

# **GAS Leak**

Genuinely Approachable Sudoku from the CtC Discord  
Volume 17:  
June 2022



Thank you for celebrating our first full year of GAS with us! This edition of GAS leak includes a full month of puzzles, including the 3-puzzle set that we published on GAS's first birthday, June 7. (It also has the infamous Word Puzzle Wednesday, and a surprising number of 9x9 sudokus with the wrong number of digits, if you're into that sort of thing...) In our first year, we've gone from half a dozen solvers to over 3,000. Here's to many more! Thank you all for brightening my day, every day. :)

As always, the puzzles from this month appear on the following pages, followed by some bonus puzzles that didn't quite make the cut but still need some love. Time standards and dinosaur names appear on the last page. Enjoy!

*Clover*

## June 1, 2022: Substitution

puzzle by Philip Newman; intro text by Sam Cappleman-Lynes

Surprise double post! Philip's official cover story is that he's under the weather and I'm posting a puzzle on his behalf.

In this X-Sums Sudoku, normal Sudoku rules apply. Clues outside the grid indicate the sum of the nearest X numbers in the corresponding row or column, where X itself is the nearest of those numbers. For example, a clue of 10 could be satisfied by 28, or 352, or 4132, among other combinations.

				9						
		8				5				
	1			2			6			
		7				3				
				4						

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

CtC - <https://tinyurl.com/bddj565n>

## June 2, 2022: Entropic Lines

Clover

When you solve a sudoku, you're spinning a little bit of order out of the chaos of a blank grid. It almost feels as though you're decreasing the entropy of the universe. Isn't that satisfying? Unfortunately, it's also entirely untrue, thanks to the second law of thermodynamics. Oh well! 🙄 In today's entropic lines GAS, normal sudoku rules apply. Also, each line contains exactly one low digit (123), one medium digit (456), and one high digit (789), in any order.

Note for experienced solvers: this is a simplification of normal entropic lines sudoku rules that only applies when all of the lines are of length 3. (In other words, this puzzle is a valid entropic lines sudoku, but I've intentionally simplified the rules in a way that doesn't apply to every example of the variant.) For the full experience, check out the May 2022 GAS Leak bonus puzzles!

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

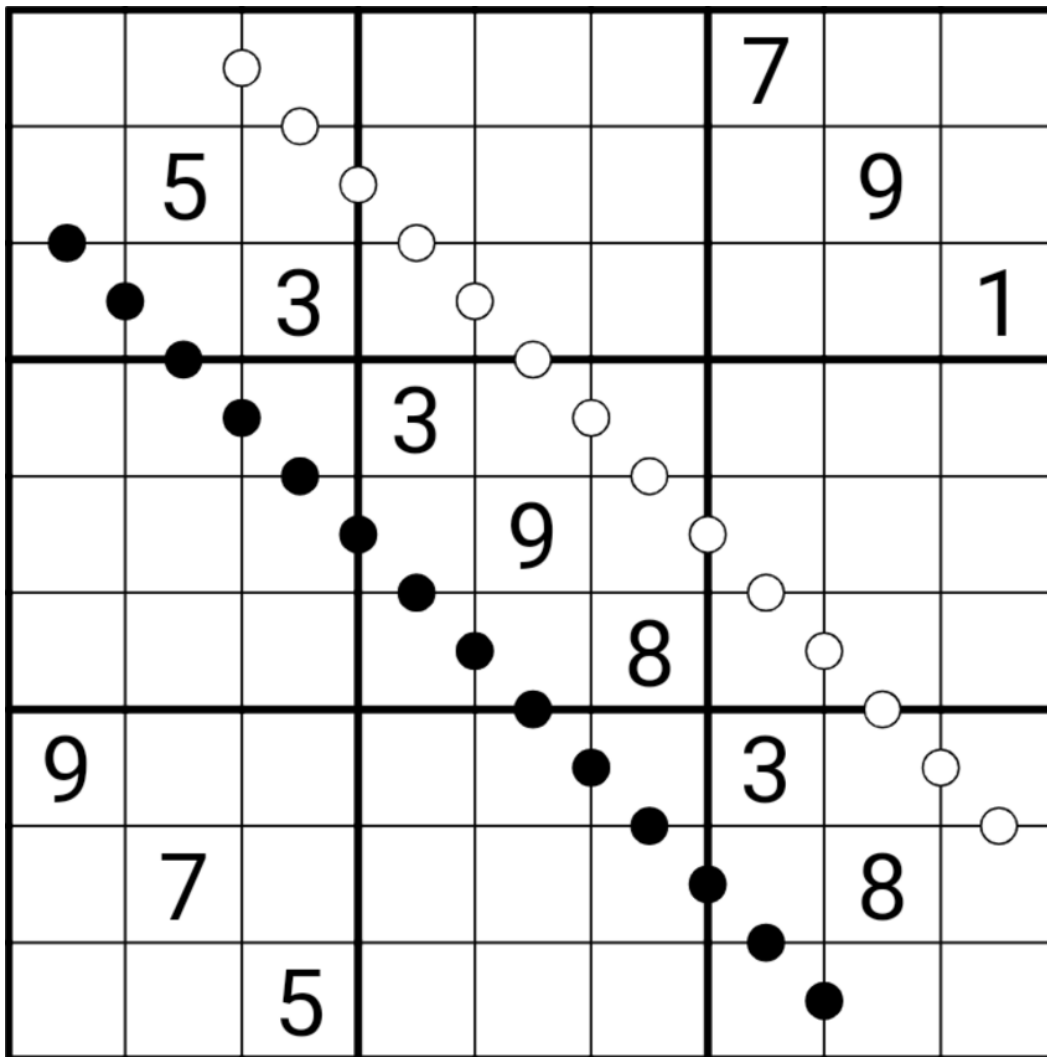
f-puzzles: <https://f-puzzles.com/?id=2c8hfau2>

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

## June 3, 2022: Kropki Pairs

Sam Cappleman-Lynes

Today's GAS is a Kropki Pairs Sudoku. In this puzzle, normal Sudoku rules apply. In addition, cells separated by a white dot must contain consecutive numbers and cells separated by a black dot must contain numbers in a 1:2 ratio. Not all dots are necessarily given; cells without markings may or may not contain numbers satisfying such a relationship.



f-puzzles - <https://f-puzzles.com/?id=2bqgvlp6>

CtC - <https://tinyurl.com/4y3mj3a5>

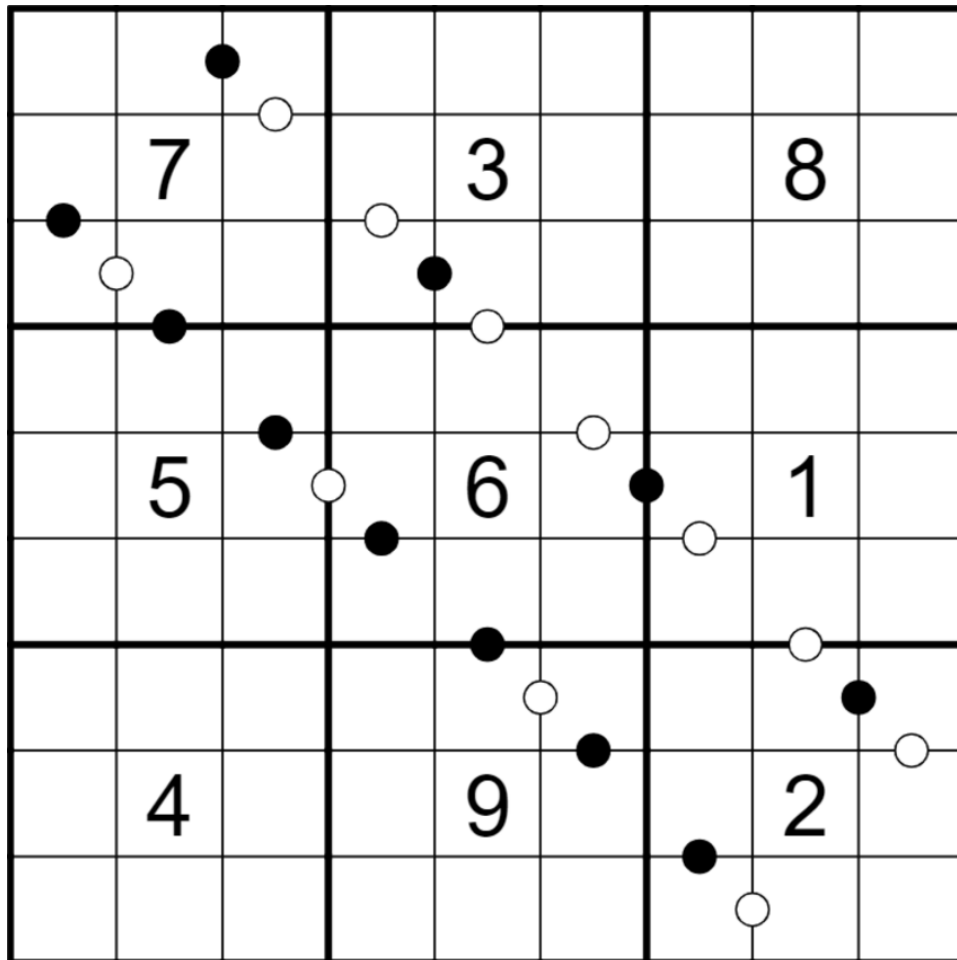
## June 4, 2022: Epic Crossover

Philip Newman

Greetings, GAS fans. We have exciting news today. Top Right Studios and 21st Century Bottom Left have reached an agreement to do a joint venture with major characters from their properties, such as The Dark Dot, The Consecutive League, and of course fan-favorites The Fantastic Digits from One to Nine. We're finally getting the epic crossover fans in my head have been asking for since yesterday!

Today's puzzle is another Kropki Pairs Sudoku!

Normal sudoku rules apply. 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 digits may also be consecutive or have a 2:1 ratio.)



Play on f-puzzles: <https://f-puzzles.com/?id=287jssnd>

Play on CTC App: <https://tinyurl.com/6x5kvvep>

## June 5, 2022: Star Battle Sudoku

Clover

Good morning, friends! Today, GAS will be hosting the epic battle of heroes and villains that takes place entirely inside of Philip's head, with a star battle sudoku. 😊 ⭐ ✨ 🍪

⭐ Normal sudoku rules apply. Also, the digits 8 and 9 may never touch themselves or each other, not even diagonally. ⭐

In other words, in this sudoku, 8 and 9 are like the "stars" in a star battle puzzle. Don't know star battle? You don't need to, in order to solve this one - but I do encourage you to try out the GAPP star battle seen [here](#).

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

f-puzzles: <https://f-puzzles.com/?id=2cpjd35h>

CtC: <https://tinyurl.com/4fhtpvxh>





## June 7, 2022: Happy Birthday!

Happy birthday to GAS 🎂

Happy birthday to GAS 🕯️

Happy birthday dear Genuinely Approachable Sudoku... 🌸

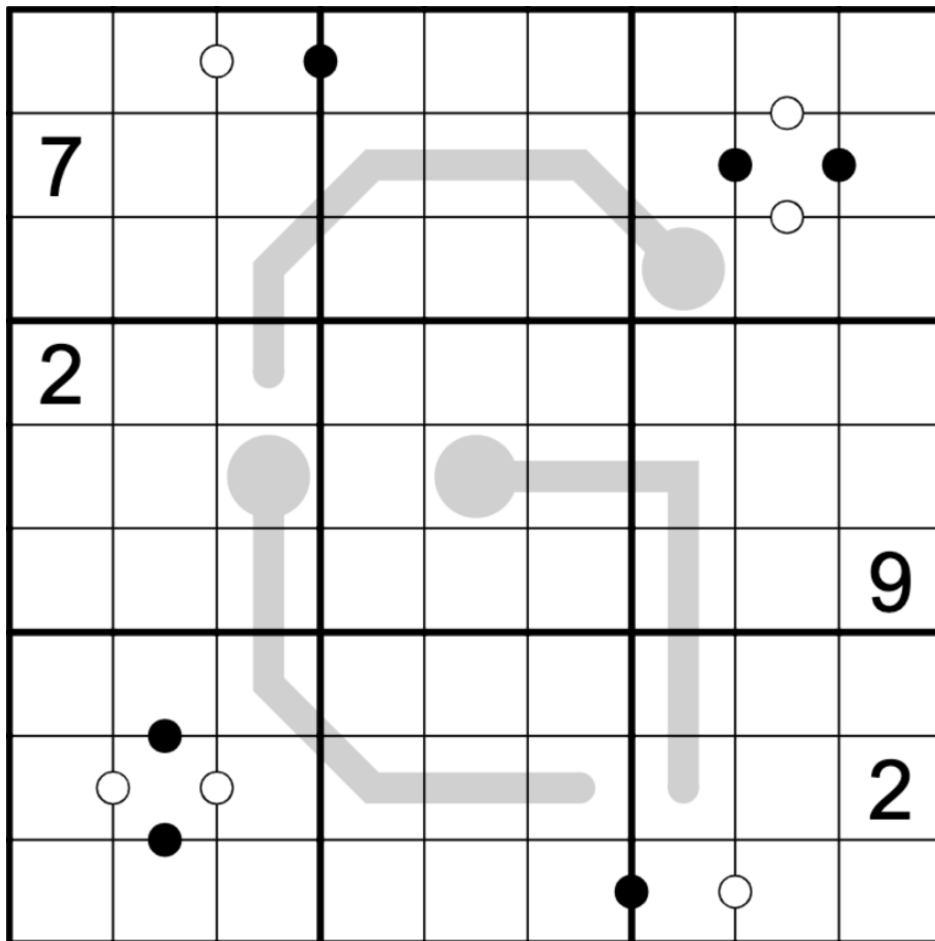
Happy birthday to GAS! 🎉

### Puzzle 1: G, by Clover

Normal sudoku rules apply.

Thermo: digits along a thermometer must strictly increase (not necessarily consecutively), starting from the round bulb.

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



<https://f-puzzles.com/?id=234ojuxe>

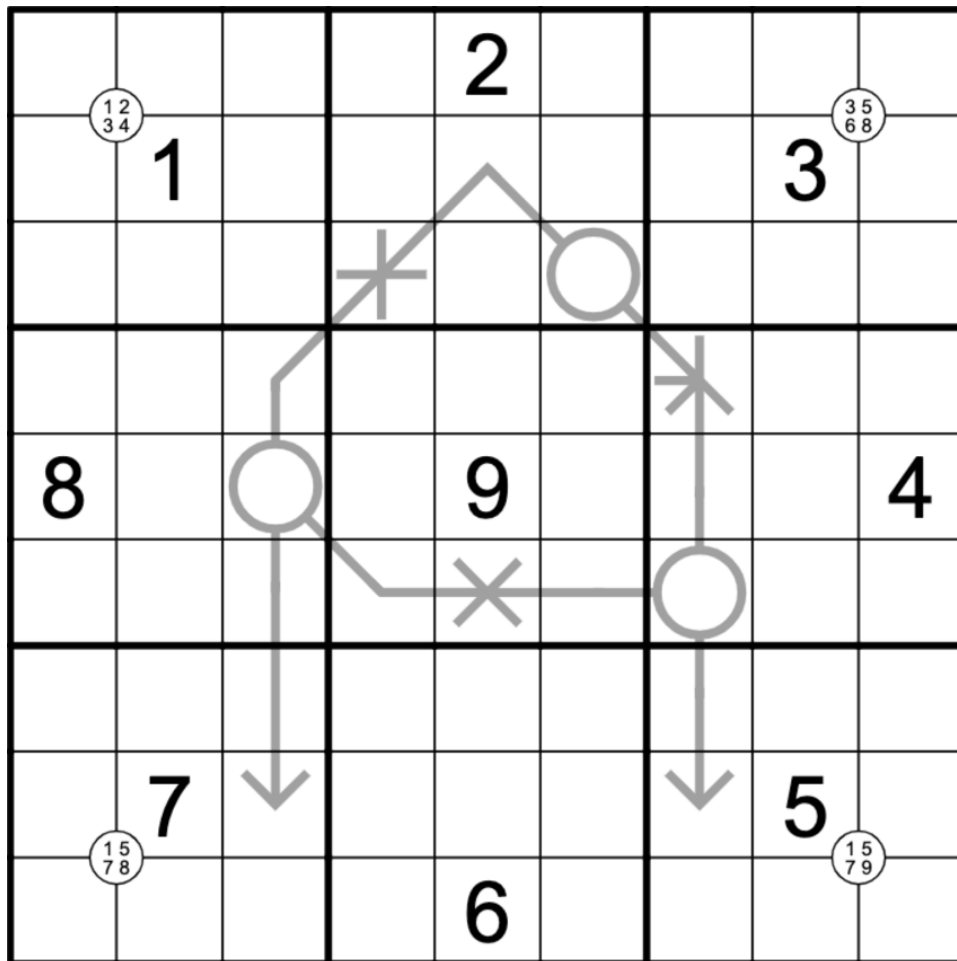
<https://tinyurl.com/5n767956>

## Puzzle 2: A, by Philip

Normal sudoku rules apply.

Arrow: Digits along an arrow must sum to the value in the attached circle. Digits may repeat along an arrow if they follow sudoku rules.

Quadruples: Digits in a white circle must appear in the four cells surrounding that circle.



<https://f-puzzles.com/?id=24jv8ejv>

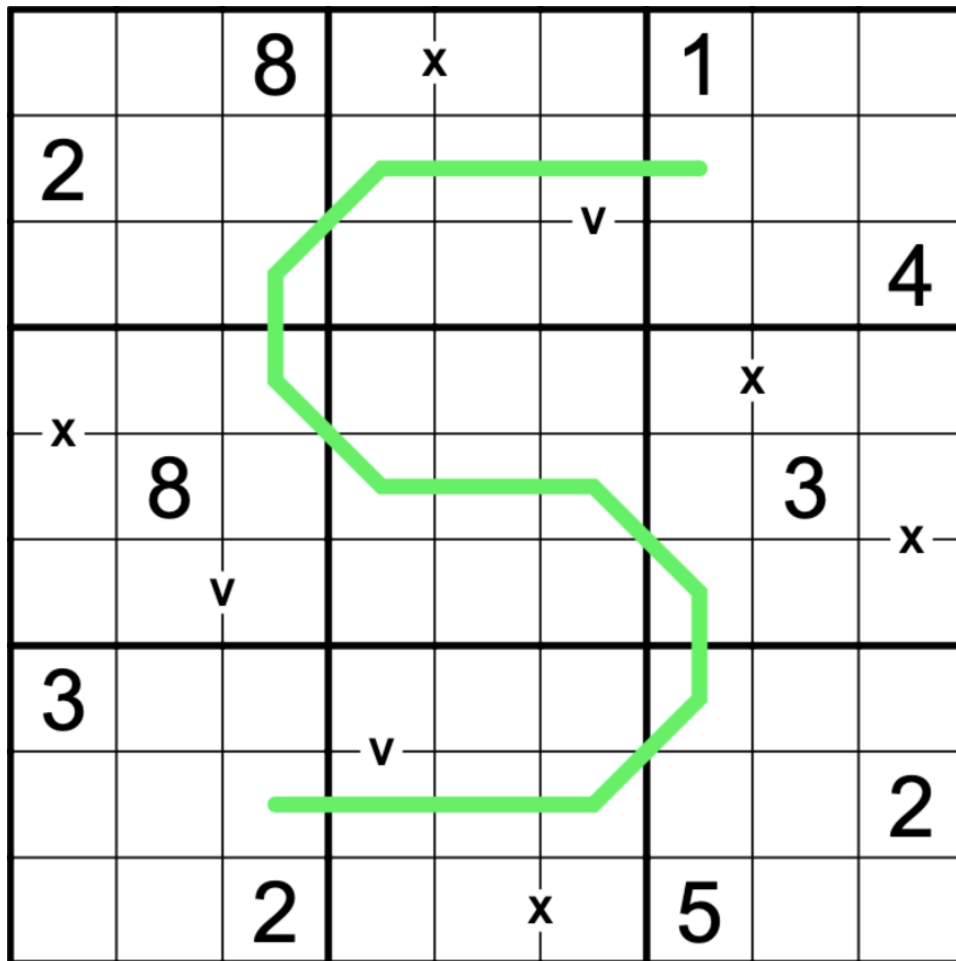
<https://tinyurl.com/zwpk5zyw>

### Puzzle 3: S, by Sam

Normal sudoku rules apply.

XV Pairs: Digits separated by an X sum to 10. Digits separated by a V sum to 5. Not all Xes and Vs are necessarily given.

German Whispers: Neighboring digits along a green line must differ by at least 5.



<https://f-puzzles.com/?id=26t78spn>

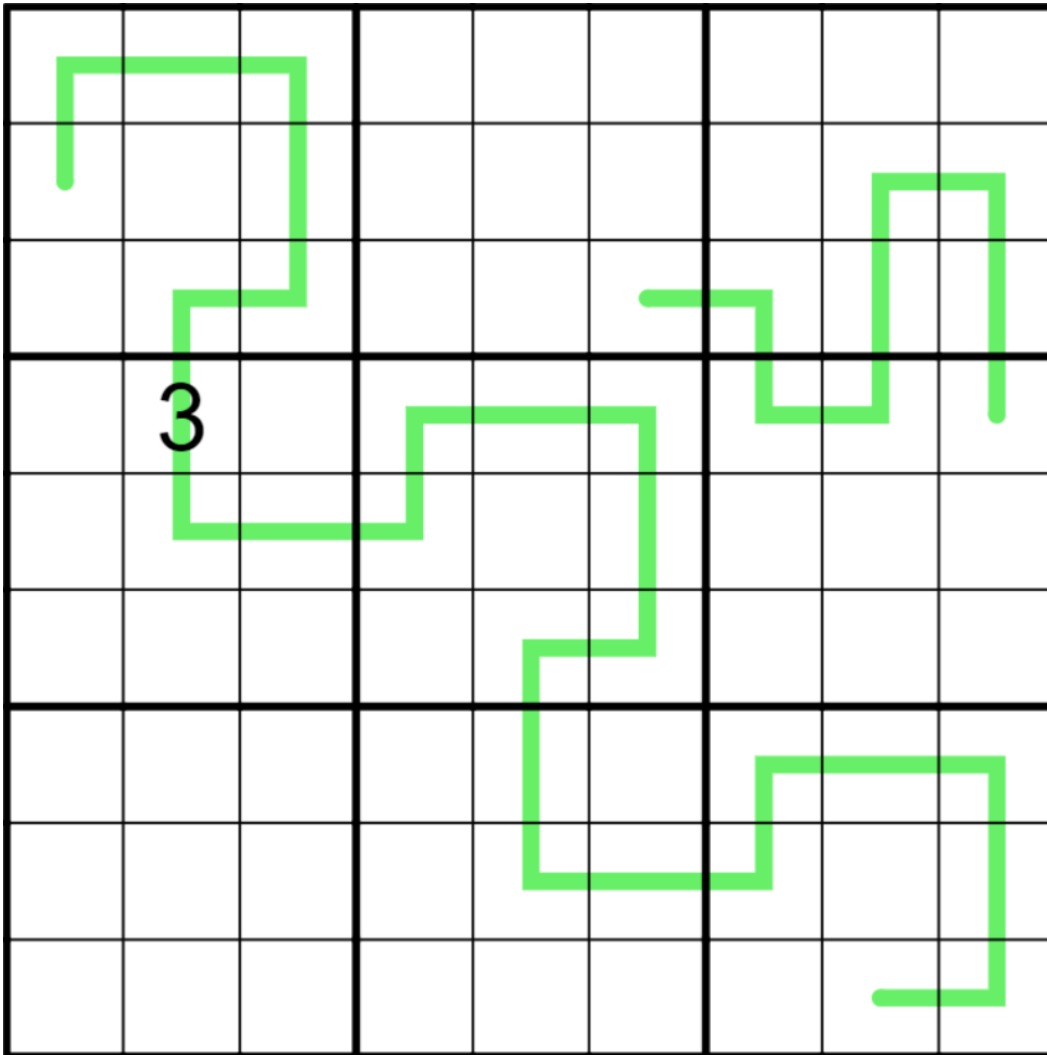
<https://tinyurl.com/2p969u3b>

## June 8, 2022: Susurrations

Philip Newman

I'm sure the constraints used yesterday surprised everyone - how could Philip possibly pass up on the opportunity to make a puzzle with a sneaky S whispers line?? But alas, Sam begged and pleaded to be allowed to make a puzzle with his favorite constraint, and I'm such a pushover. Or it's because Sam starts with S, or he made it first because I'm slow, or...

However, we have to make sure Sam has plenty of whispers puzzles to solve, so I made this one! Today's Whispers Wednesdays GAS is a German Whispers Sudoku! Normal sudoku rules apply. Digits in cells directly connected by a green line must differ by at least 5.



Play on f-puzzles: <https://f-puzzles.com/?id=2cxl492e>

Play on CTC App: <https://tinyurl.com/42s93vmr>

## June 9, 2022: Max Ascending

Clover

The world record for max ascending is hotly contested. Does it belong to Kami Rita Sherpa, who holds the record for max ascents of Mt Everest with a total of 26 climbs? Or should it be given to the crew of Apollo 13, who ascended a maximum of 248,655 miles from Earth's surface? Or perhaps the record belongs to you, dear solver, for completing this max ascending sudoku? 🤔

Normal sudoku rules apply. Also, a clue outside of a row or column gives the length of the longest contiguous "run" of increasing digits in that row or column, from the direction of the clue.

For instance, if a "6" appears to the left of a row, then there must be a run of 6 increasing digits from left to right somewhere in that row, such as 2 4 5 6 8 9. However, there must NOT be a run of 7 increasing digits in that row, since the 6 indicates the longest run. (In this example, there could not be a 1 to the immediate left of the 2.)

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

f-puzzles: <https://f-puzzles.com/?id=23ndgmls>

CtC: <https://tinyurl.com/2p986suj>

## June 10, 2022: Odd-Even Star Sudoku

Sam Cappleman-Lynes

♪ Catch a falling star and put it in your pocket puzzle, never let it fade away ♪

Today's GAS is an Odd-Even Star Sudoku. Normal Sudoku rules apply. If a star contains an odd number then the (up to) four numbers adjacent to it must be even. If a star contains an even number then the (up to) four numbers adjacent to it must be odd.

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

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

CtC - <https://tinyurl.com/4znbsra9>

## June 11, 2022: Countdown Clones

Philip Newman

Welcome back to GAS 101: Mad Scientist Edition! GAS Laboratories (a division of GAS, Inc.) is a source of many puzzles some consider to be... unnatural. Today's puzzles are the result of experimentation with Clones - specifically, growing cloned puzzles while rocking to Sam's "Get Psyched Mix" (consisting of every version of the Countdown Clock music ever used on Countdown).

In each puzzle, normal 6x6 sudoku rules apply. Grey regions are clones, and must contain the same digits in the same relative positions.

Editor's note: this is a set of four 6x6 clone sudokus that have the same ruleset, but can be solved independently of each other.

GAS 101 Hint for 1...: Remember that since clones cells have to be the same, they together "see" more cells than either does individually. After basics in this puzzle, you will be left with two options for some clone cells - can you determine logically why one option doesn't work, based on the other cells the clones see?

4...

Play on f-puzzles: <https://f-puzzles.com/?id=29s3nwt2>

Play on CTC App: <https://tinyurl.com/4n3rytse>

3...

Play on f-puzzles: <https://f-puzzles.com/?id=28xs69du>

Play on CTC App: <https://tinyurl.com/yntk3jt9>

2...

Play on f-puzzles: <https://f-puzzles.com/?id=268jhbgh>

Play on CTC App: <https://tinyurl.com/mu3ayxsw>

1...

Play on f-puzzles: <https://f-puzzles.com/?id=2b26xvft>

Play on CTC App: <https://tinyurl.com/2p95n5jk>

(Puzzle images appear on the next page.)

		4			1
				2	
			3		
	4				
5					

		3			1
				2	
			3		
	4				
5					

					1
				2	
			3		
	4				
5			2		

					1
				2	
			3		
	4				
5			1		



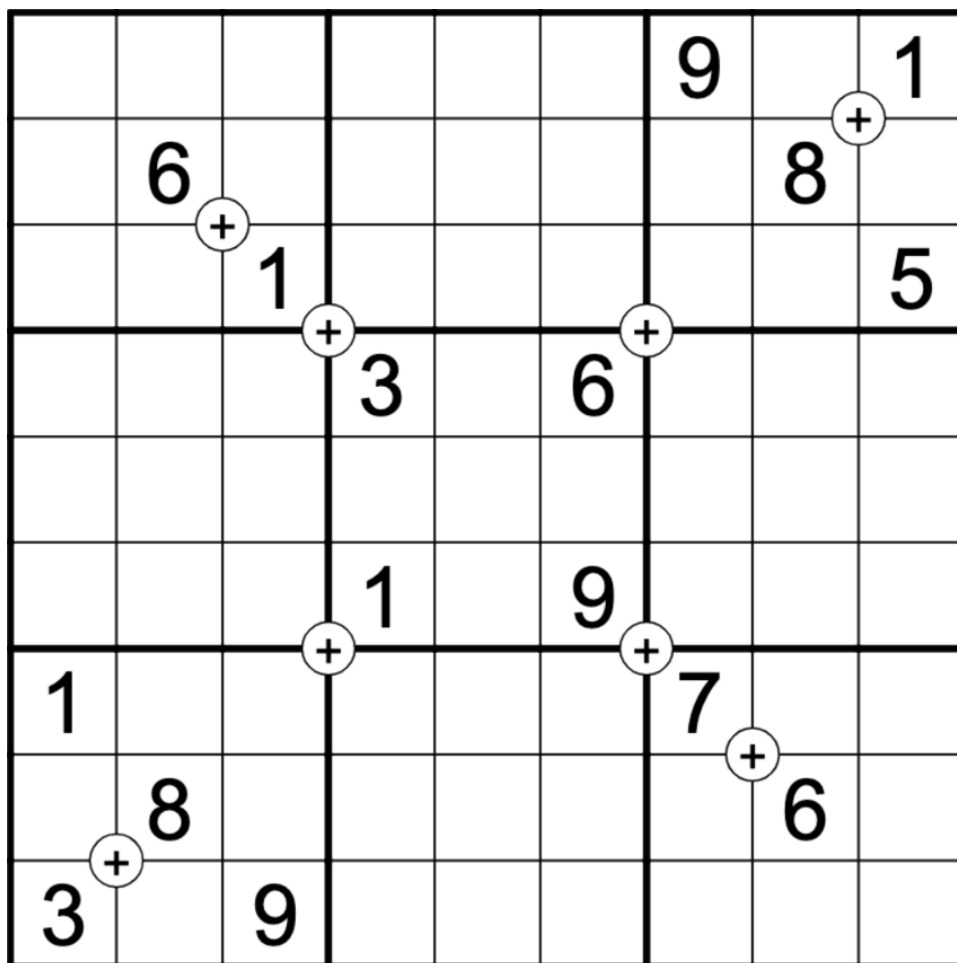
## June 12, 2022: Mathrax

Clover

Today's GAS is a mathrax sudoku, and it comes with [a full video tutorial from some dear friends of the channel](#). (Note for pencil-and-paper solvers of GAS leak: this link goes to a Sesame Street song about addition. ;))

Normal sudoku rules apply. Also, if a "+" appears in the grid, look at the four cells surrounding it. Of those four cells, the two pairs diagonally opposite each other have the same sum. For instance, a + could have 1 and a 7 diagonally opposite each other, and a 3 and a 5 diagonally opposite each other, since both of these pairs sum to 8.

Note for experienced solvers: this is a valid mathrax sudoku, but it doesn't use all of the mathrax rules, so not all rules have been described here.



f-puzzles: <https://f-puzzles.com/?id=2d7vgaxh>

CtC: <https://tinyurl.com/2s4hsfze>

**June 13, 2022: Classic**  
Sam Cappleman-Lynes

Today's GAS is a Classic Sudoku! Some of my recent puzzles have suffered identity issues, some even going as far as to say that they weren't really GAS 😬 Well, this puzzle should leave you in no doubt about its designation - just look at that arrangement of clues!

In this puzzle, normal Sudoku rules apply - and that's it!

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

f-puzzles - <https://f-puzzles.com/?id=2d8trol4>

CtC - <https://tinyurl.com/3j57es4f>

## June 14, 2022: Shout Thru the <3

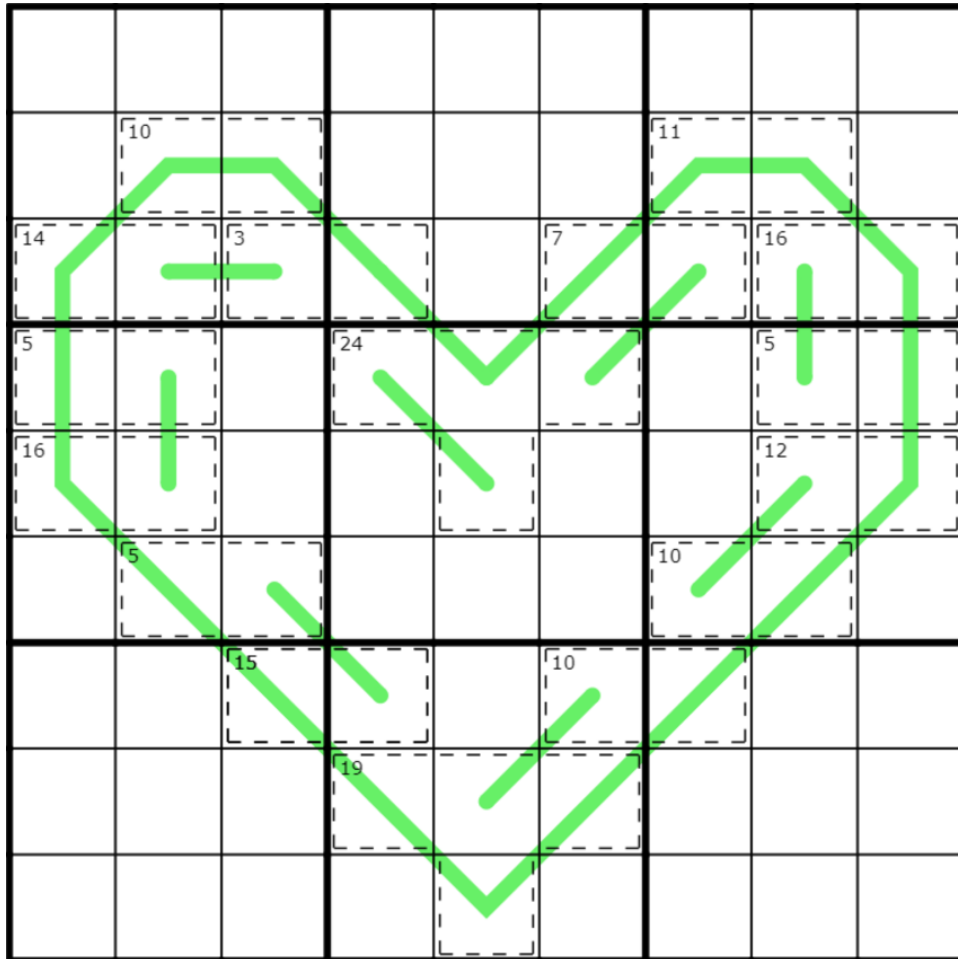
Philip Newman

There was understandably interest in hearing Sam's "Get Psyched" mix after it was mentioned in my last intro. Unfortunately, it is region locked, and if I try to share it from here the Queen will come hunt me down.

However, I can share a bit of my "Get Psyched" mix...

Today's GAS is a German Whispers Killer Sudoku!

Normal sudoku rules apply. Digits in cages cannot repeat and must sum to the total given. Digits in cells directly connected by a green line must differ by at least 5.



Play on CTC App: <https://tinyurl.com/wbhca443>  
f-puzzles link unavailable today due to rendering issues!

June 15, 2022: XVI

Clover

Welcome to Word Puzzle Wednesday! For a cowboy hat 🤠, solve the following puzzle:

*Name an English word that contains the exact sequence of letters "XIVI" in order, with no other letters in between.*

Oh, word puzzles aren't your thing? 😞 "I was expecting sudoku in this 'Genuinely Approachable Sudoku' channel"? Pah, fine. 😞 If you insist, here's today's word puzzle in a convenient sudoku form factor:

Normal sudoku rules apply. Digits on either side of an XI sum to 11. Digits on either side of a VI sum to 6. Not all XIs or VIs are necessarily given.

			1	XI	VI		
XI			2			VI	XI
		VI	XI	3			
		XI			XI	4	
	XI	VI			VI	XI	
6		XI			XI		
		XI	VI	7			VI
			8			VI	XI
			9	VI	XI		

f-puzzles: <https://f-puzzles.com/?id=27rtxwr4>

CtC: <https://tinyurl.com/5beuv8xa>

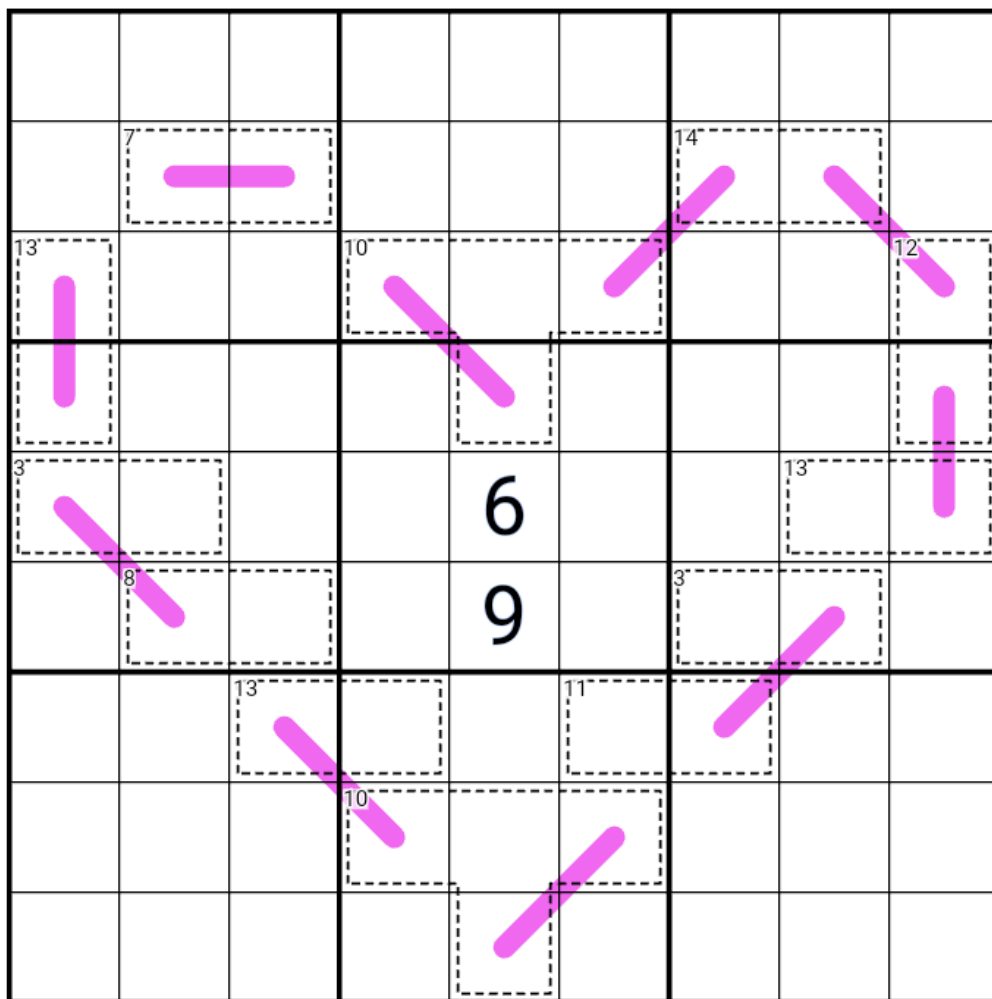
Word puzzle answers: **reflexivity; lixivate**

**June 16, 2022: Renban**

Sam Cappleman-Lynes

As you must know by now, Philip and I are capable of taking an arbitrary visual theme entirely too far. Let's see how long we can keep this one up!

Today's GAS is a Renban Killer Sudoku. Normal Sudoku rules apply. Numbers in a cage must be distinct and add up to the total given in the cage. Numbers connected by a purple line must be consecutive.



CtC - <https://tinyurl.com/2p9842mk>

f-puzzles link unavailable today due to rendering issues!

## June 17, 2022: Entrop Thru the <3

Philip Newman

Today's GAS is a Killer Entropic Lines Sudoku!

Who had "Entropic Lines" in the betting pool for next heart-shaped constraint?

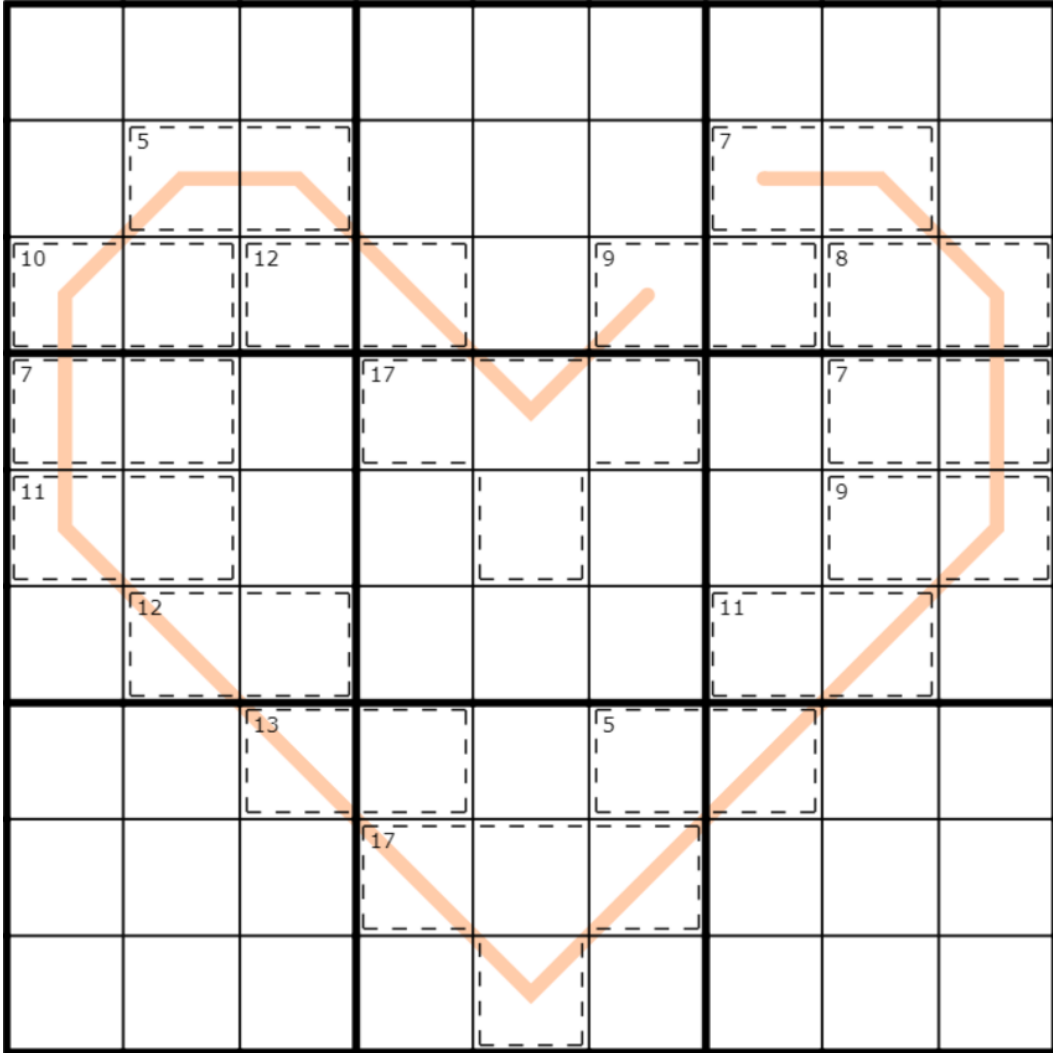
We've done a simplified version of this constraint a couple weeks ago, but this is the full deal! Read the rules carefully!

Also, check out [A Capella Science's ridiculously awesome Entropic Time, a Billy Joel parody filmed backwards.](#)

Normal sudoku rules apply. Digits in cages cannot repeat and must sum to the total given. Also, 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, the line could have 294396... but not 294836... because 948 does not contain a low digit.)

Note for new solvers: Because the constraint applies to every set of three digits, the pattern must repeat along the entire line. In the correct example above, the cycle is low, high, medium, low, high, medium... so the next digit must again be low, then high, then medium, continuing for the whole line. This is like the low/high parity of German Whispers lines, but with three groups instead of two!

(Puzzle image and links appear on the next page.)



Play on CTC App: <https://tinyurl.com/2p9n4d3s>  
 f-puzzles link unavailable today due to rendering issues!

June 18, 2022: XIIIVII

Clover

Welcome to Some More Word Puzzles Saturday! The answer to our last round was *reflexivity*, although I'm also reluctantly accepting variations on *lixivate*, you tremendous nerds.

Today's word puzzle, for one bonus cowboy hat 🤠, is:

★ Name an English word that contains all of the letters XIIIVII, in any order, with as many other letters as you'd like in between. ★

But I suppose if you aren't lexicologically inclined, you could always solve this sudoku instead: Normal sudoku rules apply. Digits separated by an XII sum to 12. Digits separated by a VII sum to 7. Not all XIIs or VIIs are necessarily given.

XII	VII							
	3					VII		
		1		5		VII		VII
			2		XII			
VII		VII		9		XII		
	VII				7	XII		XII
			VII	1		9		
XII		XII					4	
	XII							
						VII	XII	

f-puzzles: <https://f-puzzles.com/?id=2do5b46v>

CtC: <https://tinyurl.com/2zkmy6rc>



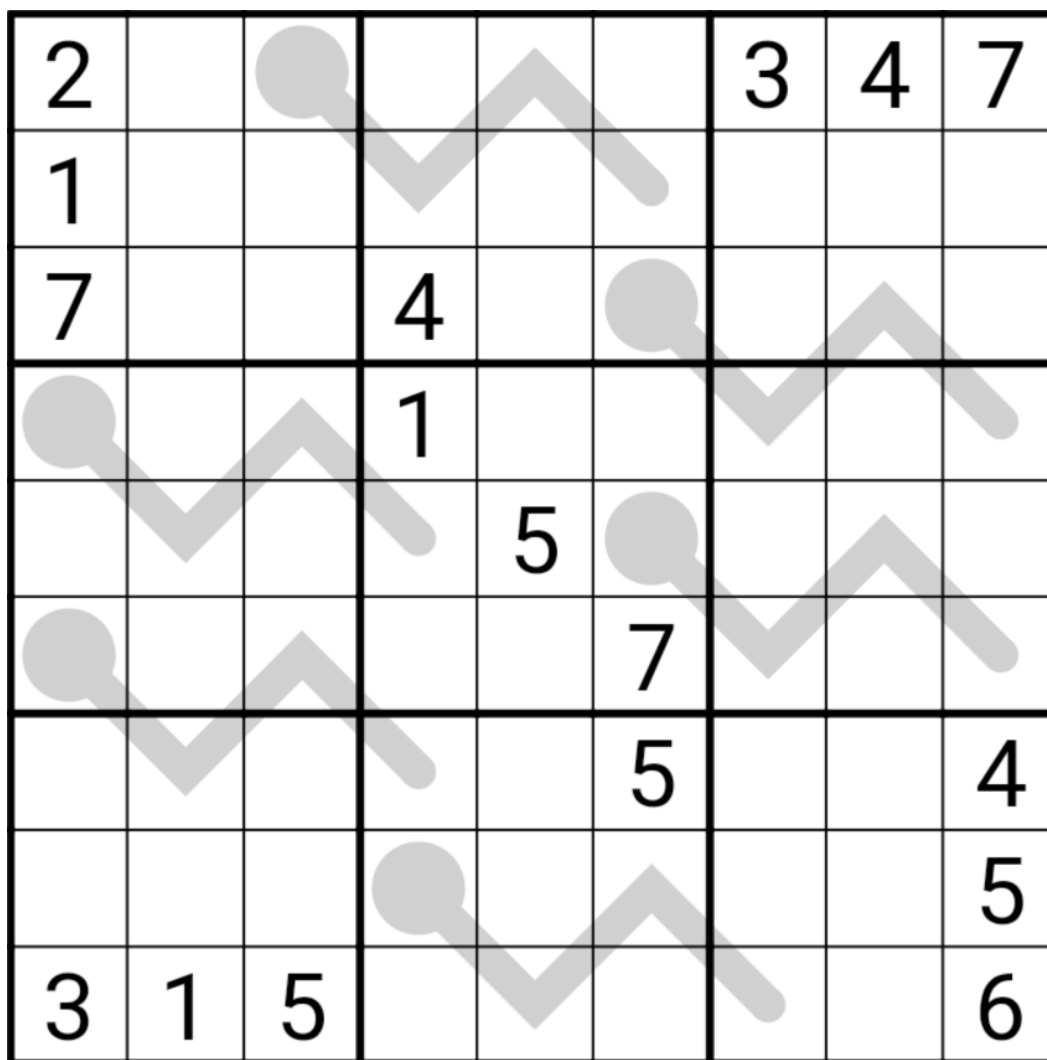
Word puzzle answers: *invigilatrix; overexcitabilities*

**June 19, 2022: Thermo**

Sam Cappleman-Lynes

Today's GAS is a very old Thermo Sudoku - set in the very early days of GAS and only recently exhumed for your solving pleasure.

Normal Sudoku rules apply. In addition, numbers placed on the given thermometers must strictly increase, starting from the bulb end.



f-puzzles - <https://f-puzzles.com/?id=2828oz3v>

CtC - <https://tinyurl.com/4amfu4td>

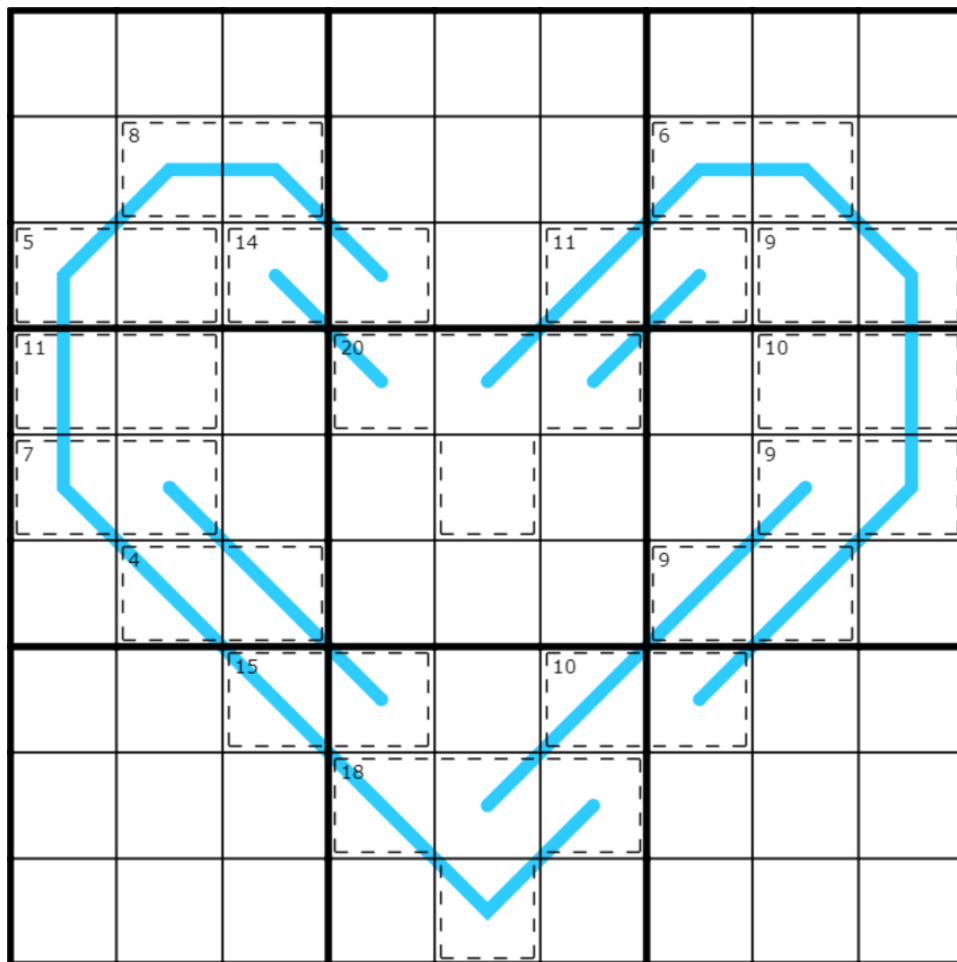
## June 20, 2022: Lixiviatin' on a Prayer

Philip Newman

Oh dear. It seems today's puzzle was under construction when Clover switched out my "Get Psyched" mix for her own. I can't say I've ever understood her taste in music, particularly her fondness for Roman cover band Bon JoVII.

Today's GAS is a Killer Region Sum Lines Sudoku! Normal sudoku rules apply. Digits in cages cannot repeat and must sum to the total given. Also, there are some lines in the grid, and each line passes through more than one of the 3x3 regions. Along each line, the digits in every region it passes through have the same sum. (For instance,  $r2c7+r2c8+r3c9 = r4c9+r5c9+r6c8$ )

Note for new solvers: If a line passes through only one cell in multiple regions, those cells must contain the same digit.



Play on CTC App: <https://tinyurl.com/2p923dy6>  
f-puzzles link unavailable today due to rendering issues!

June 21, 2022: XIIIVIII

Clover

Calm your overexcitabilities and lixivate one correct solution from among the sexvigintillion possibilities in today's XIIIVIII sudoku. No, there aren't any English words with all of these letters, although if you invent an especially good one, you might just earn a cowboy hat anyways. 🤠

Normal sudoku rules apply. Digits on either side of an XIII sum to 13. Digits on either side of a VIII sum to 8. Not all XIII's or VIII's are necessarily given.

XIII	VIII		VIII	XIII	
			5		
	4			6	
	XIII	XIII	XIII		
8	VIII		VIII	9	
	XIII	VIII	1	VIII	XIII
4					2
	XIII	XIII	XIII		
	9			8	
		VIII			
		9		7	
	XIII				XIII

f-puzzles: <https://f-puzzles.com/?id=2ytyg8qd>

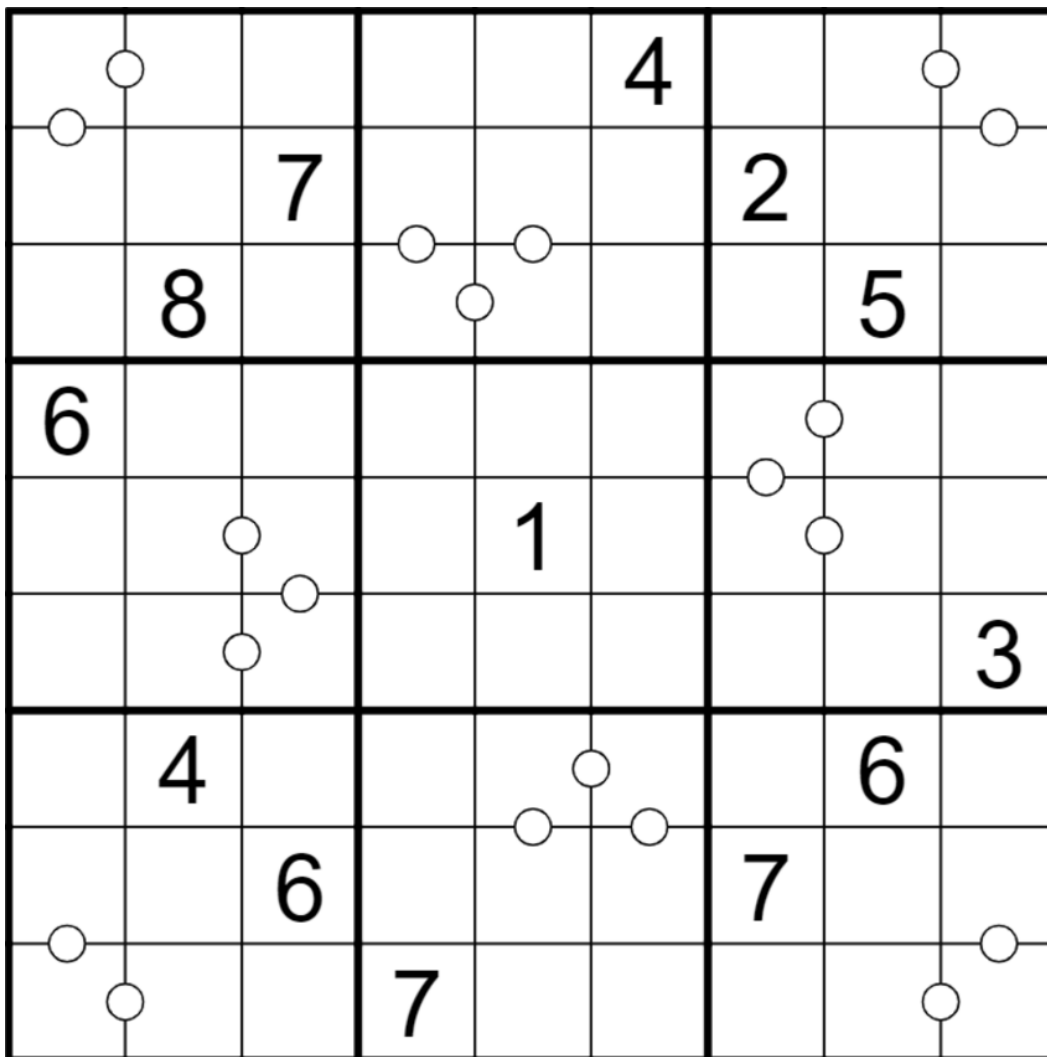
CtC: <https://tinyurl.com/5n7uszsp>

## June 22, 2022: Consecutive Pairs

Sam Cappleman-Lynes

It's a sad time of year for the northern hemisphere; as of today, the days will get shorter and shorter until sunlight is but a memory. So hopefully this puzzle will make your day a little brighter.

Today GAS is a Consecutive Pairs Sudoku! Normal Sudoku rules apply. If two cells are separated by a white dot then they must contain consecutive numbers. Cells without a dot may or may not contain consecutive numbers.



f-puzzles - <https://f-puzzles.com/?id=2ooco5qb>

CtC - <https://tinyurl.com/yc3fb36b>

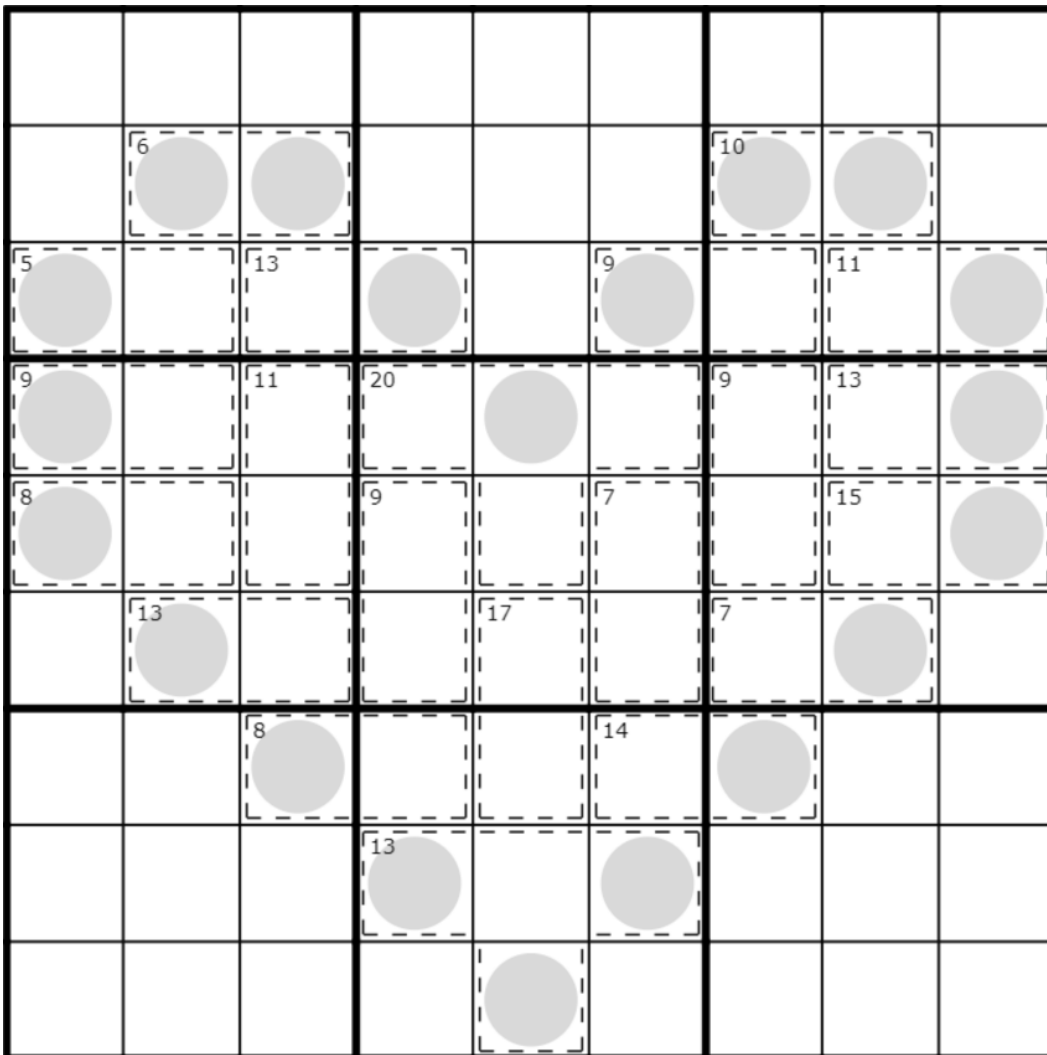
**June 23, 2022: Odd Thru the <3**

Philip Newman

I am moving extremely slowly today... better crank the "Get Psyched" mix back up again!

Today's GAS is an Odd Killer Sudoku!

Normal sudoku rules apply. Digits in cages cannot repeat and must sum to the total given. Digits in grey circles must be odd.



Play on f-puzzles: <https://f-puzzles.com/?id=2bva5qsf>

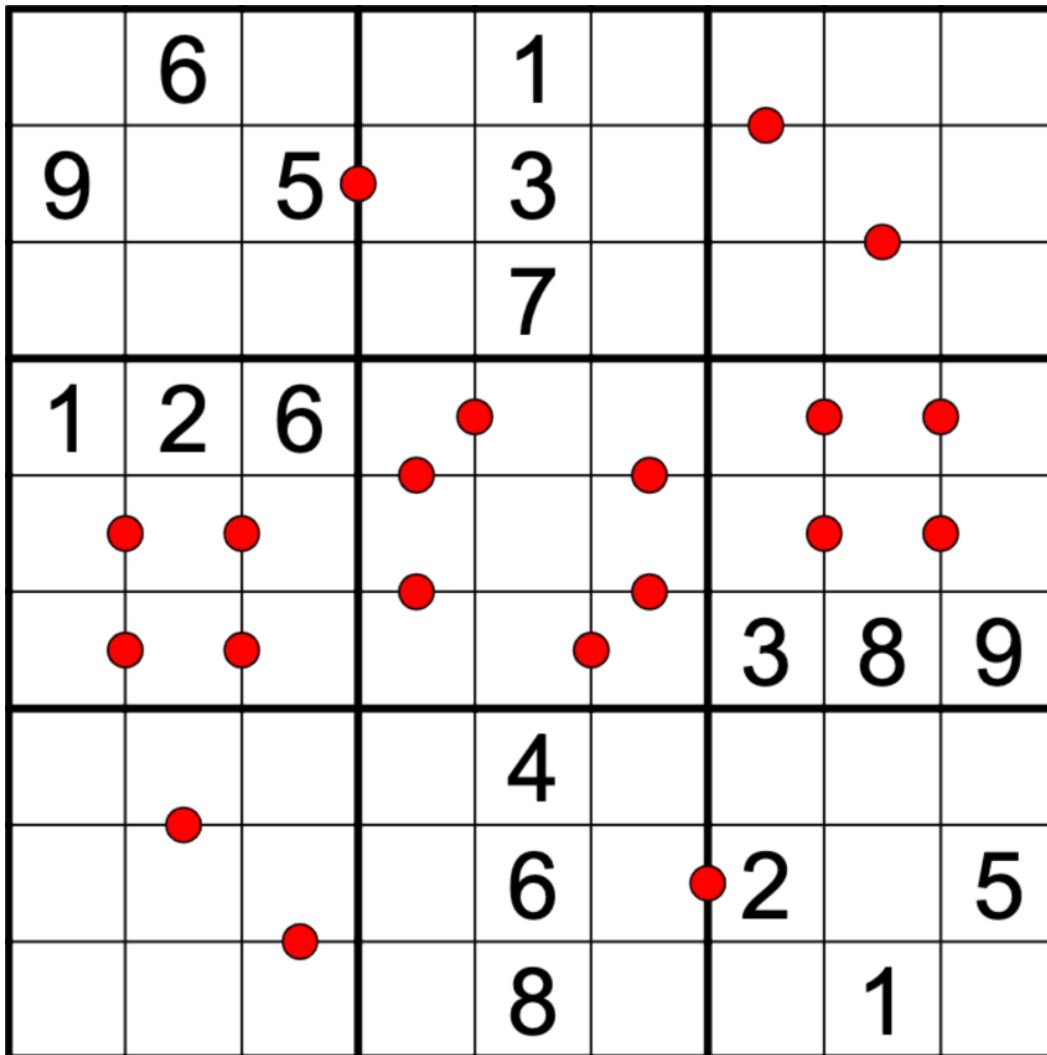
Play on CTC App: <https://tinyurl.com/4vmjmft4>

## June 24, 2022: Anticonsecutive Pairs

Clover

Today's GAS is an anticonsecutive pairs sudoku, a variant I learned about from [a really lovely pencil-and-paper sudoku book I'm currently solving my way through](#). If you've made it this far, you may have also noticed that it isn't an XIIIIVIII sudoku; that variant is pending the conclusion of our lively behind-the-scenes debate on whether "IX" or "VIII" is more historically accurate.

Normal sudoku rules apply. Also, digits separated by a ● red dot ● are NOT consecutive. (For example, if a dot appears next to a 6, then the digit on the other side of the dot may not be a 5 or 7.) Digits without a dot may or may not be consecutive. That is, not all dots are necessarily given.



f-puzzles: <https://f-puzzles.com/?id=2amp9o4x>

CtC: <https://tinyurl.com/2ve5zbtm>

**June 25, 2022: XV**

Sam Cappleman-Lynes

While Clover decides between IX and VIII, I thought you might like a break from having to parse ever-increasing amounts of I in your sudoku and would appreciate a return to a good old XV Sudoku.

In this XV Sudoku, normal Sudoku rules apply. Whenever two cells are separated by the marking "XV", then the numbers in those cells must add up to 15. Cells without such a marking may or may not add up to 15.

2	4			6			xv	
		xv				xv	4	3
						3	5	
xv			xv	1				
	2	4			xv			xv
5	3		xv				xv	
	xv			8			3	1

f-puzzles - <https://f-puzzles.com/?id=28c2bh75>

CtC - <https://tinyurl.com/5n6zk2dn>

**June 26, 2022: Excessiveness**

Philip Newman

A break from ever-increasing amounts of 'I'?

Hm... how about ever-increasing amounts of 'XV'??

Today's GAS is an XVXV Sudoku!

Normal sudoku rules apply. Digits in cells separated by a V must sum to 5, by an X must sum to 10, and by an XV must sum to 15. (No negative constraint, other pairs of digits may sum to 5, 10, or 15.)

							9	
		V	X				6	8
	XV		X	V			7	
X	X			X				
		V	X		X	V		
			XV			XV		
			X					
	1			X	XV			X
4	2				X		V	X
	3				X	XV		

Play on f-puzzles: <https://f-puzzles.com/?id=28m38r5l>

Play on CTC App: <https://tinyurl.com/3p7uuwcj>



**June 27, 2022: Even Thermo**

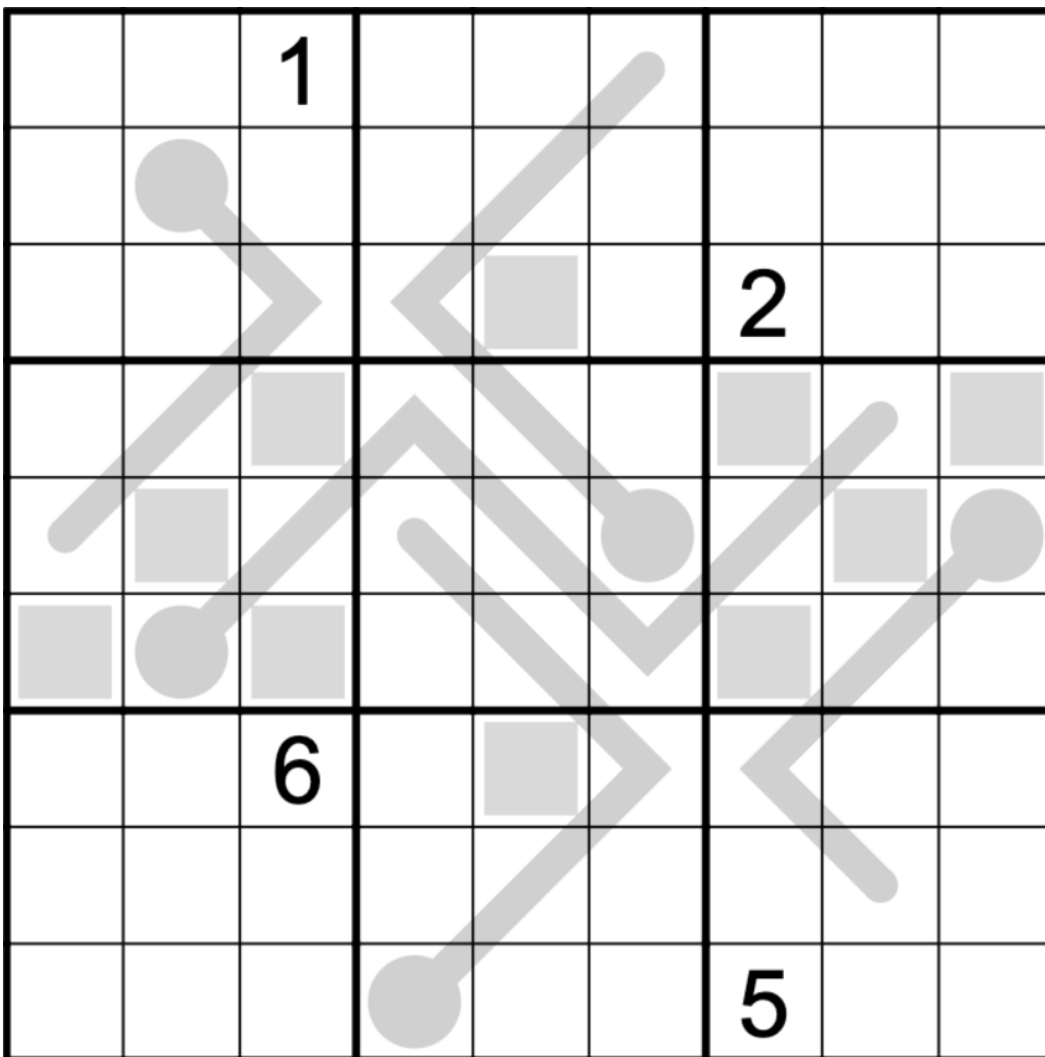
Clover

What do you call a male thermometer?

*A therdadeter.*

Thank you, thank you, I'll be here all week.

In this even thermo sudoku, normal sudoku rules apply. Also, digits along thermometers must strictly increase (not necessarily consecutively!), starting from the round bulb. Digits in gray squares must be even.



f-puzzles: <https://f-puzzles.com/?id=29brzr7r>

CtC: <https://tinyurl.com/3edwfm9>

## June 28, 2022: 007 Killer

Sam Cappleman-Lynes

Have you ever wanted to be a secret agent? Today's puzzle will let you fulfil your fantasies, because it's a Killer 007 Sudoku! Please read the rules carefully!

In this puzzle, place a number from 1-7 into some cells of the grid so that every row, column and box contains each number exactly once, leaving two cells empty. **Empty cells can not share an edge.** Each cage indicates the total of all numbers placed within that cage.

			9		4			5
4	1							
				13		3		
3								17
		4	16					
				2				
								3
8					2			
	7			7				

f-puzzles - <https://f-puzzles.com/?id=2akv2h95> (no answer checking)

CtC - <https://tinyurl.com/3r53kmt2> (answer checking will only trigger if you manually press the check button)

Penpa - <https://tinyurl.com/24hsndgp> (automatic answer checking enabled)

## June 29, 2022: The Quick and the Egg

Philip Newman

So Sam thinks he can reclaim the title of Easiest GAS Setter by only making them fill in 63 cells with digits, huh? I'll show him...

Today's GAS is a Classic Sudoku!

Normal sudoku rules apply. And that's it!

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

## June 30, 2022: 0006 Killer

Clover

Today's GAS celebrates a lesser-known entry in the James Bond franchise: a 0006 killer. Before there was 007, M engaged in a bit of over-optimistic future-proofing and experimented briefly with 4-digit designations for agents - I wonder why it didn't catch on?

🔥 Normal sudoku rules do not apply. 🔥 Fill the grid so that each row, column, and 3x3 region contains the digits 1 through 6, as well as three blank cells. Blank cells may never share an edge. Digits in a cage may not repeat (although a cage can contain multiple blanks), and must sum to the indicated value.

	12							
	1		7			2		10
				5				
	5					5		
9								
	4	3				1	3	
			3					
					11			

f-puzzles (note: answer checking will not work properly!):

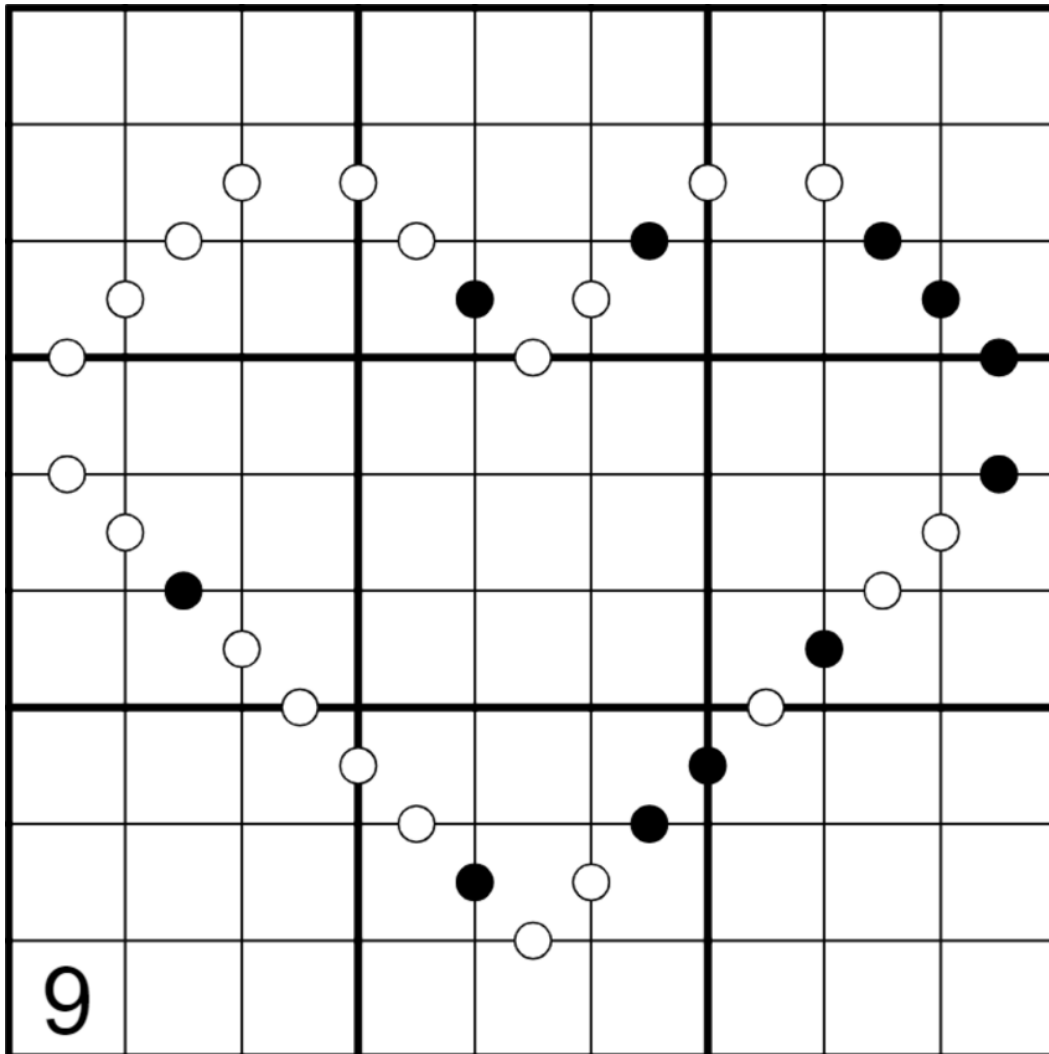
<https://f-puzzles.com/?id=25ttstt9>

CtC: (note: manually click 'check' to check your answer!): <https://tinyurl.com/39c2574h>

### Bonus 1: Krop Thru The <3

Philip Newman

Normal sudoku rules apply. 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 digits may also be consecutive or have a 2:1 ratio.)



<https://f-puzzles.com/?id=2bfl5ucw>

<https://tinyurl.com/yjwrv6ee>

## Bonus 2: 0006.5 Killer

Clover

🌟 Normal sudoku rules do not apply. 🌟 Fill the grid so that each row, column, and 3x3 region contains the digits 1 through 6, as well as three blank cells. Blank cells may never share an edge. Digits in a cage may not repeat (although a cage can contain multiple blanks), and must sum to the indicated value.

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

<https://f-puzzles.com/?id=25k7a9zp>

<http://tinyurl.com/2puupn3w> (Note: **no automatic answer checking available**. The solution appears on the following page.)

Solution:

<sup>1</sup> 1		<sup>5</sup> 3	6	<sup>7</sup>	4	5	<sup>2</sup>	2
	2		3	5	1	6	<sup>5</sup> 4	
<sup>7</sup> 5	6	4		2		3		1
2	3		5		6		1	4
	4	<sup>6</sup> 1		3		2	6	5
6	5		1	4	2		3	<sup>6</sup>
<sup>4</sup> 3		2		<sup>7</sup> 1		4	5	6
<sup>4</sup>	1	5	4	6	3	<sup>3</sup>	2	<sup>3</sup>
4		6	2		5	1		3

### Bonus 3: Skyscraper Sudoku

Sam Cappleman-Lynes

Normal sudoku rules apply. Each digit represents a building of a different height, with larger digits representing taller buildings. A clue outside of the grid tells you how many buildings can be "seen" when looking into the grid from that direction (shorter buildings are blocked from view by taller ones in front of them.)

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

<https://f-puzzles.com/?id=2btvs8c7>

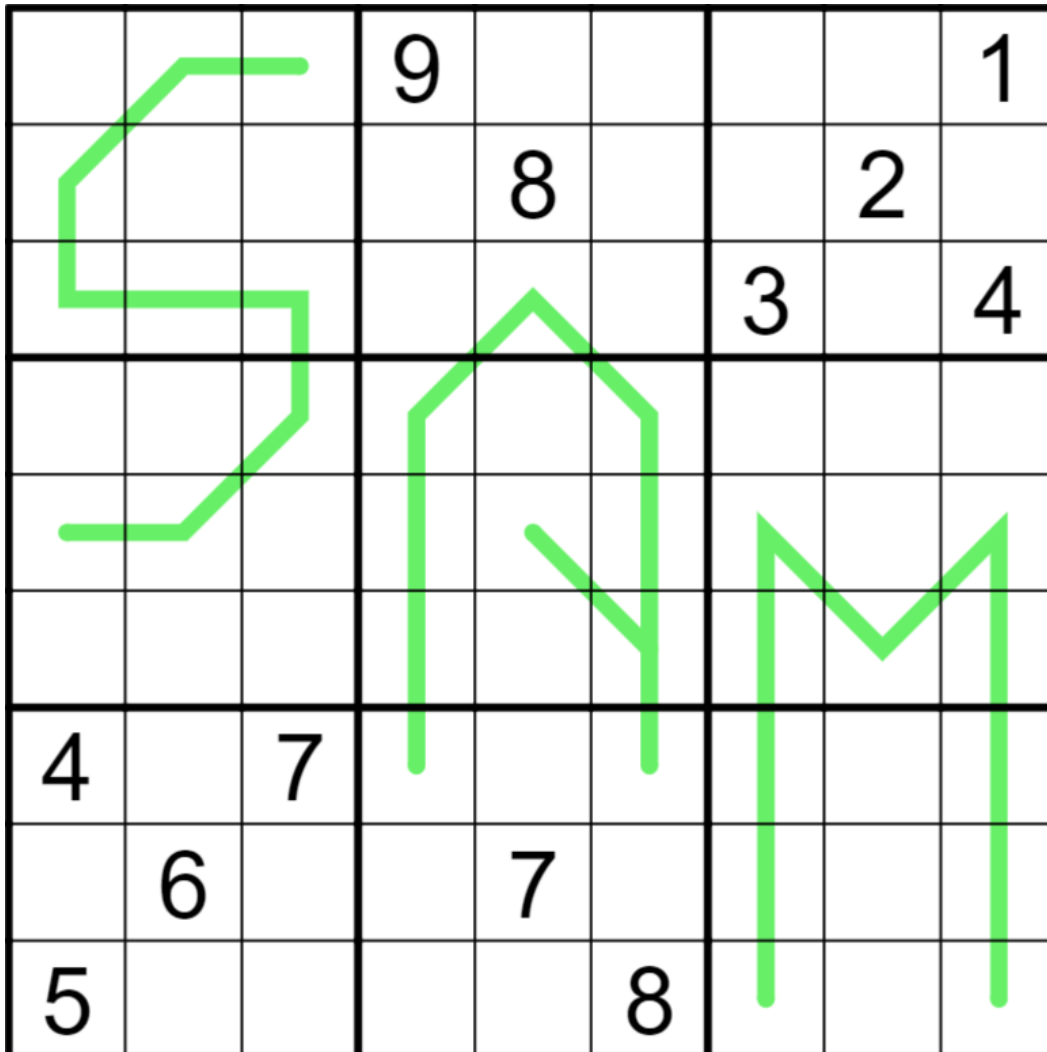
<http://tinyurl.com/3x2y522j>



### Bonus 4: Classic Sudoku

Philip Newman

Normal sudoku rules apply. Digits in cells directly connected by a green line must differ by at least 5.



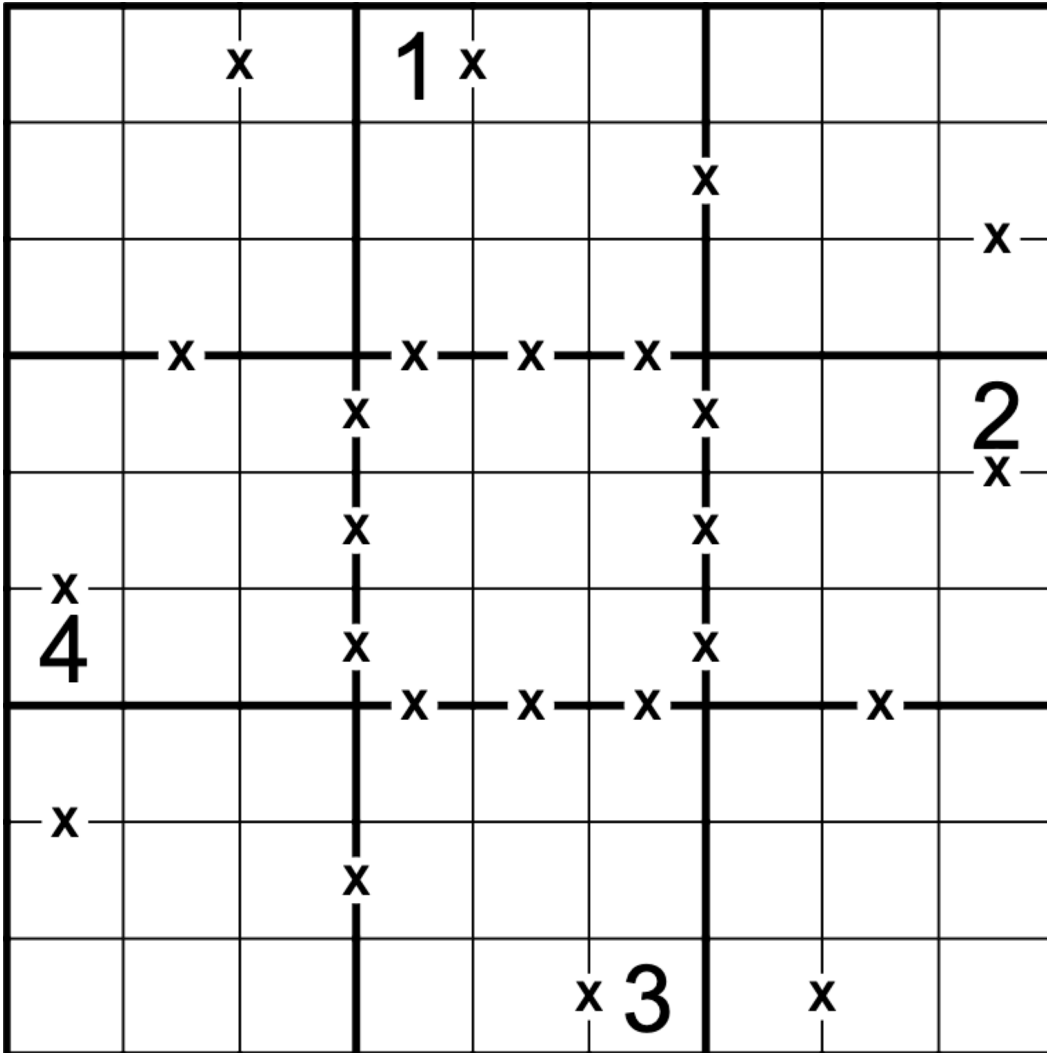
<https://f-puzzles.com/?id=28fmfs33>

<https://tinyurl.com/yn4sek4z>

**Bonus 5: XV**

Clover

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



<https://f-puzzles.com/?id=29vhkyd3>

<http://tinyurl.com/4xebvby8>

## Time Benchmarks

	One party hat	Two party hats	Today's dinosaur:
June 1, 2022	12:00	6:30	displaced dynamoterror
June 2, 2022	15:00	8:00	thermodynamic fulgurotherium
June 3, 2022	11:30	6:30	antithetical amygdalodon
June 4, 2022	16:00	8:30	zigzagging zby
June 5, 2022	17:00	9:00	starry-eyed struthiosaurus
June 6, 2022	18:00	10:00	constructed carcharodontosaurus
June 7, 2022	No time standards today - Happy birthday, GAS!		
June 8, 2022	18:00	9:30	sneky sanpasaurus
June 9, 2022	15:00	8:00	ascending asylosaurus
June 10, 2022	11:00	6:30	astronomical acristavus
June 11, 2022	43:21 (full set)	8:00 (full set)	Le Comte de Monte-Campylodoniscus
June 12, 2022	13:00	7:00	Eulerian erectopus
June 13, 2022	10:00	5:30	confident cotyledon
June 14, 2022	14:00	7:00	psyched protognathosaurus
June 15, 2022	12:00	6:30	talkative tarchia
June 16, 2022	13:30	7:30	cardioidal chiostenotes
June 17, 2022	16:00	8:00	chaotic chuanjiesaurus
June 18, 2022	13:30	7:30	vexed veterupristisaurus
June 19, 2022	14:00	8:00	fossilised futalognkosaurus
June 20, 2022	15:00	7:30	lixivated lessemsaurus
June 21, 2022	13:00	8:00	maxilloincisive magnirostris
June 22, 2022	14:00	8:00	seasonal saurornithoides
June 23, 2022	11:00	6:00	oddball ohmdenosaurus
June 24, 2022	14:00	8:00	literate lophorhothon
June 25, 2022	12:00	6:30	traditional(ish) triceratops
June 26, 2022	13:00	6:30	analog analong

June 27, 2022	17:00	9:00	paternal pawpawsaurus
June 28, 2022	15:00	8:00	underfilled urbacodon
June 29, 2022	10:00	4:00	unctuous ultrasaurus
June 30, 2022	12:00	6:30	secret agent scipionyx