# GAS Leak

Genuinely Approachable Sudoku

from the CtC Discord

Volume 28:

May 1 – May 31, 2023

Welcome to May!

We got a full month of GAS puzzles for you, one better than the other. Enjoy clover's lemons, solve puzzles which sort-of contain invisible arrows without the circles or invisible thermos without the bulbs, and much more. Also you can learn how a new Zelda game affects setters – and how sudoku-setters flirt.

Hints given in the puzzle settings were moved to a page near the end of this Leak.
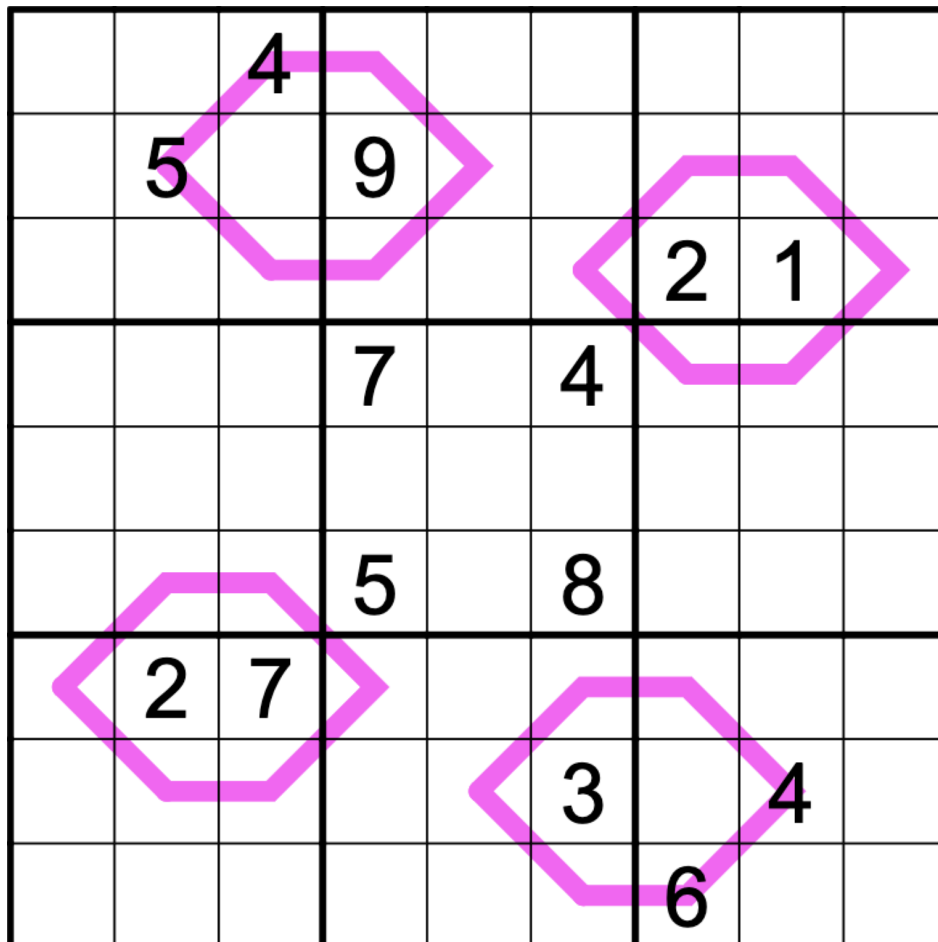
Have fun solving!


Engy

**May 1, 2023: Raspberry Lemon**
clover!

Even though **lemon sudoku** is one of our favorite variants here at GAS, there are only a few examples of it in existence that weren't created by GAS setters! Here's a very nice one set in 2017 by the inimitable Richard Stolk (warning: harder than GAS, although still quite reasonable):
https://logic-masters.de/Raetselportal/Raetsel/zeigen.php?id=0002PT

But today, we won't settle for lemons alone - instead, we're making (raspberry) lemonade with this delicious **raspberry lemon sudoku**. Normal sudoku rules apply. Also, the sum of the digits along each 'lemon' equals the two-digit number inside of that lemon, read from left to right. For instance, the sum of the digits along the topmost lemon equals the two-digit number you get by reading r2c3 and r2c4 as a two-digit number. Finally, each line also contains a set of consecutive digits, which can appear in any order. For instance, a line could contain the digits 431265.



f-puzzles: https://f-puzzles.com/?id=2j6rccdp
CtC: https://tinyurl.com/4b92mrtc

**May 2, 2023: 2 Paintings by Nikolai Astrup**
Bill Murphy

I know no one now
Now I say "you"
Now after the ground has opened up
Now after you died
I wonder what could beacon me forward into the rest of life
I can glimpse occasional moments
Gleaming like bonfires burning from across the fjord

Happy Five Year Anniversary Lisa. I love you xo

Today's GAS is an **Odd/Even Sudoku**.

*Normal sudoku rules apply. Cells with grey squares must contain even digits. Cells with grey circles must contain odd digits.*

f-puzzles: https://f-puzzles.com/?id=2e4ewodd
CTC: https://tinyurl.com/5vz5sp89

⇓⇓ Additional poem on next page ⇓⇓

Nikolai Astrup, he also died young at 47
Right after finishing building his studio at home
Where he probably intended to keep on painting his resonant life into old age
But sometimes people get killed before they get to finish
All the things they were going to do
That's why I'm not waiting around anymore
That's why I tell you that I love you.

**May 3, 2023: The Eye of the Storm**
Philip Newman

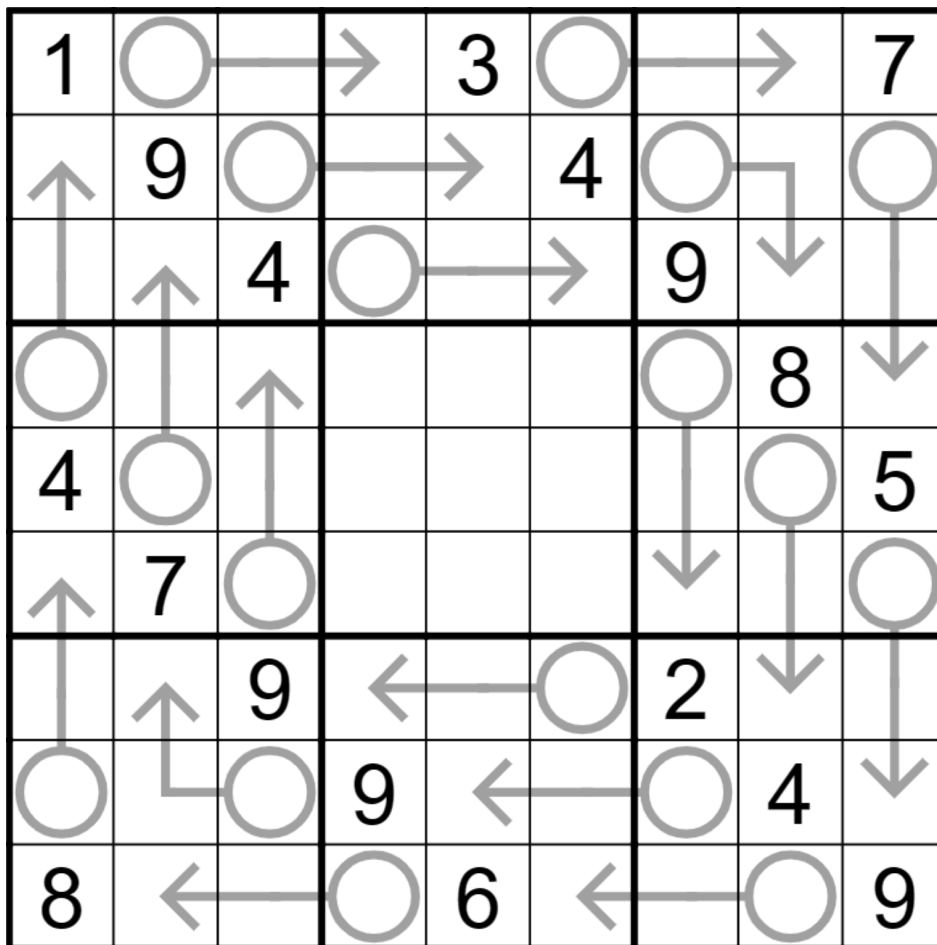I didn't forget today! I'm just sloooooow.

Hopefully you won't find today's **GAS** as slow. It's an **Arrow Sudoku**, and like the Arrow Sudoku I posted exactly a month ago it is *not* unique without givens so I can get away with giving you a few extra. [The hint is on the Hints page of this GAS Leak]

In other news, @akash doulani has recently released the latest book in the excellent **World of Sudoku** series! For more information, click here:
https://discordapp.com/channels/709370620642852885/709373384437268530/110283
5820190244894

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



Play on f-puzzles: https://f-puzzles.com/?id=2nluardm
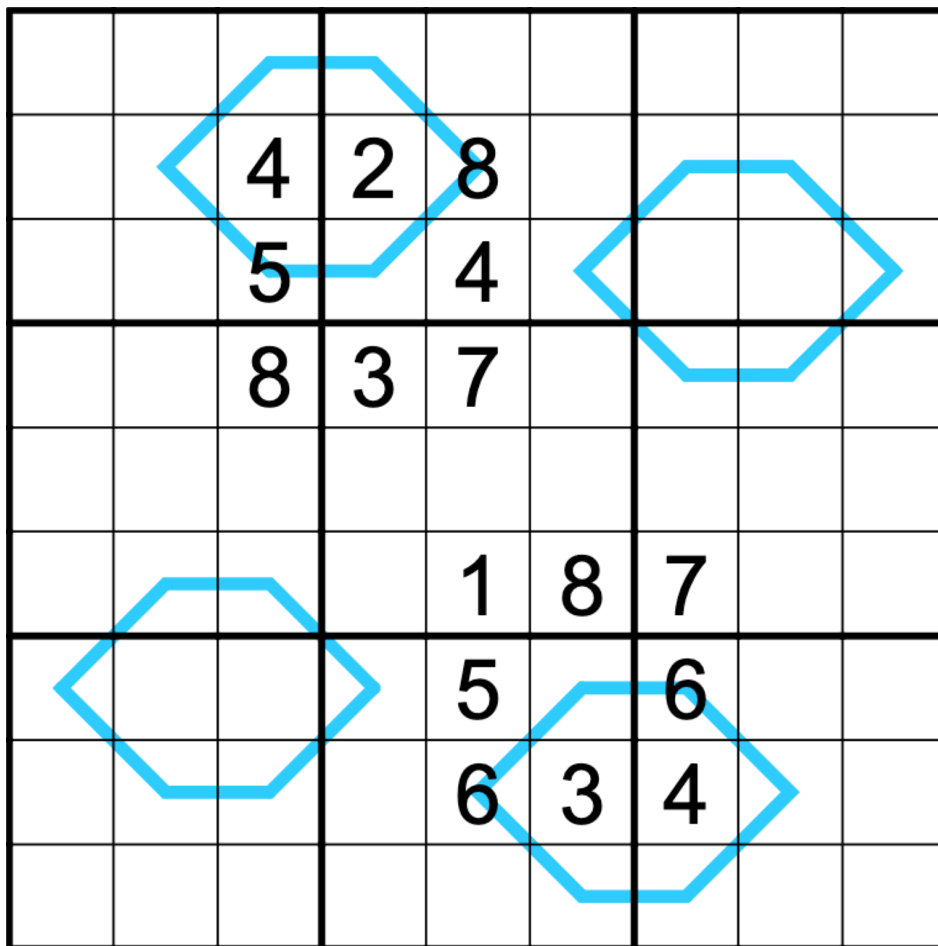Play on CTC App: https://tinyurl.com/4cxdxahs

**May 4, 2023: Blueberry Lemon**
clover!

I'm feeling optimistic today! Life may give me some blueberry lemons, but I'll just make a pitcher of blueberry lemonade. 🫐 🍋

In this **blueberry lemon sudoku**, normal sudoku rules apply. Also, lemon sudoku and region sum lines rules apply, as described below:

Lemon: the digits on each 'lemon' shape sum to the two-digit number on the inside of the lemon (formed by reading the digits in the two interior cells from left to right). Digits may repeat on lemons.

Region sum lines: each blue line travels through multiple 3x3 regions. Along each line, the sum of the digits within each region is equal. For instance, on the top left lemon, the sum of the digits in region 1 equals the sum of the digits in region 2. Different lines may or may not have different sums.



f-puzzles: https://f-puzzles.com/?id=2j8z4qbs
CtC: https://tinyurl.com/hf4rtvzs

**May 5. 2023: Come on and Sum**
Bill Murphy

Happy Friday! Congratulations to all who celebrate the following:
Cinco de Mayo
May the 4th be with you/Revenge of the 5th
Bandcamp Friday
My mum's birthday (Hi mum)
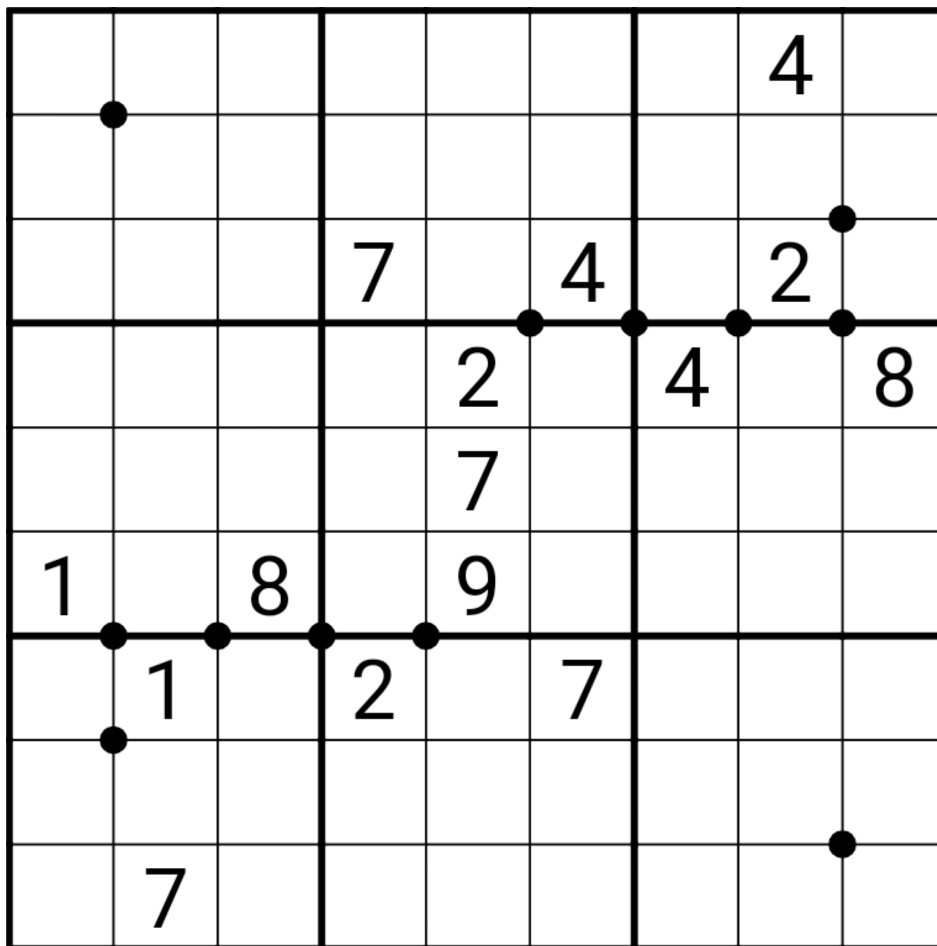World Portuguese Language Day
National Cartoonist Day
Let's Get Weird.

Today's GAS is a **Quad Sums** Sudoku.

*Normal sudoku rules apply. A dot means the one of the connected digits is the sum of the other three. Not all dots are given.*

(Around each dot, you could imagine it's a three cell long arrow, but I haven't told you where the bulb is. Sound GAS? Great)



F-puzzles: https://f-puzzles.com/?id=2e644rah
CTC: https://tinyurl.com/2f9hee3b

**May 6, 2023: On the Ropes**
Philip Newman

It's coronation day across the pond, let's see what constraints we have that would be on theme...

Oh. Oh dear.

Today's **GAS** is a ~~Antiking Sudoku~~ **No Touch Sudoku**, where digits can't touch themselves even diagonally and any similarity to the movement of chess pieces is purely coincidental.

Normal sudoku rules apply.

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

**No Touch: Cells which are diagonally adjacent cannot contain the same digit.**



Play on f-puzzles: https://f-puzzles.com/?id=2eyh3ane
Play on CTC App: https://tinyurl.com/mrucsdc6

**May 7, 2023: Peach Lemon**
clover!

What do you mean, you're allergic to blueberries? Can't you just -

Oh, you really are swelling up like a balloon, aren't you. Carry on. 😬

In today's **peach lemon** GAS, normal sudoku rules apply. Also, lemon sudoku and entropic lines rules apply, as described below:

Lemon: the digits on each 'lemon' shape sum to the two-digit number on the inside of the lemon (formed by reading the digits in the two interior cells from left to right or top to bottom). Digits may repeat on lemons.

Entropic lines: along each line, each set of three adjoining digits contains exactly one low (123), one medium (456), and one high (789) digit. (Note: this implies that every line has a repeating pattern such as LMHLMH or LHMLHM).



f-puzzles: https://f-puzzles.com/?id=2g6b57ar
CtC: https://tinyurl.com/mr3yeesu

**May 8, 2023: Pointing Diagonal Sudoku**
Bill Murphy

Hey, I still get messages about my April 1st puzzle, so let's clear something up.
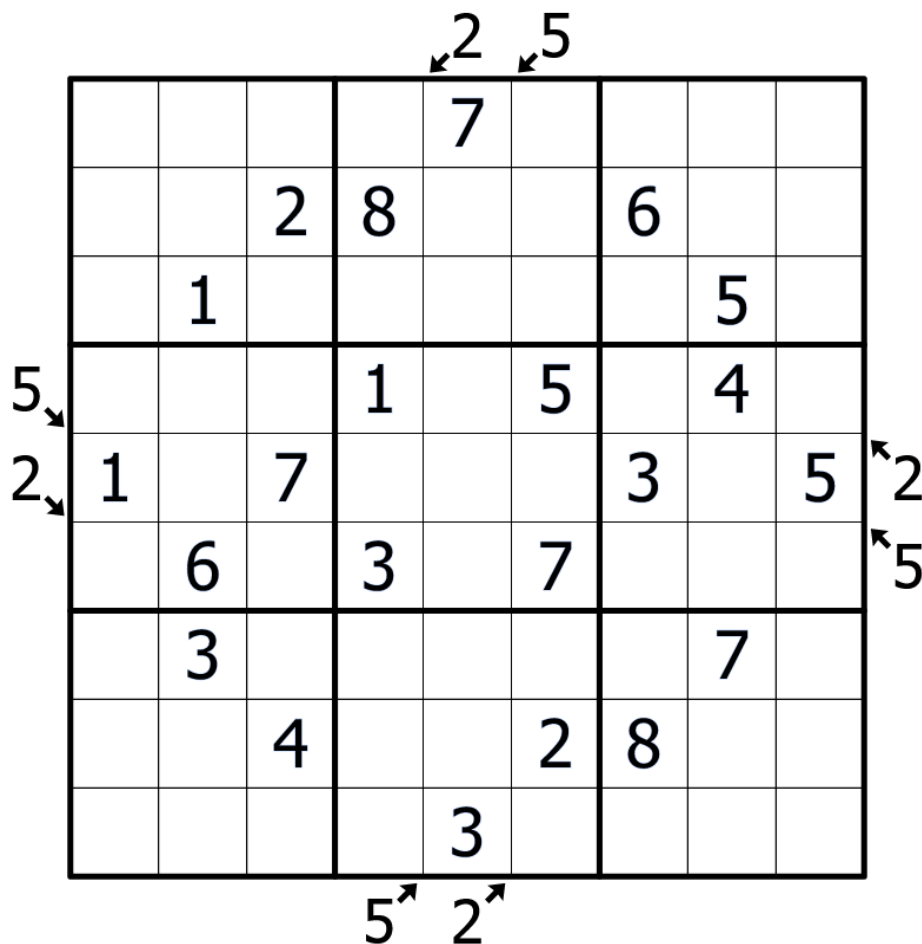
Before I cannibalized it for April Fools, the puzzle was initially made so that advanced users could spot the swordfish and use it, but being that this is **Genuinely Approachable Sudoku**, a swordfish as a sudoku technique doesn't really belong here, so the puzzle also needed to be solvable using naked and hidden singles, which it also was.

That's right, I set y'all up for a gas trick bypass.

*Off in the distance, a man in a fluoro vest and hard hat sadly shakes his head, resets the counter of "Days since Bill said something silly in a GAS intro" back to 0.*

Today's GAS is a **Pointing Diagonal Sudoku**.

Normal Sudoku Rules Apply. Numbers outside the grid indicate the number of different numbers placed in the cells in the corresponding diagonal direction.



CTC: https://tinyurl.com/5n953y35
Penpa: https://tinyurl.com/2ojuzbsg

**May 9, 2023: Hollow Knight**
Philip Newman

Sometimes (like on Saturday), world events happen to line up perfectly with the puzzle I have ready to post. Sometimes they don't.

So... Happy 42nd birthday to Bill Murphy!

...no, not our @Legitimate Patreon Haver/Bill Murphy#3057, but rather the American baseball pitcher who was drafted 98th in the "Moneyball" draft of 2002, very close to half a lifetime ago. (If only the Oakland baseball team were the Knights.)

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

Normal sudoku rules apply.

**Antiknight: Cells separated by a (chess) knight's move cannot contain the same digit.**
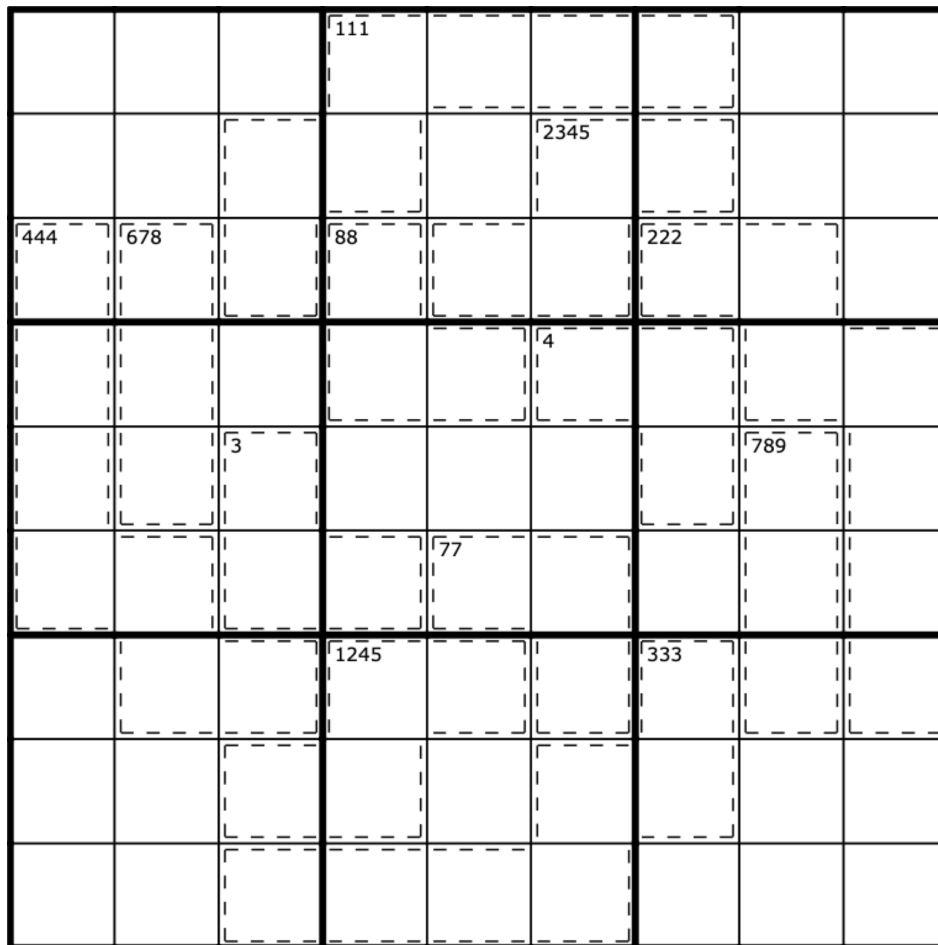
**May 10, 2023: Zone Sudoku**
clover!

Let's get out of our comfort zones, eat a calzone, zone out for a minute and not worry about the ozone layer for once - today's GAS is a **zone sudoku**.

Normal sudoku rules apply. Also, the clue in the top left corner of each cage tells you some of the digits that appear in that cage.



f-puzzles: https://f-puzzles.com/?id=2jr6u8ss
CtC: https://tinyurl.com/26jnua2h

**May 11, 2023: Echolalia**
Bill Murphy

Today's GAS is a **GASsic Sudoku**.

(I'm calling in sick tomorrow, but I've still gotta get work posted for the kids. A cowboy hat to the best impersonation of a me intro in the comments, I'll put my favourite in for Mark to read.)

(Tomorrow being the release of The Legend of Zelda: Tears of the Kingdom has nothing to do it, I swear)

*Normal Sudoku Rules Apply.*

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

f-puzzles: https://f-puzzles.com/?id=2df2st6l
CTC: https://tinyurl.com/dhux49y9

**May 12, 2023: Tears of the Solver**
Philip Newman

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

(Like Bill, I am sick. A cowboy hat to the best impersonation of a me intro in the comments, I'll put my favorite in for Mark to read.)

(Today being the release of The Legend of Zelda: Tears of the Kingdom has nothing to do with it, I swear.)

Normal sudoku rules apply.

**Diagonal: Digits along the indicated diagonals cannot repeat.**



Play on f-puzzles: https://f-puzzles.com/?id=2hrrruwz
Play on CTC App: https://tinyurl.com/2ex64ed8

**May 13, 2023: Knapp Daneben Killer**
clover!

Bill and Philip both "sick"? Clover not posting until nearly 11 o'clock in the morning?

Something is a little... *off* today. A little... *off-by-one*, as it were. 😋

In today's **knapp daneben killer**, normal sudoku rules apply. Also, digits in cages do not repeat and must sum to **either one greater or one less than the indicated total**.



f-puzzles: https://f-puzzles.com/?id=2nno2lqr
CtC: https://tinyurl.com/mfjhrjde
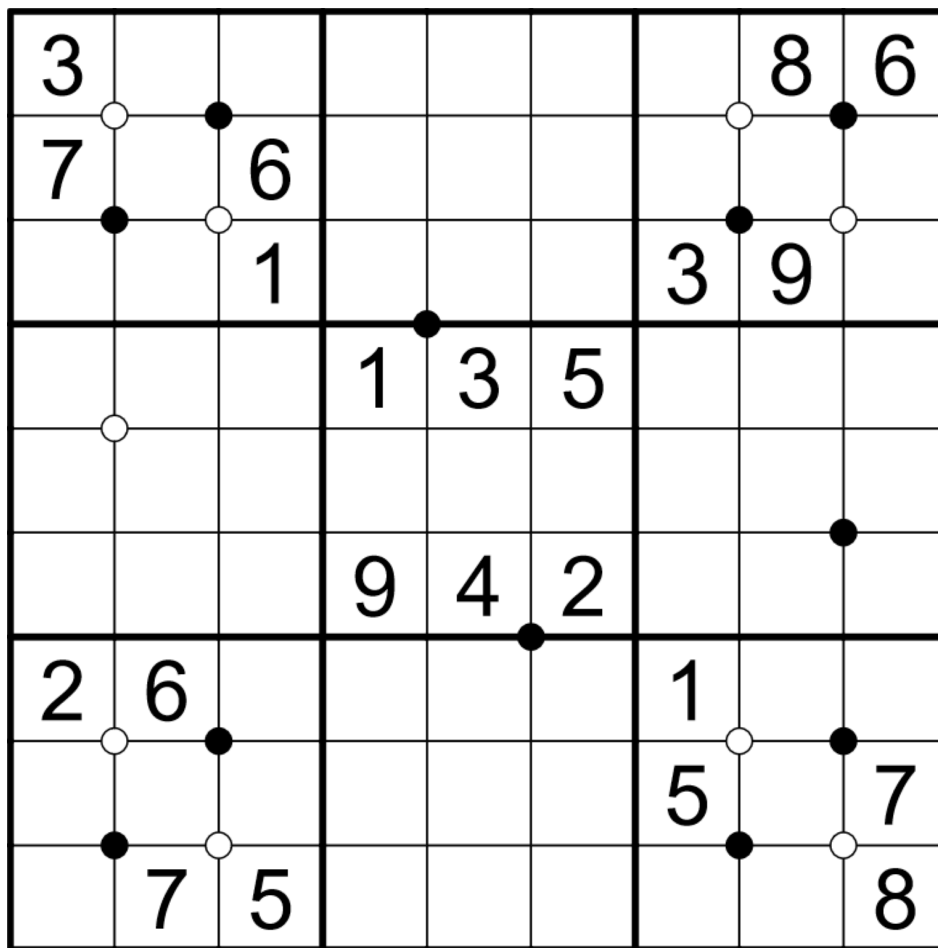
**May 14, 2023: Clockfaces Sudoku**
Bill Murphy

The GAS that solvers normally complain about are the math heavy ones. Lemme tell ya, things can always be worse. You could, hypothetically, have to go between clockwise and anticlockwise very quickly.

**TIME FOR SOME NONSENSE**

Today's GAS is a **Clockfaces Sudoku**

*Normal Sudoku Rules Apply. Four digits around a white circle are placed in an increasing order starting from one of the four cells and going clockwise. Four digits around a black circle are placed in an increasing order starting from one of the four cells and going anticlockwise.*

So it's thermo sudoku around the dot either going clockwise or anticlockwise and I haven't told you where the bulb is. Yeah I love y'all THAT MUCH. (The times are generous.)



f-puzzles: https://f-puzzles.com/?id=2gu7gycw
CTC: https://tinyurl.com/yckaeuac

**May 15, 2023: Tears of the Kropki**
Philip Newman

The design for today's completely original **GAS**, a **Difference/Ratio Pairs Sudoku**, is inspired by The Legend of Zelda: Tears of the Kingdom. (Which I have definitely not been playing all weekend.) See those interlocking tear shapes? Any similarity to puzzles which were published prior to the release of Tears of the Kingdom is purely coincidental, I swear.
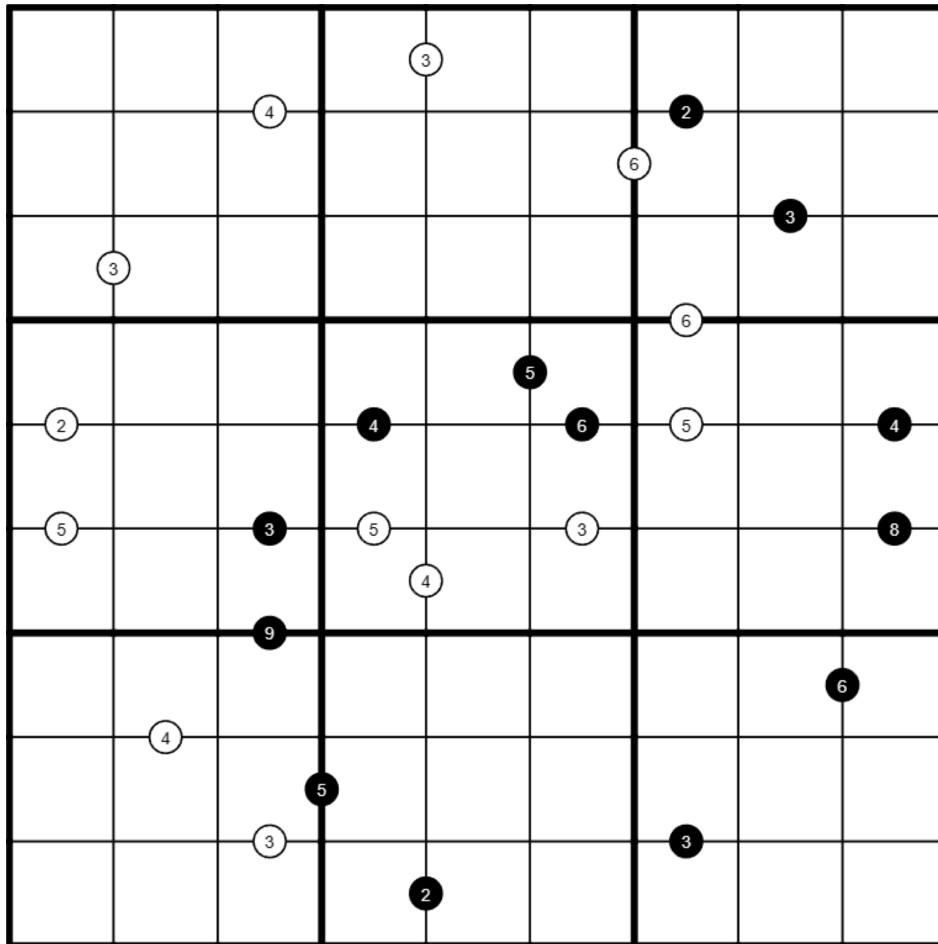
https://www.youtube.com/watch?v=q9n61GR-Y-Q

Wait, who put that link there? Bill, is one of your trenchcoat gremlins messing with my intros again?

Normal sudoku rules apply.
**Difference Pairs: Digits in cells separated by a white dot must have the difference given.**
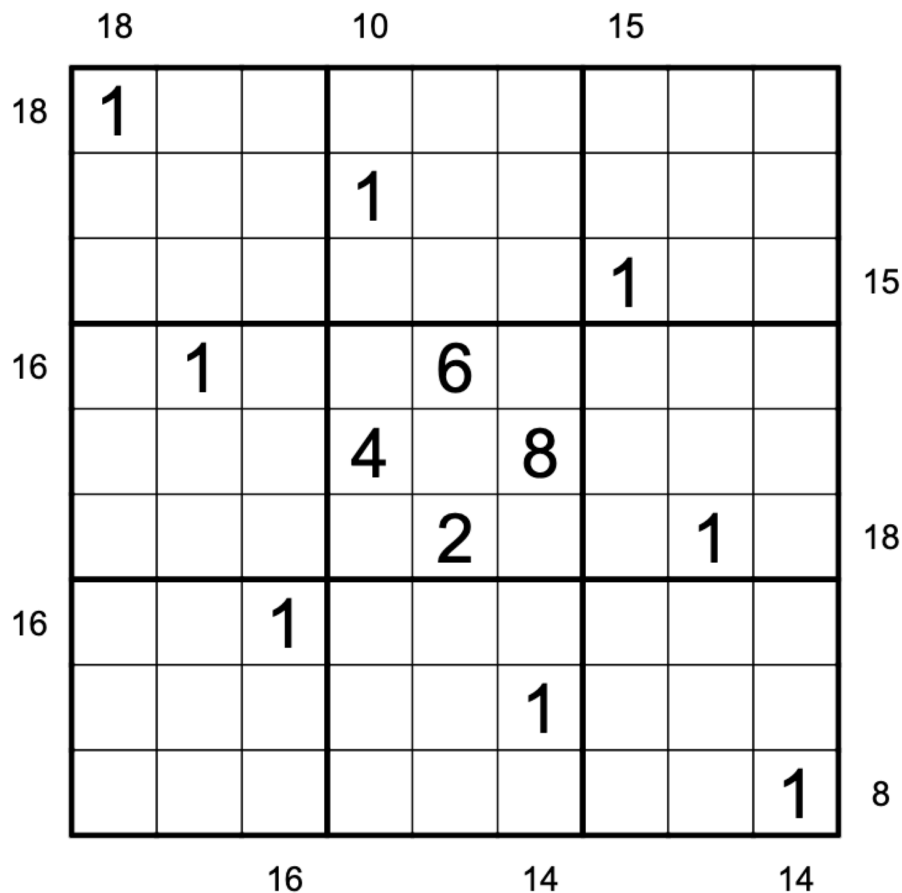**Ratio Pairs: Digits in cells separated by a black dot must have the ratio given.**

**May 16, 2023: Math(s)-ier Sudoku**
clover!

Ahhh. Nothing quite like a little light arithmetic in the morning to knock the rust off the ol' brain cells. I know that's a key part of my morning routine - shower, stretch, brush my teeth, set a puzzle, put on sunscreen, do a little bit of math. ☀️

In today's **math(s)ier sudoku**, you might recognize the rules from a few weeks back! Be careful, because this one is slightly different.

Normal sudoku rules apply. Also, clues **to the left or right of a row** tell you the **sum** of the three digits in that row nearest the clue. Clues **above or below a column** tell you the **product** (multiplication) of the three digits in that column nearest the clue. For example, if a "8" appears above a column, the three topmost digits in that column would be 1, 2, and 4 in some order.



f-puzzles: https://f-puzzles.com/?id=2lf5vc2s
CtC: https://tinyurl.com/yc5875mz

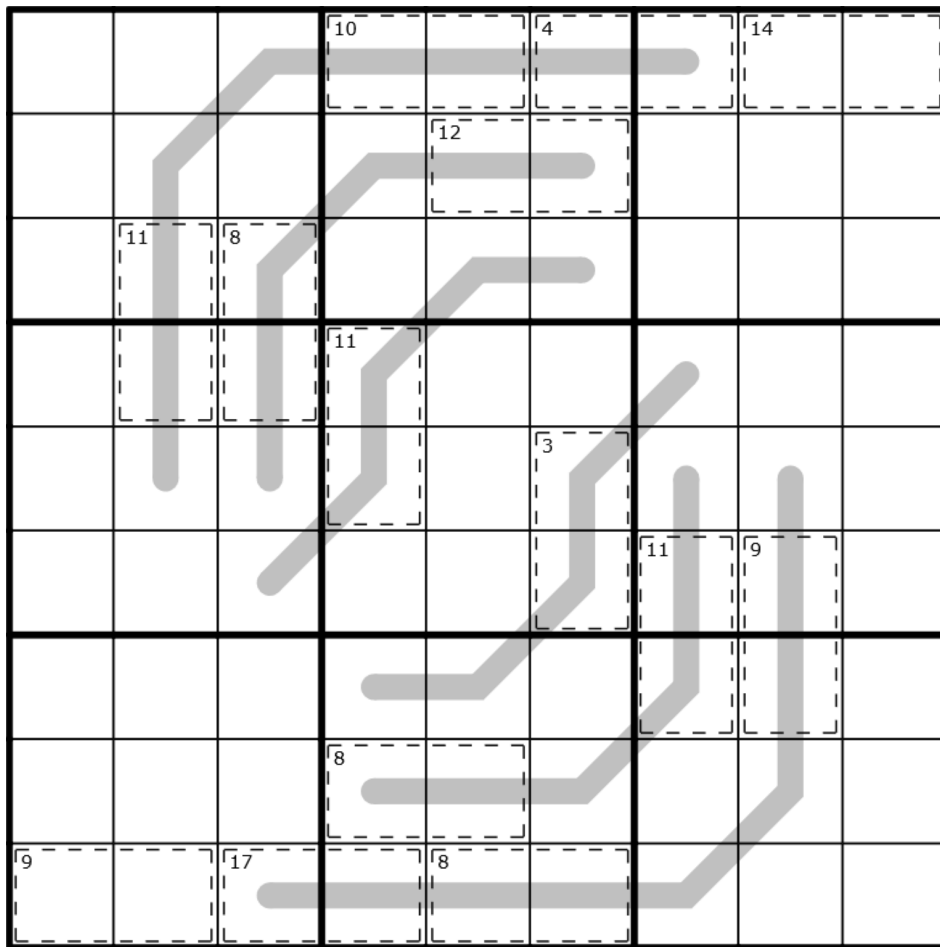# May 17, 2023: Free Yourself
Bill Murphy

Happy IDAHOBIT (International Day Against Homophobia, Biphobia and Transphobia) to all my queer, trans and non-binary friends!

I'd a hobit once, but i had to let them free in the wild, they kept eating all my breakfasts.

Today's GAS is a **killer palindrome** sudoku.

*Normal sudoku rules apply. Digits in cages must sum to the small corner total. Grey lines are palindromes and must read the same from either direction.*

For two party hats, finish within 7:30. For one party hat, finish within 14:00. All other solvers will earn a Inclusive Incisivosaurus.



f-puzzles: https://f-puzzles.com/?id=2bdw9kfe
CTC: https://tinyurl.com/4fyptfcm

**May 18, 2023: Tiers of the Kingdom**
Philip Newman

BWAHAHAHA HA HA. It is I, eeeeeevil setter NILIP PHEWMAN! Philip is busy this morning enacting delicious sudoku-themed vengeance on the phone support for his home warranty (or something along those lines) and has deputized me to post his beautiful puzzle. I'm sure he isn't cackling right now at the realization that I now have to type up all of these rules...*deep breath*

(note: in case you have trouble distinguishing the three line constraints, from top to bottom they're renban, then GW, then region sum lines!)

Normal sudoku rules apply.

Kropki Pairs: 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.

Thermo: digits along thermometers must increase, starting from the round bulb.

Renban: the magenta line contains a set of consecutive digits in any order, such as 2 3 1 4.
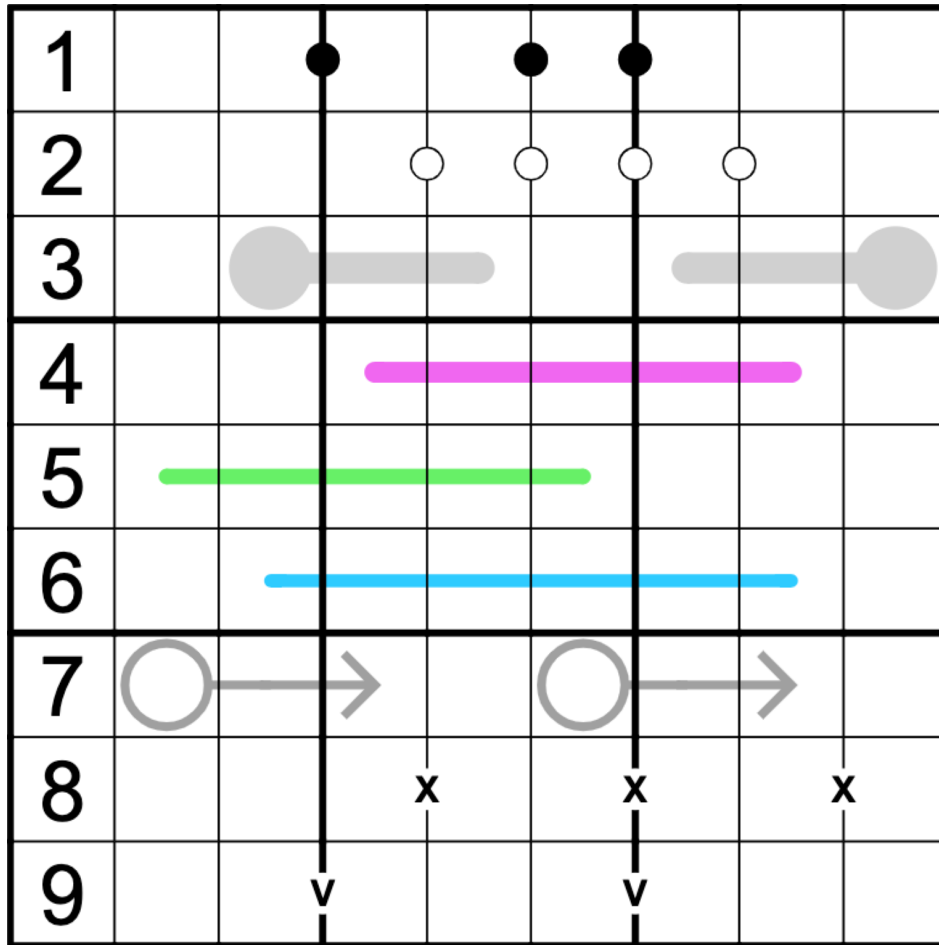
German Whispers: adjacent digits along the green line differ by at least 5.

Region sum line: the blue line travels through several regions in the grid. The sum of the digits along the line is the same within each region it passes through.

Arrow: digits along each arrow sum to the digit in the attached circle.

XV pairs: digits separated by an X sum to 10. Digits separated by a V sum to 5. Not all possible Xs or Vs are necessarily given.


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

(the two-party-hat-time is not including the time it takes you to read those rules. Is that too generous? Does it give away the fact that I'm not really Philip? Who cares!)
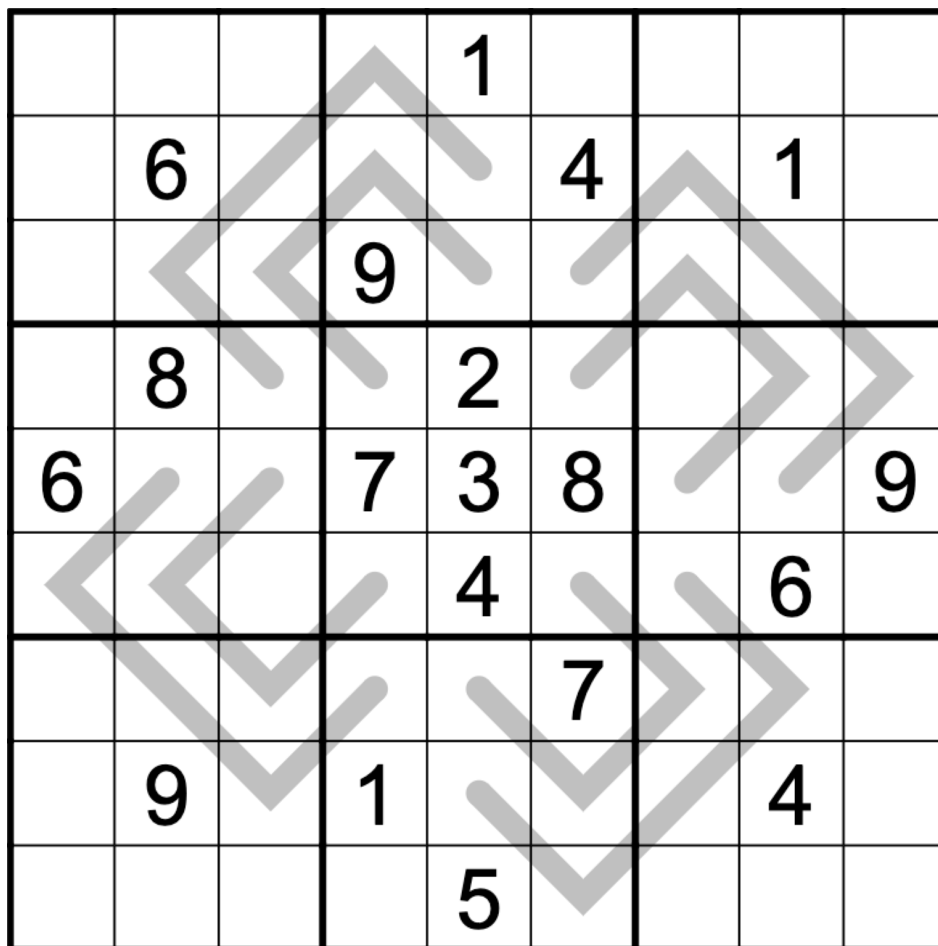
f-puzzles: https://f-puzzles.com/?id=2gu9vl34
CtC: https://tinyurl.com/3dtmszpb

(posted by clover!)

**May 19, 2023: Palindrome**
clover!

      There once was a solver of puzz
      whose brain was all stuffed full of fuzz
      Until yesterday's GAS
      she'd been top of her class
      but forgot what fifteen plus two wuzz.

Today's GAS is a kind and gentle **palindrome sudoku**. Normal sudoku rules apply. Also, the digits along each gray line form a palindrome (read the same in both directions).

**May 20, 2023: So You Kno**
Bill Murphy

Today's GAS is a **classic sudoku** I made to impress someone in the flirty sense. This is how I date now apparently. Life is weird like that sometimes.

For two party hats, finish in 5:30 or less. For one party hat, finish in 10:30. All other solvers will earn a romantic Rinchenia.



f-puzzles: https://f-puzzles.com/?id=2hxgnqt3
CTC: https://tinyurl.com/5n7rzpad

**May 21, 2023: 129 Wingman**
Philip Newman

As @Bill Murphy's GAS wingman, it falls on me to provide sudoku pickup lines guaranteed to succeed.

"I'm so sorry... I wanted to make a sudoku inspired by you, but I failed."
"Oh no, what happened?" (or "Do I know you?" or "Not this again..." or "Sir, this is a Wendy's")
"I can only place the digits from 1 to 9, and you're a 10."

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

Normal sudoku rules apply. And that's it!



Play on f-puzzles: https://f-puzzles.com/?id=2me56xt6
Play on CTC App: https://tinyurl.com/ysdyce2y
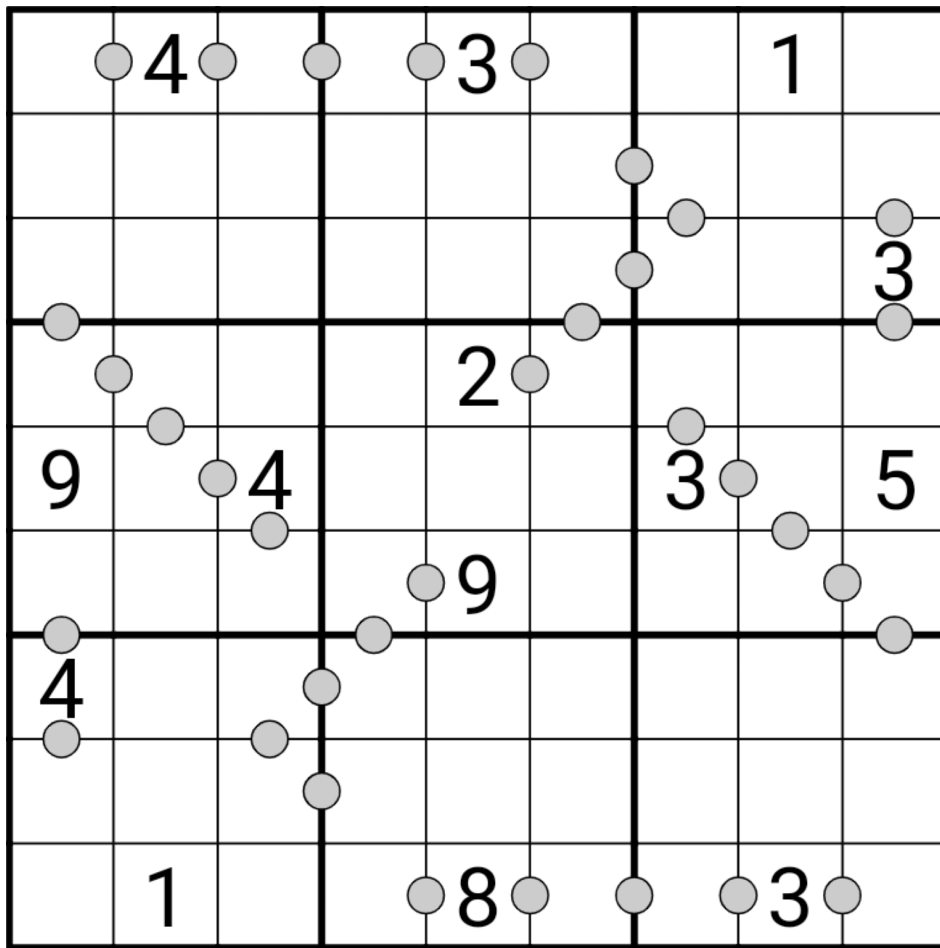
**May 22, 2023: Multiple Sudoku**
clover!

To celebrate today's **multiple sudoku**, let's have a poll: what do you call multiple sudoku(s)?

① the plural is sudoku, like moose, fish, or sheep

② the plural is sudokus, like cats, emus, or parrots

③ the plural is something else entirely, like octopi, mice, or children

Normal sudoku rules apply. Also, if two digits are separated by a gray dot, then one of the digits is a multiple of the other (such as 4 and 1, or 6 and 2).



CtC: https://tinyurl.com/4e5dnau6

**May 23, 2023: Nine Pins Sudoku**
Bill Murphy

Sorry. But also, as Luckyluciano17 posted on that fateful day on September 2nd 2014, *You know I had to do it to em*. (Don't worry Mark, it's an internet joke.)

Today's GAS is a **Nine Pins Sudoku**, dedicated to everyone who's been personally victimised by the World Sudoku Championship Instruction Booklet example puzzle for Nine Pins Sudoku. This one's for you.

**Normal Sudoku Rules Apply. Each number from 1-9 must appear three times in a row along a diagonal in this puzzle.**

Attached to today's puzzle is a spoilered image containing a pen-tool drawing of all the potential diagonals which could fulfil that condition, which could help with visualising it before you start. You can look at it if you want but are not obliged to (I've also included that as a link if you'd like to solve using that pattern if you don't want to take the time drawing it yourself). [this image and the links are on the Hints Page in this GAS Leak]



Plain:
F-puzzles: https://f-puzzles.com/?id=2fxo6mkr
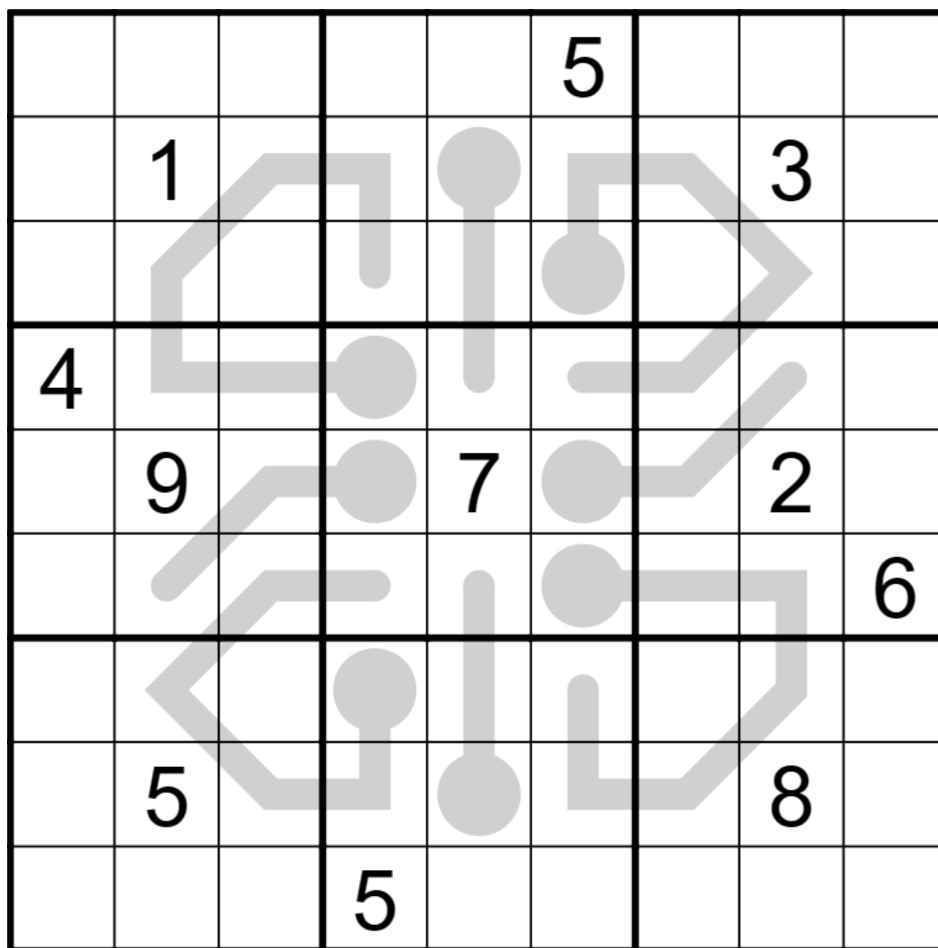CTC: https://tinyurl.com/5n6juawb

**May 24, 2023: Thermoglyphs**
Philip Newman

Today's **GAS**, a **Thermo Sudoku**, is dedicated to Texas in May. 🫠 .

Normal sudoku rules apply.
**Thermo: Digits along thermometers must strictly increase from bulb to tip.**



Play on f-puzzles: https://f-puzzles.com/?id=2lk56tgh
Play on CTC App: https://tinyurl.com/mr2ez7kb

**May 25, 2023: Renban Sudoku**
clover!

Today's GAS is a **renban sudoku**. If you squint, it spells out ⌐⌐⌐⌐⌐┌¬ ¬┌, which, when translated from the original Klingon, means:

> Normal sudoku rules apply. Also, each line contains a set of consecutive digits in any order, such as 423 or 798.



f-puzzles: https://f-puzzles.com/?id=2lgzhvqh
CtC: https://tinyurl.com/yy45uzeb

**May 26, 2023: Legal Ghost**
Bill Murphy

Sorry, I don't really have anything interesting to say today. Some may say that's **Irregular**, but they can't all be winners.

*Place the digits 1-9 in each row, column and outlined region. (Cells highlighted the same colour share a region.)*

For two party hats, finish with 6:30 or less. For one party hat, finish within 12:00 or less. All other solvers will earn a ill-fitting Irritator.



f-puzzles: https://f-puzzles.com/?id=2lbzb8ev
CTC: https://tinyurl.com/yckskurw

**May 27, 2023: Stare Into The Noid**
Philip Newman

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

The title is a reference to a Domino's Pizza advertising character which, according to Wikipedia, "was a physical manifestation of all the challenges inherent in getting a pizza delivered in 30 minutes or less". I am co-opting this character to represent the physical manifestation of all the challenges inherent in me posting a GAS puzzle on time.

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



Play on f-puzzles: https://f-puzzles.com/?id=2eqnncb5
Play on CTC App: https://tinyurl.com/4pyh6fx3

**May 28. 2023: Diagonal Consecutive Sudoku**
clover!

The slight delay in posting today's GAS was in no way related to my staying up until 3 AM perfecting my Zonai racecar design in Tears of the Kingdom.

Normal sudoku rules apply. Also, marked pairs of diagonally adjacent digits are consecutive. 🚨 NEGATIVE CONSTRAINT ALERT 🚨 : all possible pairs are marked. If two diagonally adjacent digits are NOT marked, then those digits are NOT consecutive.



CtC: https://tinyurl.com/mw2p62d7

**May 29, 2023: Add It Up**
Bill Murphy

A man, obsessed with trains steals one and immediately crashes it, killing several people.
At the trial, the man is found guilty of multiple murders and is sentenced to death.
He is offered a last meal, and asks for a single banana, which is given to him. The next day, he is led to the electric chair. They strap him in, pull the switch, and... nothing happens.

This has never happened. Since you cannot punish a person twice for the same crime, the court is forced to let him go free.
Naturally, the man, who is obsessed with trains, goes and steals another one. He doesn't care that he can't drive it or that he failed catastrophically before; he is obsessed with trains and his only desire is to operate one. As before, he crashes it, and kills several people. Again, he stands trial, and again, he is sentenced to death, showing no remorse, only delight that he got to operate the train.
His last meal request is again a single banana.
When he goes to the chair, the executioner pulls the switch, but nothing happens. As before, he goes free again.

Once more on the loose, he wastes no time in hijacking a train and crashes it.
His trial is swift, as this has already happened twice, and he is again sentenced to death. They ask him what he would like for his last meal.
"A single banana," he says.
"Oh, no you don't! We're on to you! We know all about your banana trick, and you're not escaping this time!"
The next morning they strap him into the electric chair, pull the switch, and... nothing happens.
"Did you give him the banana?" demands the head guard. The guards shake their heads.

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

**Clone Sudoku** today!

*Normal sudoku rules apply. Identical areas made up of identically coloured cells are clones. Cloned areas must be identical.*



f-puzzles: https://f-puzzles.com/?id=2fnply8l
CTC: https://tinyurl.com/55rdxvn7

[Tip: Have a look at the end message after solving!]
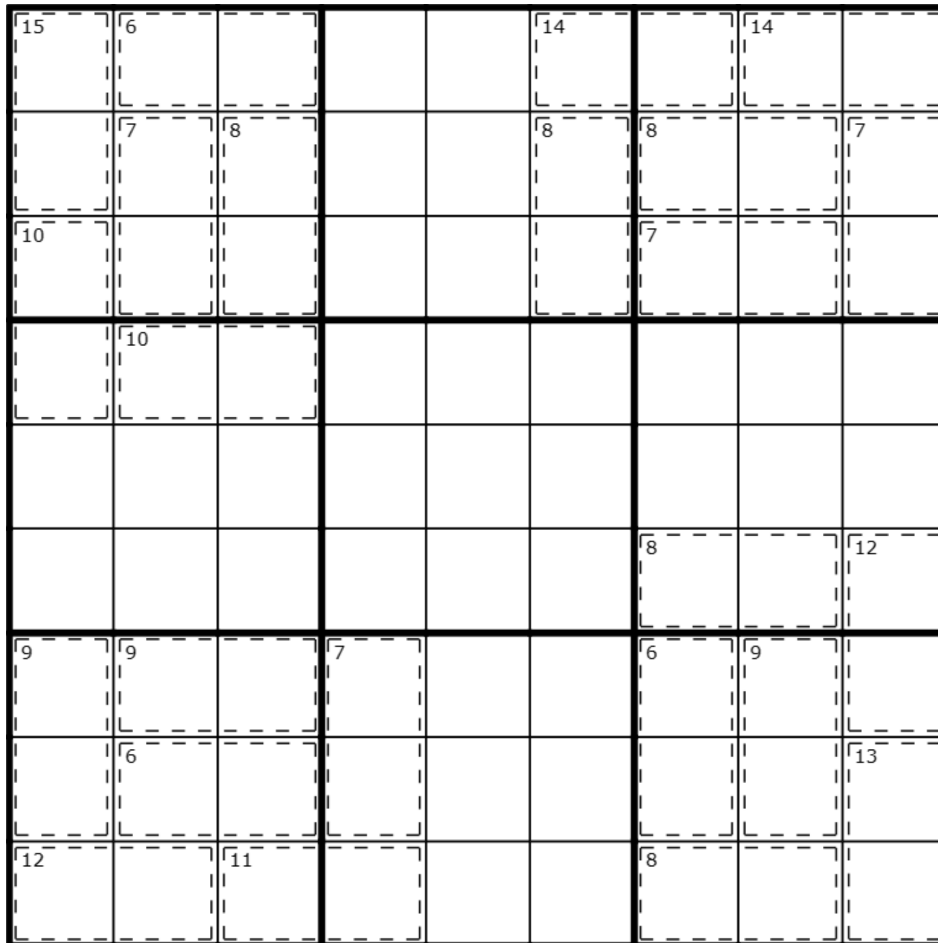
**May 30, 2023: bakpao Approved**
Philip Newman

In order to thank you for your valiant efforts to Avoid The Noid on Saturday and solve the puzzle in 30 minutes or less, @bakpao (Lord of the Puzzles, Keeper of the Mines, Slowest of His Name) has decided to treat us to pizza! 🍕 We have four extra large pizzas (bursting out of their boxes), sliced up nicely into rectangles. But it looks like you'll have to add your own digital toppings...

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

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

If this is a bit trickier than normal GAS, blame bakpao, he said it's fine. Here are a couple GAS 101 hints if you're stuck: [The hints are on a separate Hints page]
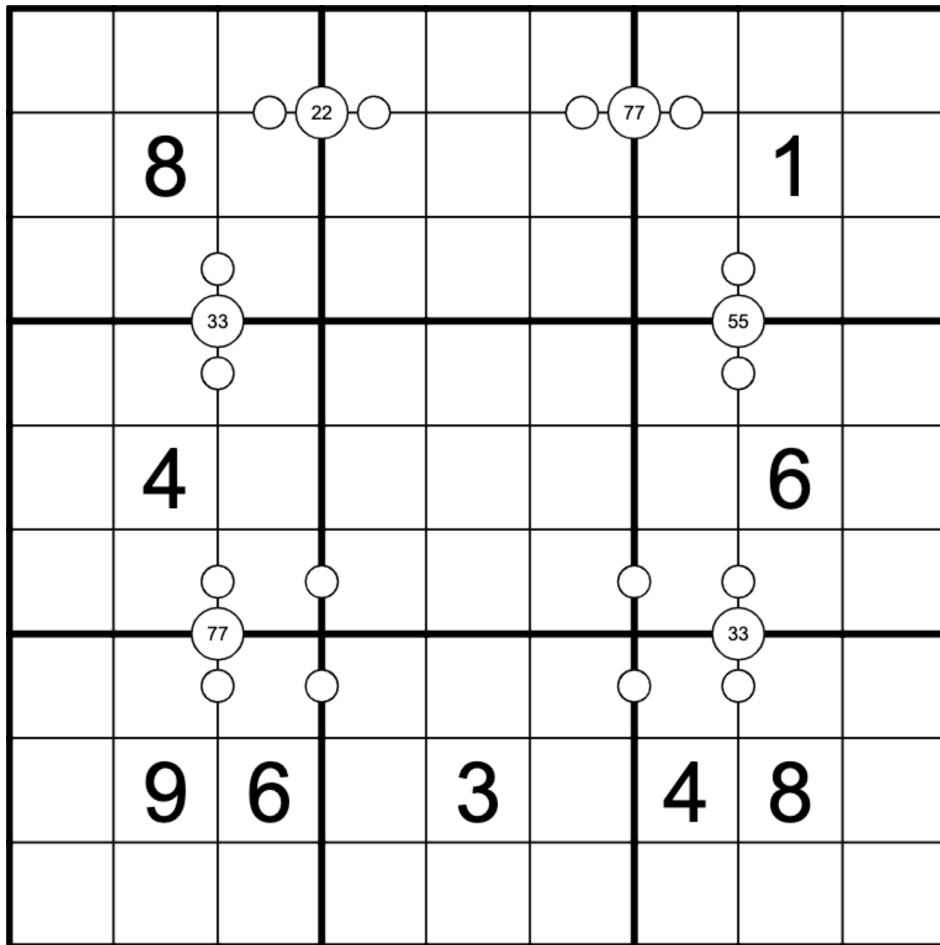


Play on f-puzzles: https://f-puzzles.com/?id=2nxb3wcy
Play on CTC App: https://tinyurl.com/3j4k8xef

**May 31, 2023: Consec Pairs Quads**
clover!

Pareidolia is the phenomenon by which we sometimes perceive images - often, human faces - in meaningless stimulus, such as clouds, the moon, and sudoku puzzles. If you see the image of a vaguely menacing robot in today's puzzle, it probably has nothing to do with the vaguely menacing robot watching you solve it from behind the screen... *waiting*...

Normal sudoku rules apply. Also, digits in large white circles must appear somewhere in the four cells immediately surrounding that circle. (When a digit appears twice in a white circle, it must appear at least twice in the surrounding cells.) Digits separated by small white dots are consecutive. Not all possible dots are necessarily given.



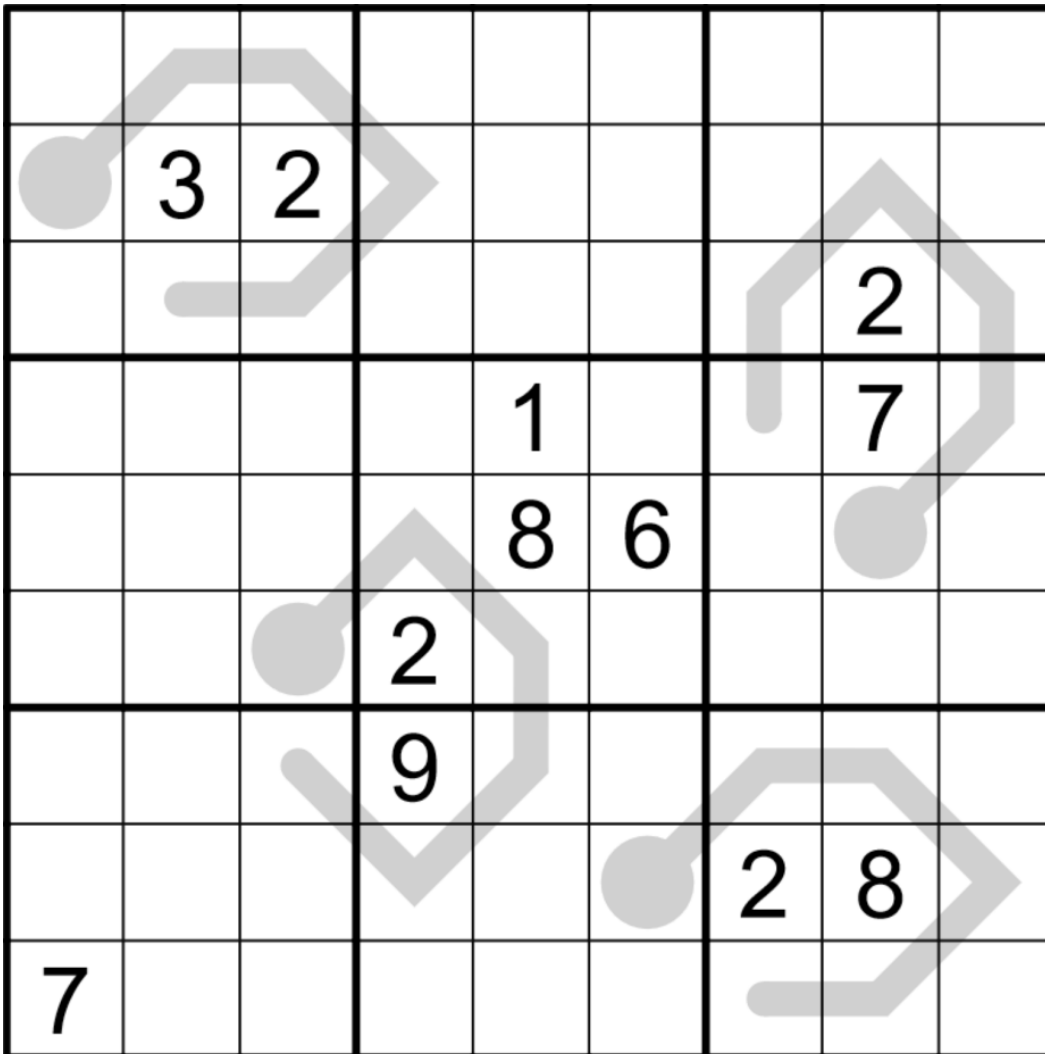f-puzzles: https://f-puzzles.com/?id=2kw2skdv
CtC: https://tinyurl.com/393vzv6u

**Bonus 1: Thermomegranates**
Bill Murphy

Normal sudoku rules apply. Lemon sudoku and thermo sudoku rules also apply, as described below:

**Lemon**: the digits around each lemon shape sum to the 2-digit number formed by reading the 2 cells "inside" the lemon from left to right or top to bottom. For instance, the digits on the top left thermo sum to 32.

**Thermo:** digits along each thermometer must increase, starting from the round bulb.



https://f-puzzles.com/?id=2pbwsqxo
https://tinyurl.com/2mxsyhud

**Bonus 2: Japanese Sums Sudoku**
Clover

Normal sudoku rules apply. Also, color some of the cells in the grid in blue, red, or gray. Colored clues outside of the grid give the sums of the digits in contiguous runs of cells of that color, **in order from top to bottom or left to right**. All possible clues are given. Runs of the same color must be separated by at least one cell. Runs of different colors may be immediately adjacent to each other.

For example, the topmost run of blue cells in column 1 sums to 11, then there is a gap of at least one cell, then the next run of blue cells in column 1 sums to 2. There are no red or gray cells in column 1.

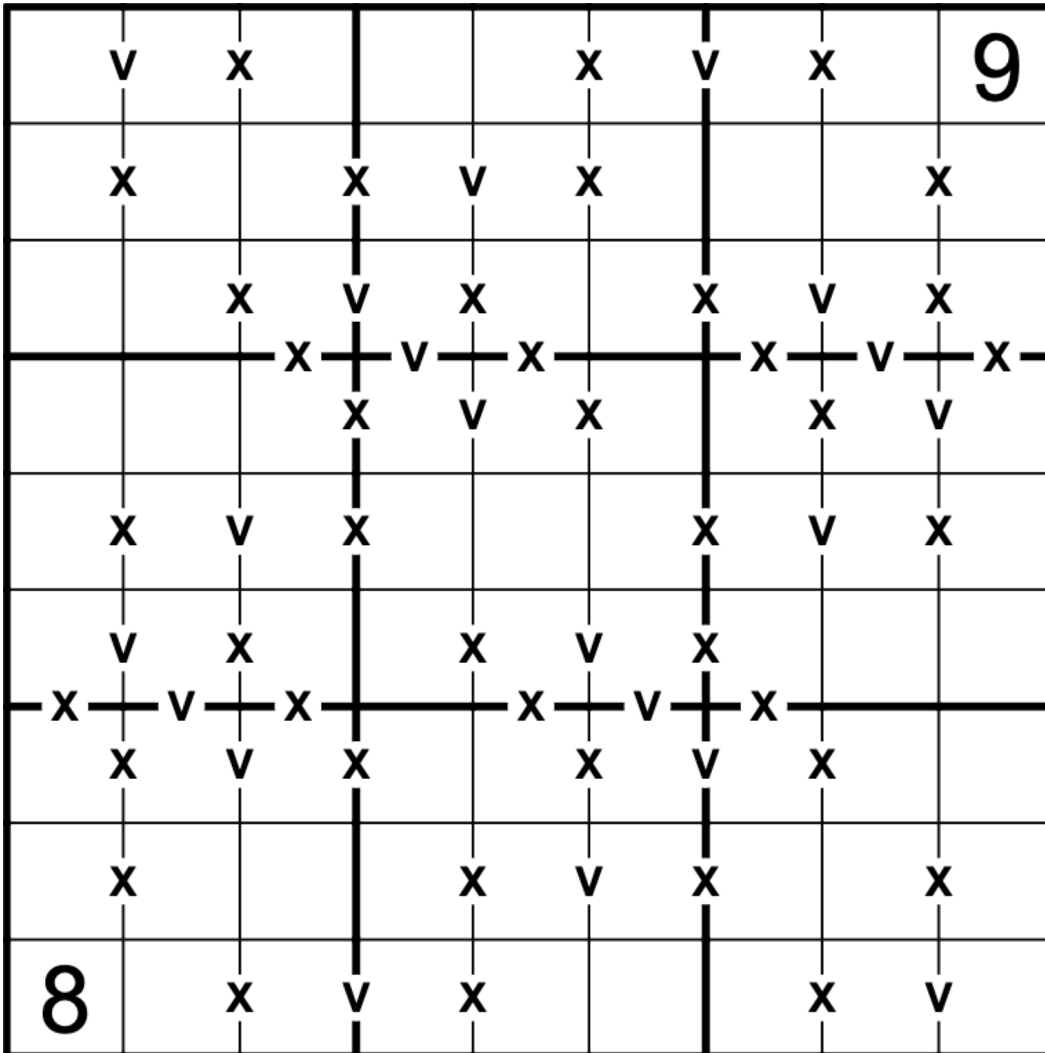(puzzle and links appear on the following page)

Sudoku puzzle with surrounding clues.

Top clues:
```
              2                           5
     11   8              6          14    9    9
     2    6    35   15   3    25    2     1    21
```

Left clues (rows):
```
10
1    6
24   15
8    1    5
15   15   15
2    6    8
3    2    22
7
9
```

Grid givens:
- Row 1: 5, 8, 7
- Row 3: 9, 3
- Row 5: 2, 7, 3, 1, 9
- Row 7: 1, 5
- Row 9: 3, 5, 2

https://tinyurl.com/2nyg7c3k (Penpa)
https://tinyurl.com/mryjkm2y (CtC)

## Bonus 3: XV Pairs Sudoku
Philip Newman

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

# Bonus 4: Killer Sudoku
Bill Murphy

Normal sudoku rules apply. Digits in cages do not repeat and must sum to the indicated totals.

## Bonus 5: Round Off Sudoku
Clover

Normal sudoku rules apply. Digits in cages should be read as 2-digit numbers from left to right. The clue in each cage tells you the resulting value when the cage number is rounded to the nearest 10. Numbers ending in 1, 2, 3, or 4 are rounded down; numbers ending in 5, 6, 7, 8, or 9 are rounded up.

**Time Benchmarks**

| | Two party hats | One party hat | Todays dinosaur: |
|---|---|---|---|
| May 1, 2023 | 08:00 | 15:00 | delicious Dystrophaeus |
| May 2, 2023 | 06:30 | 5 years | Oaken Omeisaurus |
| May 3, 2023 | 06:00 | 12:00 | Hurricane-force Hamititan |
| May 4, 2023 | 07:00 | 13:00 | blubbering Brontomerus |
| May 5, 2023 | 09:00 | 00:16 | May Mei |
| May 6, 2023 | 05:00 | 12:00 | Touchy Traukutitan |
| May 7, 2023 | 08:00 | 15:00 | peachy-keen Piveteausaurus |
| May 8, 2023 | 08:00 | 00:16 | Silly Spinophorosaurus |
| May 9, 2023 | 07:00 | 15:00 | Bravasaurus Bobblehead |
| May 10, 2023 | 06:30 | 12:00 | emblazoned Echinodon |
| May 11, 2023 | 06:00 | 11:00 | ill Irritator |
| May 12, 2023 | 06:00 | 00:12 | Zonai Zizhongosaurus |
| May 13, 2023 | 08:00 | 15:00 | unusual Unescoceratops |
| May 14, 2023 | 09:30 | 18:00 | Ptimely Pterodactyl |
| May 15, 2023 | 08:00 | 20:00 | Tearful Tataouinea |
| May 16, 2023 | 00:07 | 13:00 | healthful Hesperonychus |
| May 17, 2023 | 07:30 | 00:14 | Inclusive Incisivosaurus |
| May 18, 2023 | 10:00 | 20:00 | alter-ego Ampelosaurus |
| May 19, 2023 | 06:00 | 11:00 | questionable-scansion Quilmesaurus |
| May 20, 2023 | 05:30 | 10:30 | romantic Rinchenia |
| May 21, 2023 | 06:30 | 13:00 | Suave Suuwassea |
| May 22, 2023 | 06:30 | 12:00 | multiple mussaurus |
| May 23, 2023 | 07:30 | 16:00 | Montanoceratops |
| May 24, 2023 | 06:30 | 13:00 | Fiery Fushanosaurus |
| May 25, 2023 | 07:30 | 14:00 | lost-in-translation Leonerasaurus |
| May 26, 2023 | 06:30 | 12:00 | ill-fitting Irritator |
| May 27, 2023 | 07:00 | 13:00 | Pepperoni Pellegrinisaurus |
| May 28, 2023 | 07:30 | 13:30 | sleepy Serendipaceratops |
| May 29, 2023 | 07:00 | 13:00 | recalcitrant Rhinorex |
| May 30, 2023 | 08:00 | 30:00 or money back | Dashanpusaurus Delivery |
| May 31, 2023 | 06:30 | 12:00 | psychological Seitaad |

**Hints**

**Hint for May 3, 2023**

It has two solutions without givens.

**Hints for May 23, 2023:**



Striped:
F-puzzles: https://f-puzzles.com/?id=2he9tu96
CTC: https://tinyurl.com/z762j842

**Hint for May 30, 2023:**

1. Each of the four corner boxes has four cages covering eight cells; use The Secret to determine the digit in the ninth cell!

2. Whenever you determine the composition of a cage, check how it affects the other cages it sees in its box, row, or column. For example, after you have determined the digits in the 6 cage in row 1, what possibility is left for the 7 in box 1?