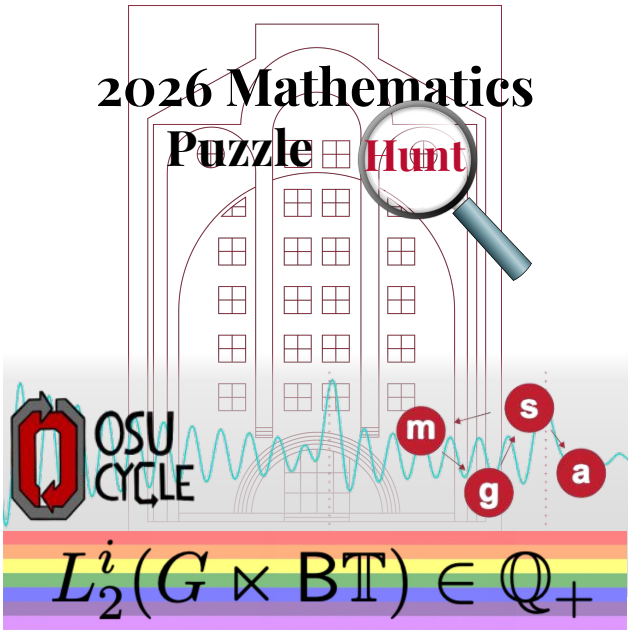
Welcome to the 2026 Mathematics Puzzle Hunt!



Go to https://cycle.ctfd.io/ and create your account. (Everyone on your team will want to do this individually so that you can all enter codes and see the scoreboard.)

One person on your team will create the team on the website (you will need a team name!) and invite the others to join the team. This process allows your scores to be linked together.

There is a bijection from the set of pages of this document to the set of puzzles. In other words, each page of this document corresponds to exactly one unique puzzle.

You can take one collectible per team member for each challenge. If you want extras, we will have some you can grab at the end, but please don't empty the boxes for the other teams.

If your team is very confident that you solved a puzzle correctly but cannot find the box, or if you run into any other issues, please contact Kacey (**+1 480 327 7090**) and/or Anakin (**+1 331 431 1220**) so that we can be sure the box wasn't removed.


Student Academic Services
Lane Ave. Garage
Jesse Owens Recreation Ctr. North
Torres House
Houston House
Taylor Tower
Raney House
Bowen House
Gateway Green
Drackett Tower
Archer House
Drackett Green
North Recreation Center
Jones Tower
Houck House
Taylor Green
Town Square
Neil Ave.
Blackwell Inn
Fisher Hall
Gerlach Hall
Norton House
Nosker House
Barrett House
Busch House
Halloran House
College Green
Curl Hall
Pfahl Hall
Mason Hall
Schoenbaum Hall
Mendoza House
Scott House
Blackburn House
Haverfield House
W. Woodruff Ave.
E. Woodruff Ave.
Knowlton Hall
Hitchcock Hall
Physics Research Bldg.
Chemical and Biomolecular Engineering and Chemistry Bldg.
Fontana Lab.
Macquigg Lab.
Watts Hall
Ramseyer Hall
Ives Drive
Tuttle Garage
Northwest Garage
Boz Hall
Planetarium
W. 19th Ave.
Celeste Lab. of Chemistry
Evans Lab
McPherson Chemical Lab.
Newman and Wolfrom Lab. of Chemistry
Arps Garage
E. 18th Ave.
W. 18th Ave.
The Ohio State University Bookstore
Enarson Classroom
Maintenance Bldg.
Dreese Lab.
Caldwell Lab.
Scott Lab.
Smith Lab.
Arps Hall
E. 17th Ave.
Central Service Bldg.
Baker Systems Engineering Bldg.
Journalism Bldg.
U.S. Post Office
Math. Bldg.
Math. Tower
209 W. 18th Ave.
18th Ave. Library
Hansford Quadrangle
Denney Hall
Smith Hall
College Rd.
Annie & John Glenn Ave.
Cockins Hall
Dulles Hall
Hopkins Hall
Hughes Hall
Wexner Center for The Arts
Weigel Hall
Mershon Auditorium
McCracken
Millikin Rd.
University Hall
Bricker Hall
Derby Hall
Hayes Hall
Independence Hall
Townshend Hall
Sphinx Plaza
The Oval
Sullivant Hall
Page Hall
Recreation and Physical Activity Ctr. (RPAC)
Physical Activity and Education Services
Wilce Student Health Ctr.
Thompson Library
Ohio Union North Garage
Ohio Union South Garage
South Oval Dr.
Cunz Hall
Psychology Bldg.
Lazenby Hall
Orton Hall
Mendenhall Lab.
Hagerty Hall
Hagerty Dr.
Faculty Club
McCorkle Aquatic Pavilion
Mirror Lake
Browning Amphitheater
Mirror Lake Hollow
Ohio Union
The Ohio State University Bookstore
Neil Dr.
Campbell Hall
Neil Ave. Garage
Pomerene Hall
Kuhn Honors and Scholars House
Hale Hall
College Rd.
W. 12th Ave.
Biological Sciences Greenhouses
12th Ave. Garage
Aronoff Lab.
Jennings Hall
Oxley Hall
Kennedy Commons
Bradley Hall
Paterson Hall
Mack Hall
Canfield Hall
Fechko Alumnae Scholarship Hse.
Morrison Tower
Siebert Hall
Baker Hall
Drinko Hall
Park-Stradley Hall
Smith-Steeb Hall
W. 11th Ave.
Postle Hall
Doan Hall
University Hospital
Brain and Spine Hospital
Optometry Clinic
11th Ave. Garage
Davis Heart and Lung Research Institute
Biomedical Research Tower
Tzagournis Medical Research Facility
Wiseman Hall
Comprehensive Cancer Ctr.
395 W. 12th Ave.
Ice Rink
Converse Hall
Remembrance Park
Woody Hayes Dr.
Tuttle Park Place
Buckeye Bike Hub
Football Season ATMs
ATM
Branch
W. Lane Ave.
E. Lane Ave.
N. Pearl St.
Frambes Ave.
Waldeck Ave.
E. 15th St.
E. 12th
Chitte

Contents

Punnett's Peonies

To satisfy your general education requirements, you decide to take a course in botany.

Professor Punnett instructs you to breed together two peony plants with the following properties:

Plant A	Plant B
pink	orange
round petals	oval petals
dark stem	light stem
tall	tall

We know that one of the Plant A's parent plants was short and had oval petals and a light stem. We also know that one of Plant B's parent plants was short.

Each of these traits is controlled by a single gene (independent of the genes determining other traits), and each plant has two copies of each gene which can be the same or different.

The trait of round petals is dominant to the trait of oval petals, so if a plant has both a round and an oval petal copy of the petal shape gene, the plant will have round petals. In the same way, the dark stems are dominant to light stems and tall is dominant to short.

The gene for color works a bit differently, a plant needs two copies of the form of the gene which gives pink petals to have pink petals. Additionally, it would need two copies of the form for white petals in order to have white petals. Plants with one of each copy have orange petals.

When you cross Plant A with Plant B, you get 32 plants. How many should you expect to look like Plant A?

Orchestrated

0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ

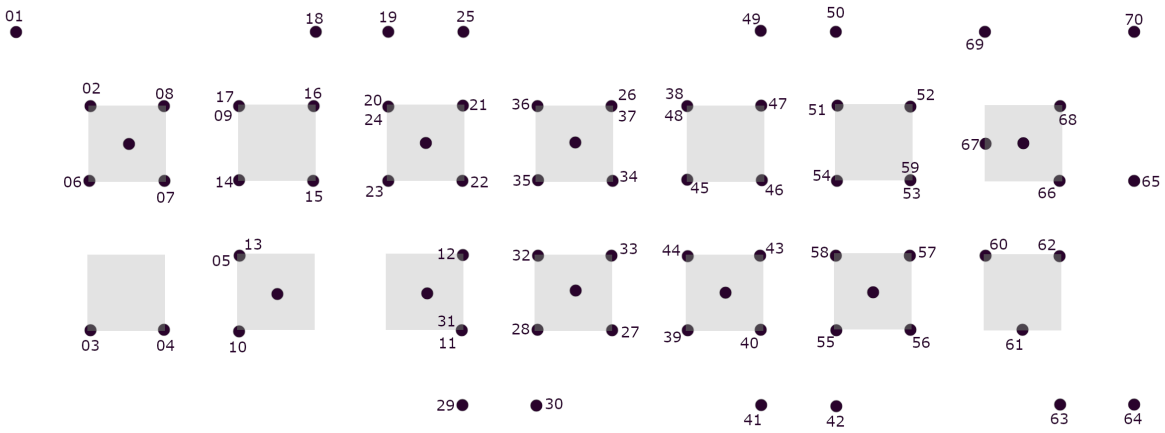
$a = ??$ and $b = ??$

character x; $\mathrm{pos}(x) \mapsto a \cdot \mathrm{pos}(x) + b \pmod{??}$

Cycle $\mapsto$ NVDQz

8SmsYVSMmLd $\mapsto$ _ _ _ _ _ _ _ _ _ _ _

Mud Dwellers



Even and Oddballs

L	S	H	A	M	E	N	E	R	E	S
A	W	E	G	A	G	N	E	S	I	D
N	S	E	C	U	R	E	O	N	Y	S
I	M	P	U	R	E	X	T	A	N	T
G	O	R	H	O	M	D	D	E	E	A
I	R	I	E	O	O	O	Y	L	V	L
R	E	D	A	C	T	E	D	C	E	E
O	S	E	V	I	E	O	N	U	R	S
N	I	O	Y	T	S	G	N	A	N	S

calm
dirty
extra
light
now
close
ego
fresh
missing
separate

Road Trip

__ _____

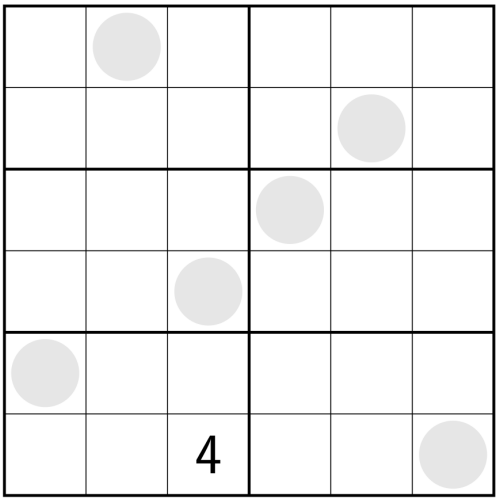
- For the first two characters, think way back.
- For the last five characters, zip on down to a word describing a precious metal.

The coordinates are $(x, -y)$ where

$$x = a + \frac{b}{c}, \qquad y = \alpha + \frac{\beta}{\gamma}.$$

- a: It's {temperature}° in here, but I don't remember what units I'm measuring.
- b: It's bad luck, in italiano.
- c: A number of the form $n^k + k^n$ between 5500 and 7000.
- α: A Bar Mitzvah redux, after the length of our lives according to a revered text.
- β: If the director of Star Wars was more of a mathematician, his 11th film would have been this one.
- γ: The distance traveled in a great journey in a submarine.

Easy Peasy (contributed puzzle)



Rules:

Fill in the empty cells with numbers from 1 to 6 so that each row, column, and 2x3 region enclosed by thick lines contains each number exactly once.

Some cells in the grid are marked. These cells can be identified by containing gray circles. There is one in each row, column, and region, and these cells will be referred to by future rules. Each marked cell contains a different digit.

Some cells in the grid are doubled. These cells must be identified by the solver. There is exactly one doubled cell in each row, column, and region. Cells may be both marked and doubled. Each doubled cell contains a different digit. For rules that refer to the "value" of a cell, the value is the digit in the cell except for the doubled cells, for which the value is twice the digit in the cell.

The given digit is not doubled.

For each region, the sum of the values of the cells excluding the marked cell in the region is prime.

For each row, the sum of the values of all cells in the row starting from the leftmost cell up to and including the marked cell in the row is prime or a perfect square.

For each column, the sum of the values of all cells in the column starting from the topmost cell up to and including the marked cell in the column is prime or a perfect square.

To get the location which is the final solution to this puzzle, you must shift each of the letters in the following string: AONCJAFOQTLHCKGUPJXF. Shift the first six letters by the values of the cells in the second row from left to right. The next six should be shifted by values in the third row. The next six should be shifted by values in the fourth row. The last two should be shifted by the first two values in the fifth row.

Shifting a letter corresponds to moving forward in the alphabet that many places, with Z wrapping around to A. For example, shifting Y by 4 would give C.

NASA 2026 Mission [redacted] Codename: Danger Noodle

Due to the high concentration of [redacted] on the [redacted], rocket [redacted] launched on April [redacted], 2026 at [redacted] PM and returned April [redacted], 2026 at [redacted] AM.

Six veteran astronauts flew aboard [redacted]. Due to previous instances of astronauts smuggling [redacted] on their return, suspects are scheduled to be evaluated and debriefed. Included below are their luggage contents.

Each astronaut brought one nonstandard article of clothing, one keepsake, and one piece of equipment specialized to their onboard job.

The articles of clothing brought on were a boot, a jacket, a watch, a class ring, and two shirts.

Fisher and Hitchcock did not bring the keychain or the fountain pen.

Armstrong tried to borrow the engineer's wrench without asking.

Glenn did not bring the photo or either shirt.

The onboard medic brought the jacket.

Hitchcock brought the space laser and did not bring the boot.

Baker is the ship's engineer, but he wishes he was the photographer.

The pilot brought a photo of his wife Gabby and his visor.

The Pluto shirt was found under the wrench and next to the keychain.

The class ring and camera were found inside the tote bag.

The grand canyon shirt, the magnet, and the snow globe were all found in separate bags.

Fisher is not the pilot or the IT specialist.

Kelly did not bring the jacket or the computer.

The computer, the magnet, and the jacket all belong to different people.

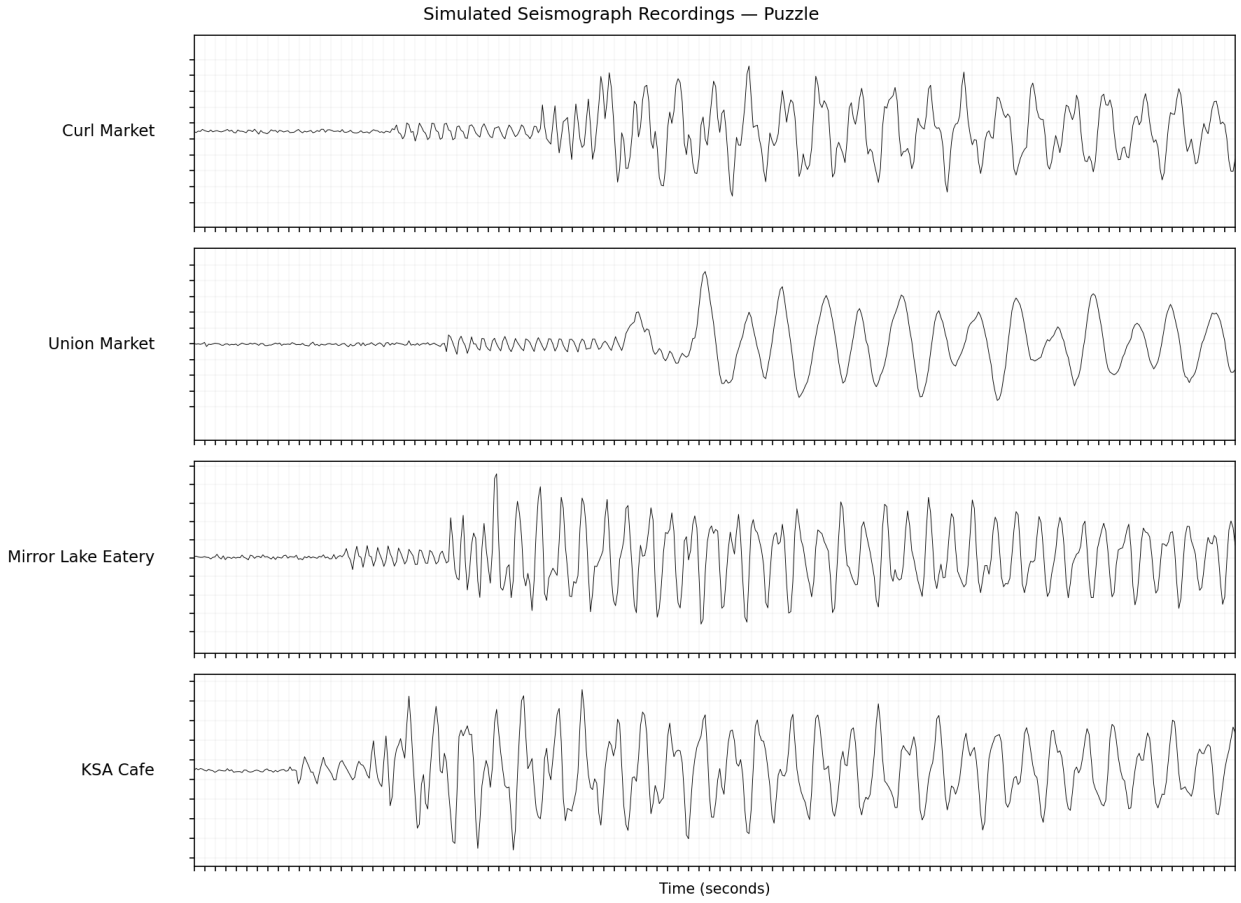
The fountain pen was found to contain traces of [redacted], so [redacted] must be interrogated.

Everyone Speaks Chinese, Right?

四象旗语

Honey Duck

All Your Fault

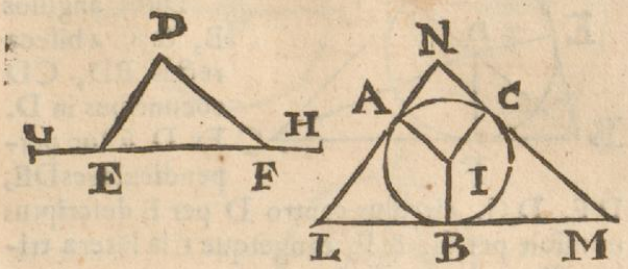


Let's Do This (contributed puzzle)

Nam ang. B *c* = H A C *d* = E ; & ang. C *c* = GAB *d* = F ; e quare etiam ang. BAC = D. ergo triang. B A C circulo inſcriptum triangulo DEF æquiangulum eſt. Q.E.F.

c 32. 3.
d *conſtr.*
e 32. 1.

PROP. III. *Probl.* 3.



Circa datum circulum I A B C *triangulum* L N M *deſcribere, dato triangulo* D E F *æquiangulum.*

Produc latus E F utrinque. *a* Fac ad centrum I ang. A I B = D E G. & ang. B I C = D F H. deinde in punctis A, B, C circulum *b* tangant tres rectæ LN, LM, MN. Dico factum.

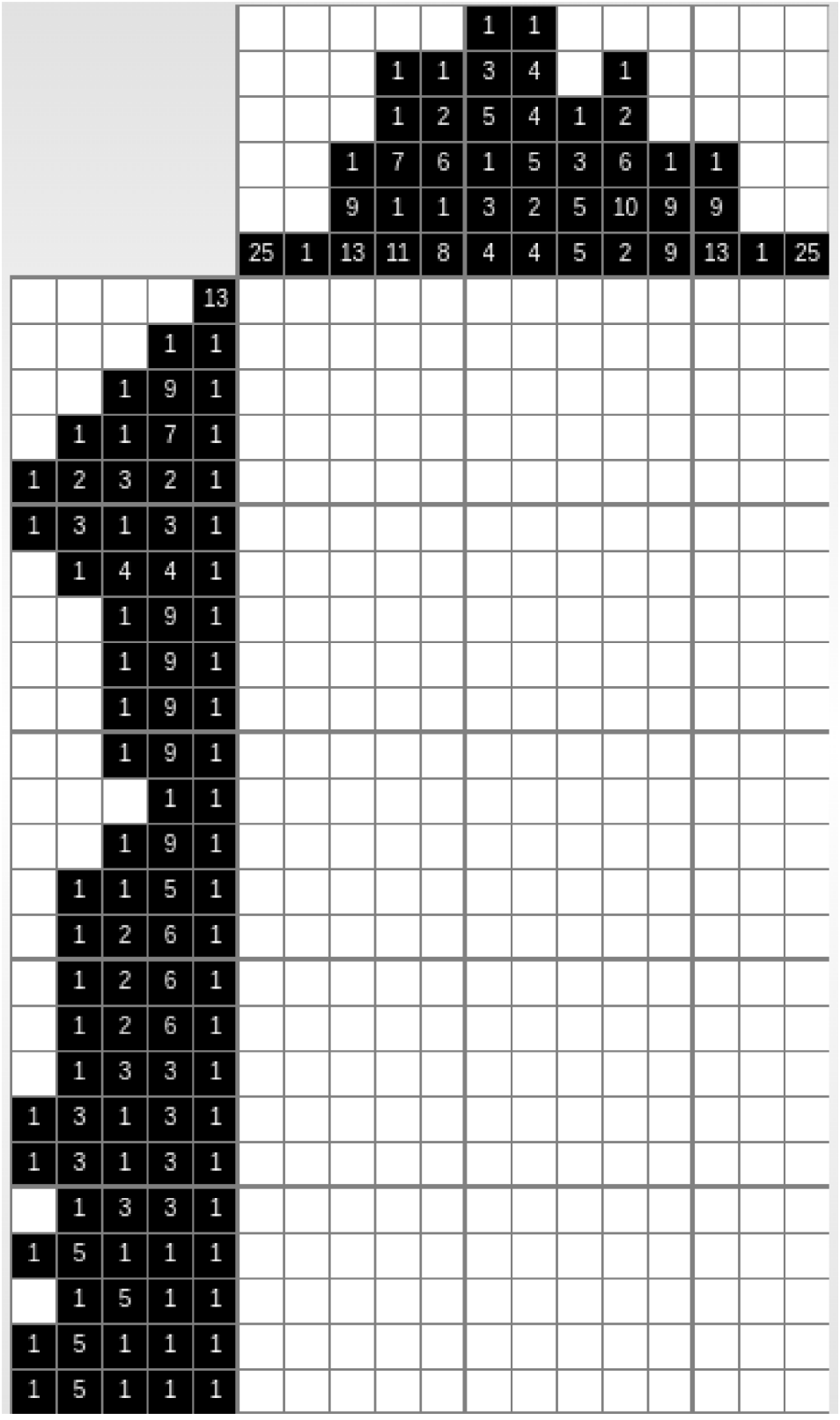
a 23. 1.
b 17. 3.

Nam quod coibunt rectæ L N, L M, M N, atque ita triangulum conſtituent, patet ; *c* quia anguli LAI, LBI *d* recti ſunt, adeoque ducta AB angulos faciet LAB, LBA duobus rectis minores. Quoniam igitur ang. A I B + L *e* = 2 Rect. *f* = DEG + DEF ; & AIB *g* = DEG, *b* erit ang. L = DEF. Simili argumento ang. M = DFE. *k* ergo etiam ang. N = D. ergo triang. L N M circulo circumſcriptum dato E D F eſt æquiangulum. Q.E.F.

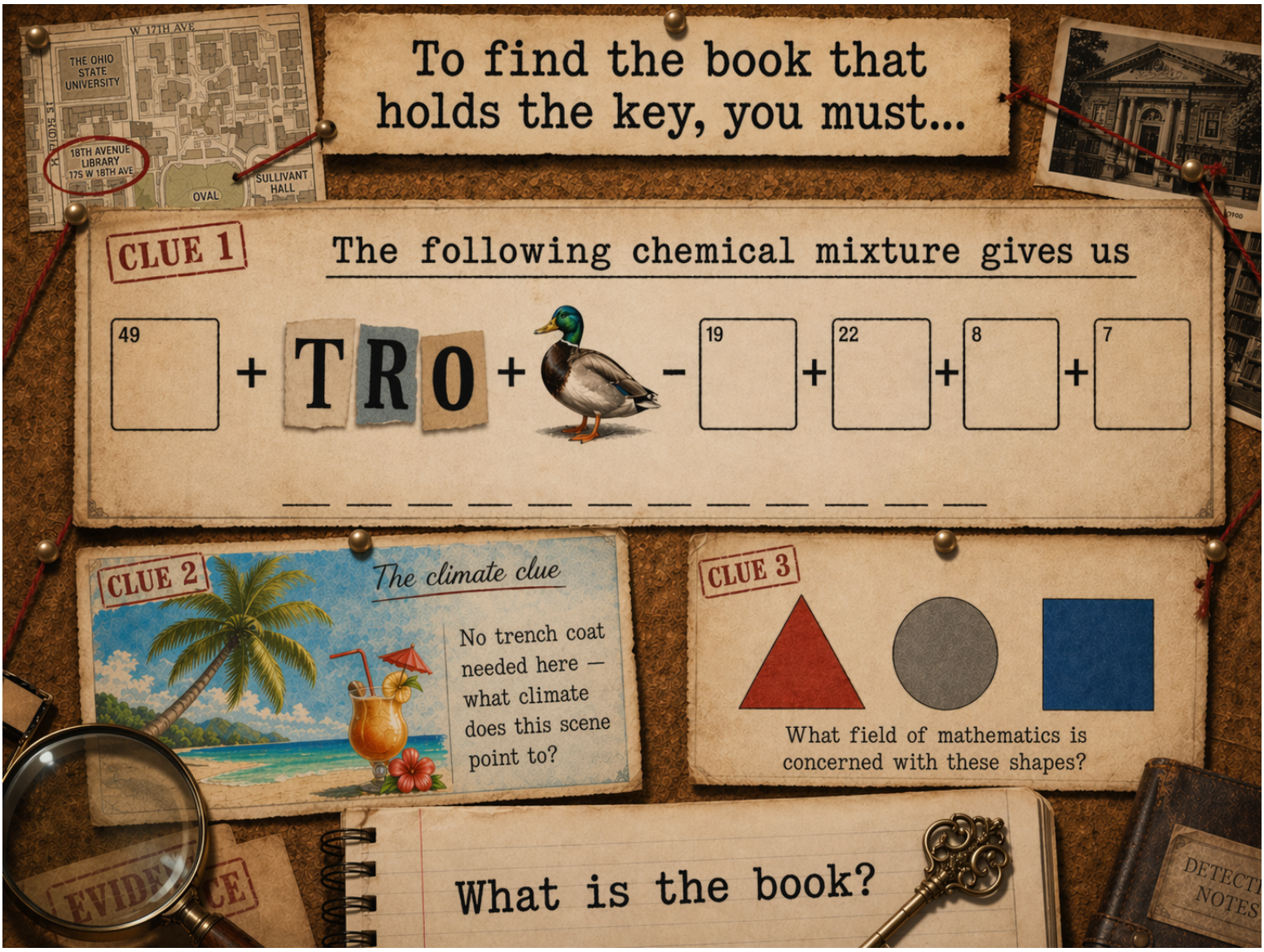
c 13. *ax.*
d 18. 3.
e *Schol.* 32. 1.
f 13. 1.
g *conſtr.*
h 3. *ax.*
k 32. 1.

PROP.

Sharpen Your Pencils



To Find the Book that Holds the Key, You Must... (contributed puzzle)



Aye Aye, Captain

Alice, Bob, Carol and Dan are searching for sunken pirate treasure in a stretch of sea which is littered with false clues. They each had a map of the area with certain sections marked indicating which clues were known to be true or false. However, these maps were lost in an unfortunate shark attack. All that remains are some preliminary notes about the maps.

Specifically:

1. The sections denoted with ♮ below are the sections which were marked on Dan's map but which were not simultaneously marked on both Alice's map and Bob's map
2. The sections denoted with ℑ are the sections which were marked on Alice's map but not on Carol's map
3. The sections denoted with Ξ are the sections which were marked on both Alice's map and Bob's map
4. The sections denoted with ϱ are the sections which were marked on both Alice's map and Carol's map
5. The sections denoted with | are the sections which were marked on Bob's map but not marked on Dan's map
6. The sections denoted with 7 are the sections which were marked on Carol's map

It is also known that no section marked on Alice's map was also marked on Dan's map.

|	ℑΞ |	ℑΞ |	♮	Ξϱ7 |
| 7	♮	ℑ	ℑ	Ξϱ7 |
7	ℑΞ	7	ϱ7	♮
♮7	ℑ	♮7	|7	ℑΞ |
7	ℑΞ |	|7	Ξϱ |7	♮

The treasure hunters know that the sections containing real clues are precisely the ones which were simultaneously marked on Bob's map, marked on Carol's map, not marked on Alice's map, and not marked on Dan's map. Below are the clues found in each section. Can you find the location of the treasure?

library	liquid	tank	bricker	baker
psychology	lab	student	union	systems
enarson	smith	parking	celeste	garden
hall	garage	number	building	math
classroom	nitrogen	south	engineering	tower

TRRYT

This puzzle has an audio component which can be found on https://cycle.ctfd.io/