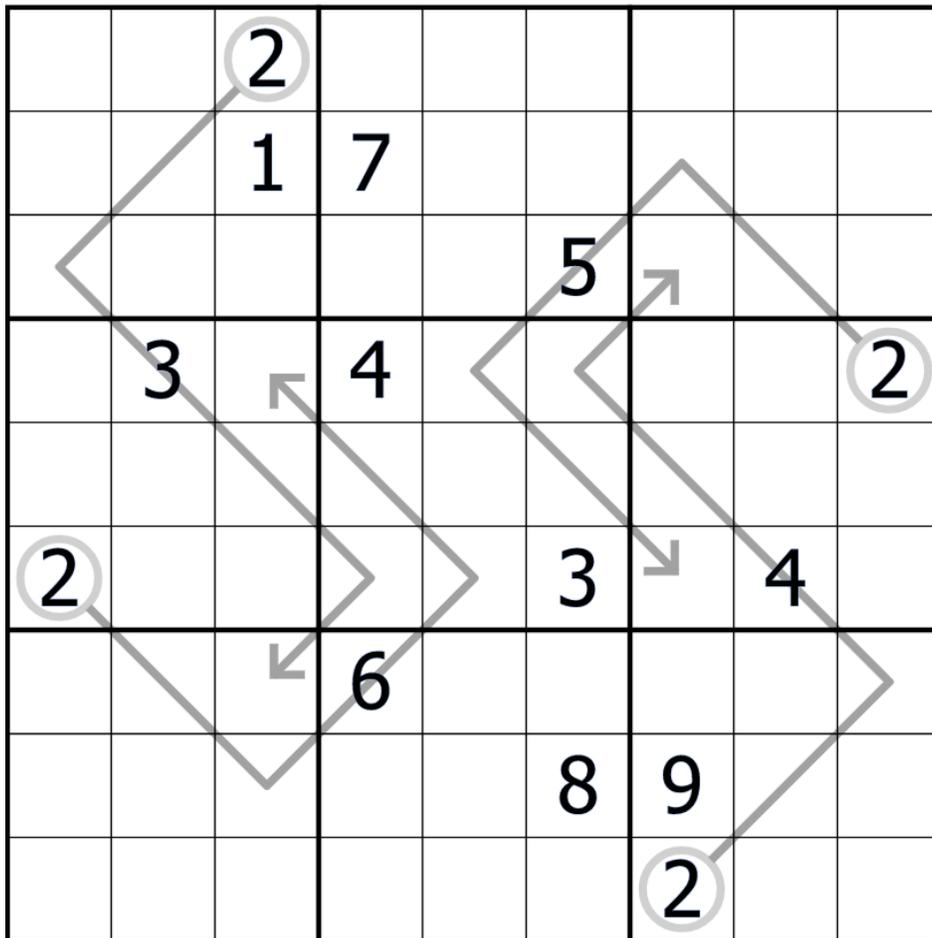
f-puzzles: <https://f-puzzles.com/?id=2yxx43s6>

CtC: <https://tinyurl.com/yc4u57kj>

**July 26, 2023: Count Different (Arrows) Sudoku**  
 Bill Murphy

Shall I compare thee to a variant sudoku? Thou art more intricate and more pointy.  
 Intricate solves do shake the darling solvers of GAS, And summer's party hath all too  
 short a date for some.

Today's GAS is a **Count Different (Arrows) Sudoku**. Normal Sudoku Rules Apply.  
 Digits in a bulb count the number of unique digits that appear along each arrow.



Penpa: <https://tinyurl.com/2ap8tmln>  
 CTC: <https://tinyurl.com/bdcj6h4n>

**July 27, 2023: The Castle Aaaarrrrrgghh**  
Philip Newman

Our quest is at an end! The search for the Holy Grail of Monty Python references has finally brought us here.

In a few moments, I will think of the funniest intro in the world, and as a result I will die laughing.

...

You know what, let's just skip the intro today.

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

Normal sudoku rules apply.

**Fortress: Digits in grey cells must be greater than digits in orthogonally adjacent white cells.**

[twong] 🐼

9				< grey >				8
			< 9 >		< grey >			
		< grey >	6	< grey >	5	< grey >		
	< grey >	2	< grey >	3	< grey >	5	< grey >	
< grey >		< grey >	4	< grey >	2	< grey >		< grey >
	< grey >	3	< grey >	1	< grey >	4	< grey >	
		< grey >	3	< grey >	4	< grey >		
			< grey >		< 8 >			
6				< grey >				7

Play on f-puzzles: <https://f-puzzles.com/?id=28r8hfg5>

Play on CTC App: <https://tinyurl.com/34m4a5h7>

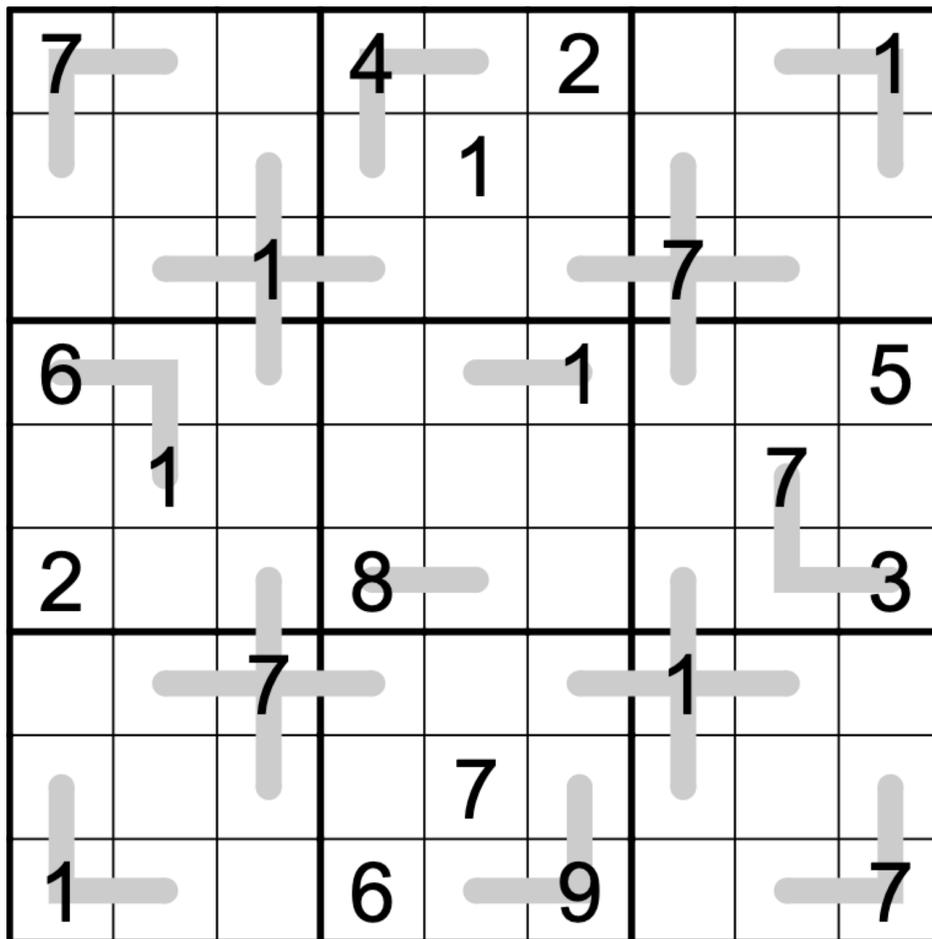
**July 28, 2023: 2-Digit Primes**  
 clover!

My favorite prime number is the 'Grothendieck prime', 57 – which is not, in fact, prime, but was once famously suggested as an example of a particular sort of prime by the mathematician Alexander Grothendieck.

You'll probably find your favorite prime number in today's **two-digit primes** GAS, which uses only *actual* prime numbers:

13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, and 97.

In this puzzle, normal sudoku rules apply. Also, every pair of digits joined by a gray line forms a two-digit prime when read from top to bottom or left to right. For instance, r3c2 r3c3 is a two-digit prime number, and so is r2c3 r3c3. Not all possible lines are necessarily given.



July 29, 2023: XXXO

Bill Murphy

Today's intro is not very helpful.

Today I drove friend of the channel @shye across the city! Why? That's not my story to tell. (It was the most puzzling power in an Australian car since David Astle went to the supermarket. (David Astle is the "Australian Roger Phillips", Mark 😊 ) )

Today's GAS is called "XXXO" following my pattern of naming them after songs. Can't talk about the story behind it either.

Today's also a **Classic Sudoku** the last one I can post before August starts. Why can't I post one during august? You'll find out soon.

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

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

f-puzzles: <https://f-puzzles.com/?id=26k7khgk>

CTC: <https://tinyurl.com/567hx8p3>

**July 30, 2023: The Prime of Life**  
Philip Newman

Today's **GAS** is a **Killer Sudoku** which I set quite a while ago. I would say I saved it for a rainy day, but it's Texas and it's summer so...

Actually, I have several puzzles ready to go, but because of [REDACTED] I can't post any of them today. 🙄🙄

Normal sudoku rules apply.

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

[Hats today are birthday party hats]

(It was my birthday yesterday, we played some cooperative board games.)



					4			
		<span style="border: 1px dashed black; padding: 2px;">3</span>			<span style="border: 1px dashed black; padding: 2px;">7</span>			
	<span style="border: 1px dashed black; padding: 2px;">17</span>		6	<span style="border: 1px dashed black; padding: 2px;">14</span>			<span style="border: 1px dashed black; padding: 2px;">16</span>	
			3		1			
		<span style="border: 1px dashed black; padding: 2px;">6</span>			<span style="border: 1px dashed black; padding: 2px;">14</span>			
	<span style="border: 1px dashed black; padding: 2px;">13</span>		9	<span style="border: 1px dashed black; padding: 2px;">6</span>	7		<span style="border: 1px dashed black; padding: 2px;">12</span>	
					2			
		<span style="border: 1px dashed black; padding: 2px;">4</span>			<span style="border: 1px dashed black; padding: 2px;">8</span>			
			8					

Play on f-puzzles: <https://f-puzzles.com/?id=25jrqlg>  
Play on CTC App: <https://tinyurl.com/2vww7njv>

**July 31, 2023: First Seen Odd/Even**  
clover!

**Every day from now until August 30**, when you solve the current day's puzzle, you're also invited to **guess the sudoku variant that will appear the following day**. If you guess right, you'll win a bonus hat and maybe even a shoutout in the following day's post. **Please put all guesses in spoiler tags**.

Things got a little too weird for some folks last August, so let's just put a few things out there:

This monthlong event is 100% optional, and if you ignore it entirely, your GAS experience will continue as normal!

The variants used aren't random and guessing can be done logically.

Sooooooo, with that said... **what do you think Bill will be posting tomorrow??** I'll even be super extra nice and tell you: his puzzle has *two* variants, and so you get to make two guesses - and if you guess either one of them correctly, you get a bonus hat.



Now on to today's puzzle, a **first seen odd/even sudoku!**

Normal sudoku rules apply. Also, clues outside of the grid tell you the first odd (if the clue is odd) or the first even (if the clue is even) digit that appears in that row or column, counting from the direction of the clue. For example, the rightmost odd digit in row 3 is a 5, and the leftmost even digit in row 6 is a 2.

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

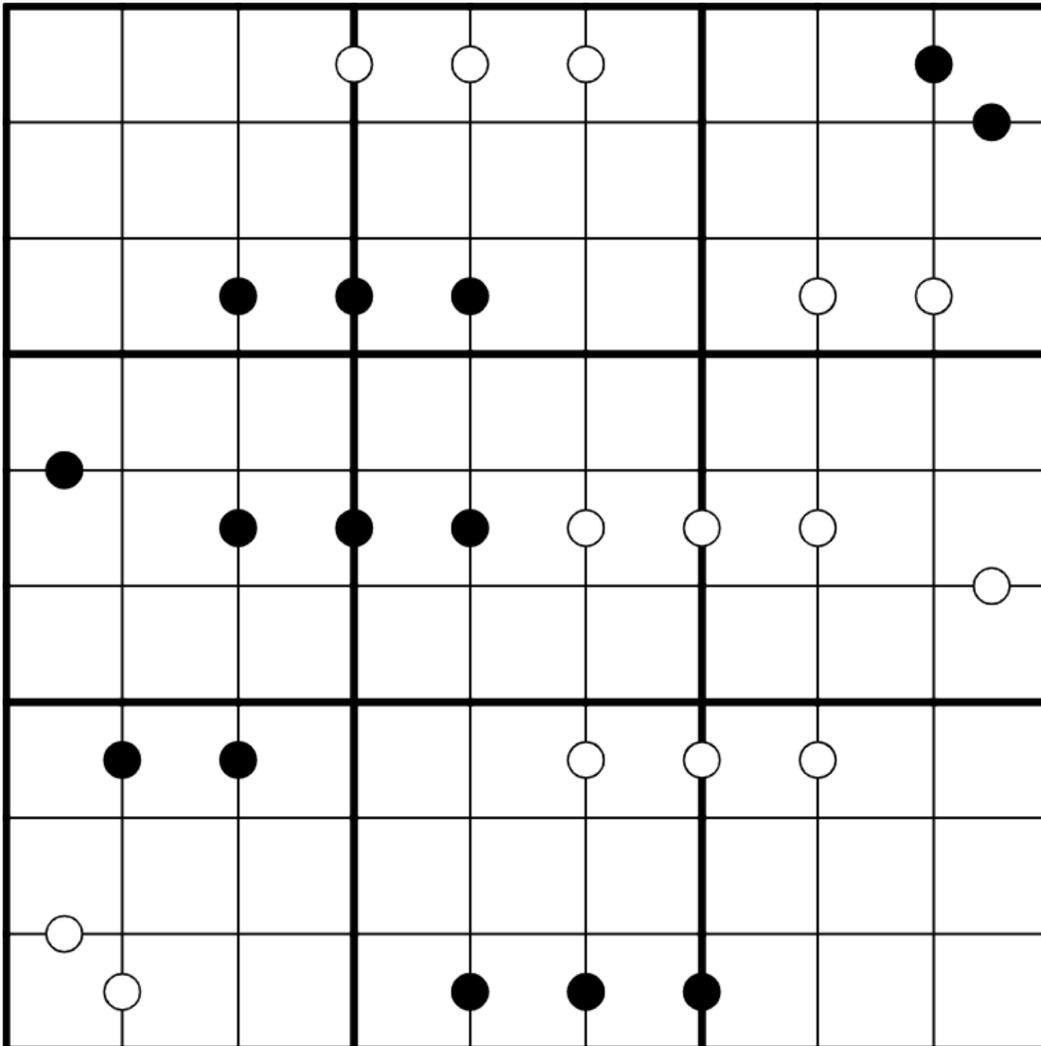
	5	6	7	8	9	1	2	3	4
		8			6				
1									
2			2			9			
3									
	4	5	6	7	8	9	1	2	3
	8	9	1	2	3	4	5	6	7

f-puzzles: <https://f-puzzles.com/?id=29fdjaog>  
 CtC: <https://tinyurl.com/mrycj7jv>

### Bonus 1: Kropki Pairs

Clover

Normal sudoku rules apply. Digits separated by a white dot are consecutive. Digits separated by a black dot are in a 1:2 ratio. Not all possible dots are necessarily given.



<https://f-puzzles.com/?id=274vrr9y>  
<https://tinyurl.com/yk2c3n5x>

## Bonus 2: This is an X Parrot!

Philip Newman

Normal sudoku rules apply.

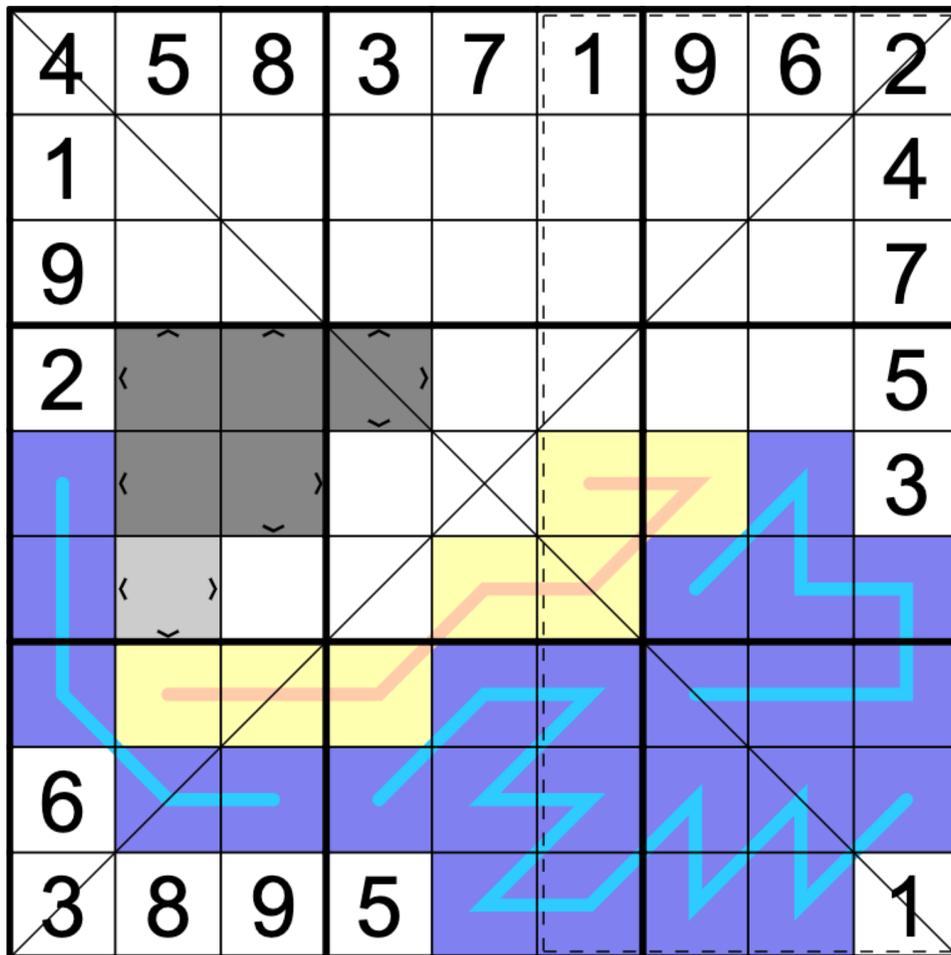
Diagonal: Digits along the indicated diagonals cannot repeat.

Fortress: Digits in grey cells must be greater than digits in orthogonally adjacent white cells.

Region Sum Lines: Along each blue line, the digits in every region it passes through have the same sum. For example,  $r5c1 + r6c1 = r7c1 + r8c2 + r8c3$

Entropic Lines: Along the orange line, 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 have 294396... but not 294836... because 948 does not contain a low digit.)

(The cage and non-grey highlighting are cosmetic.)



<https://f-puzzles.com/?id=24eazvgd>

<https://tinyurl.com/28humk7c>

### Bonus 3: Antiknight

Bill Murphy

Normal sudoku rules apply. Digits separated by a knight's move (as in chess) must not be equal.

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

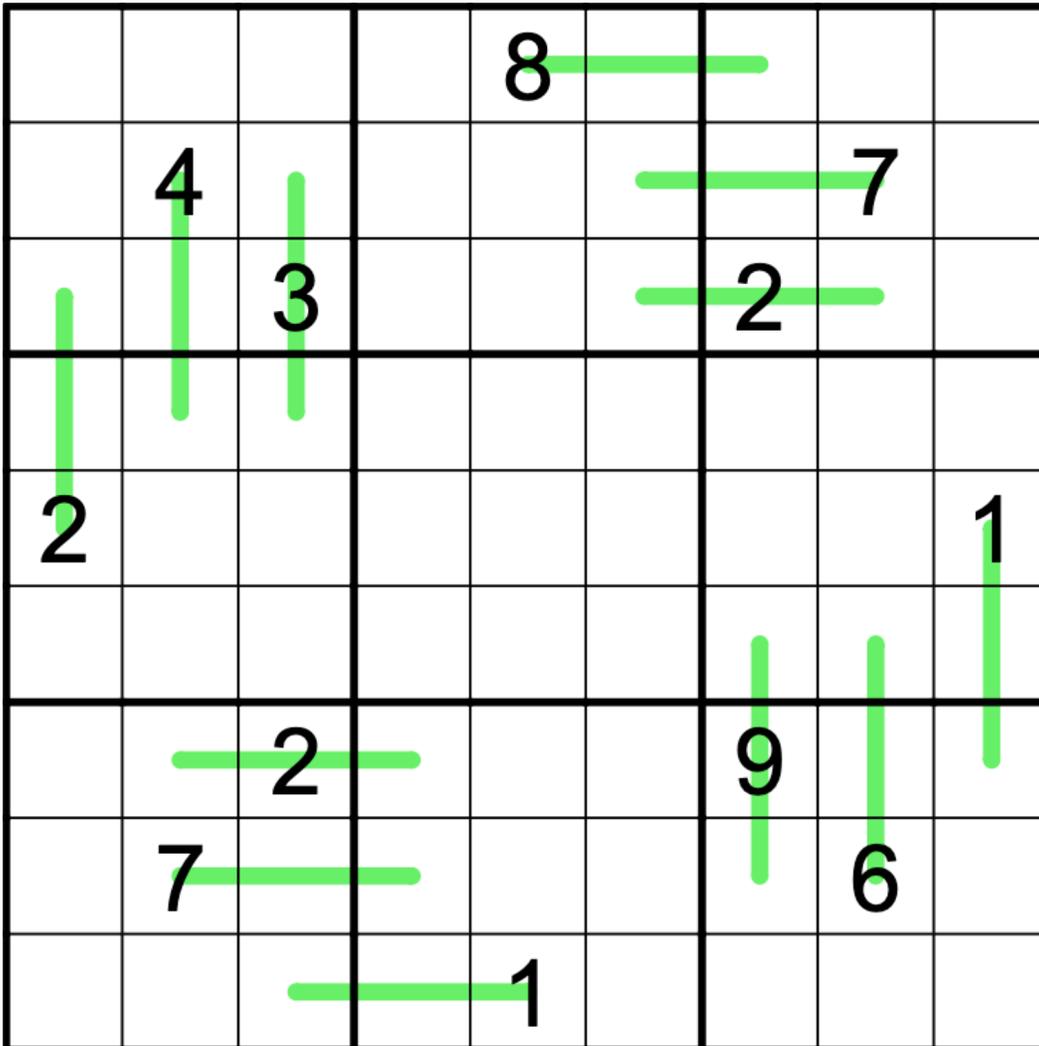
<https://f-puzzles.com/?id=2xrzqmmn>

<https://tinyurl.com/yvtmu3n8>

### Bonus 4: German Whispers

Clover

Normal sudoku rules apply. Adjacent digits along a green line must differ by at least 5. For instance, along a line, 3 can only be adjacent to 8 or 9.



<https://f-puzzles.com/?id=24n5jyh5>  
<https://tinyurl.com/s4m4abrd>

### Bonus 5: Elimination Sudoku

Bill Murphy

If a digit appears in a cell with a diagonal arrow, then that digit must not appear again in any cell that the arrow points towards. For instance, the digit in r4c1 does not repeat in r3c2, r2c3, or r1c4.

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

<https://tinyurl.com/ynvkhpyd>

## Time Benchmarks



Two party hats



One party hat



Today's dinosaur:

July, 1, 2023	7:00	13:00	spacefaring Similicaudipteryx
July, 2, 2023	8:00	15:00	Vulnerable Vulcanodon
July, 3, 2023	6:00	12:00	Non-GMO Notocolossus
July, 4, 2023	6:30	12:00	sniffing Sinusonasus
July, 5, 2023	5:30	10:30	Emergency Efraasia
July, 6, 2023	7:00	13:00	Inspirationless Itapeuasaurus
July, 7, 2023	7:30	15:00	disambiguated Dyslocosaurus
July, 8, 2023	7:30	15:00	Analogous Aardonyx
July, 9, 2023	6:57	13:24	Expected Elaltitan
July, 10, 2023	6:30	12:00	processionary Pararhabdodon
July, 11, 2023	9:30	18:00	Australian Aucasauru
July, 12, 2023	6:00	12:00	Leaning Losillasaurus
July, 13, 2023	7:00	13:00	Kansan Kaatedocus
July, 14, 2023	6:30	11:00	Minimalist Micropachycephalosaurus
July, 15, 2023	6:00	12:00	Randomized Rutellum
July, 16, 2023	6:00	11:30	accelerated Alwalkeria
July, 17, 2023	7:00	12:30	Average Avimimus
July, 18, 2023	6:30	13:00	Antiochian Anchisaurus
July, 19, 2023	6:00	11:00	hungry Hungarosaurus
July, 20, 2023	7:00	12:00	Hu's on First Ferganasaurus
July, 21, 2023	7:00	14:00	Bouzoki-playing Bagualia
July, 22, 2023	6:30	12:00	crotchety Carcharodontosaurus
July, 23, 2023	6:30	12:00	Titanium sculpted Tyrannosaurus Rex
July, 24, 2023	7:30	15:00	Piscine Pulanesaura
July, 25, 2023	7:00	13:00	well-prepared Plateosaurus
July, 26, 2023	8:00	15:00	Shakesperean Shanag
July, 27, 2023	9:00	20:00	Laughable Laplatasaurus
July, 28, 2023	7:00	13:00	prime Probactrosaurus
July, 29, 2023	6:30	13:00	Unhelpful Unenlagia
July, 30, 2023	6:41	12:41	Pandemic-Playing Pleurocoelus
July, 31, 2023	7:00	13:00	eager Elopteryx

## Hints and Spoilered Text

### Solution for July 11, 2023

The fake Australian Town was „Yanying“.

### Spoilered Text for July 12, 2021:

To the tune of Monty Python's "Always Look on the Bright Side of Life"

### Solution for July 13, 2023:

It is 8x8 because 9x9 has an uneven number of odds and evens, and when every single region border has a parity change, there would be an odd even count mismatch --  
Niverio

### Spoilered Text for July 14, 2023:

pairs and singles

### Spoilered Text July 18, 2023:

The title of the puzzle is in reference to Bill suggesting, as bait, that 22 is the minimum number of givens for a good GAS.

### Reminder for July 25., 2023:

Reminder 1: Remember that the clued digit itself must appear somewhere in the nearest three cells, so it can be eliminated from every other cell in its row or column.

Reminder 2: Remember that every other digit in the nearest three cells must be lower than the clued digit, so if there's a clue of (for instance) 5, you can mark the three nearest cells as 12345.