

Master Kakuro

250 Large Print Number Puzzles for Brain Health &
Cognitive Fitness | Beginner to Expert with Solutions

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Part 1: How to Play

Chapter 1: Understanding Kakuro

What is Kakuro?

Sudoku meets crossword.

That's Kakuro in three words.

You fill in numbers. They have to add up. No repeats allowed.

Simple rules. Deep satisfaction.

If you've ever finished a Sudoku and thought, "What's next?"—this is it.

A Brief History

The puzzle showed up in America in the 1960s.

They called it "Cross Sums" back then.

But Japan made it famous. By the 1980s, Kakuro was everywhere in Japanese puzzle magazines—right alongside Sudoku.

The name? It's a Japanese abbreviation.

"Kasan kurosu" = addition cross.

Shortened to Kakuro.

Simple. Elegant. Just like the puzzle itself.

Why Kakuro?

Here's what makes it different from Sudoku:

Sudoku = Pattern recognition. Elimination. No math required.

Kakuro = Actual addition. Number combinations. Your brain does real work.

That arithmetic element isn't intimidating.

It's satisfying.

You're not just filling in blanks. You're solving something.

What You Need

Here's what you don't need:

- A math degree
- A calculator
- Any special talent

Here's what you do need:

- Basic addition
- A pencil
- Patience

That's it.

The Brain Benefits

Studies show it. Logic puzzles keep your mind sharp.

Concentration improves.

Problem-solving strengthens.

That sense of accomplishment? Real.

In a world of endless scrolling, there's something grounding about pencil on paper.

Working through a puzzle. Thinking clearly. Finishing something.

One puzzle at a time.

The Grid Explained

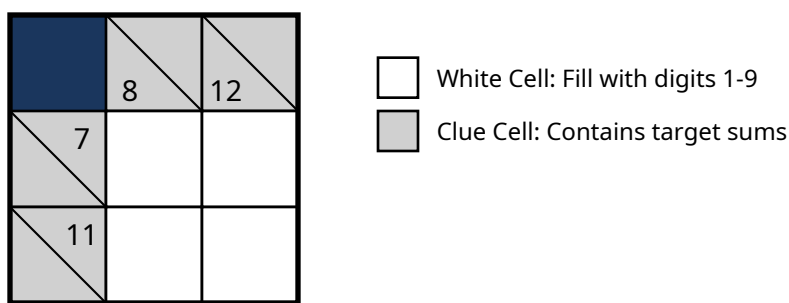
First glance at a Kakuro grid?

Looks complicated.

It's not.

Once you see the structure, it clicks.

Diagram 1: Anatomy of a Kakuro Grid



How to Read Clues

Upper-right = ACROSS sum (→), Lower-left = DOWN sum (↓)

White cells, gray cells, diagonal lines—and how to read across clues (upper-right) vs. down clues (lower-left).

The Basic Pieces

Two types of cells. That's all.

White cells: Your blank spaces. Fill these with digits 1-9.

Gray cells: The walls and clue holders. They tell you what to do.

Think crossword. White cells = answers. Gray cells = structure.

Reading the Clues

This is where Kakuro gets clever.

Look at any gray clue cell. See the diagonal line?

It divides the cell into two triangles.

Upper-right triangle: The ACROSS clue.

Points to the white cells on the right.

Those cells must add up to this number.

Lower-left triangle: The DOWN clue.

Points to the white cells below.

Those cells must add up to this number.

Example:

- Gray cell shows "17" in upper-right
- The white cells to the right must sum to exactly 17

Same cell shows "24" in lower-left?

- The white cells below must sum to exactly 24

Some cells have one clue. Some have two. Normal.

What's a "Run"?

A run = a sequence of white cells.

Horizontal or vertical.

Starts right after a clue cell.

Ends when it hits another gray cell or the grid edge.

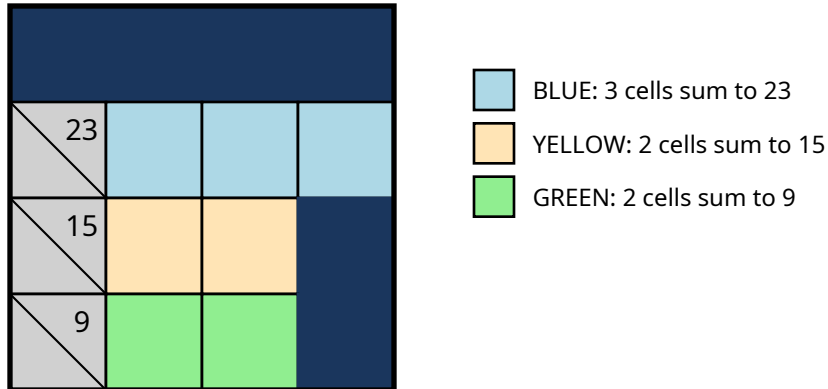
Like a word in a crossword. Clear beginning. Clear end.

The clue tells you two things:

1. How many cells (count them)

2. What they must sum to (the number)

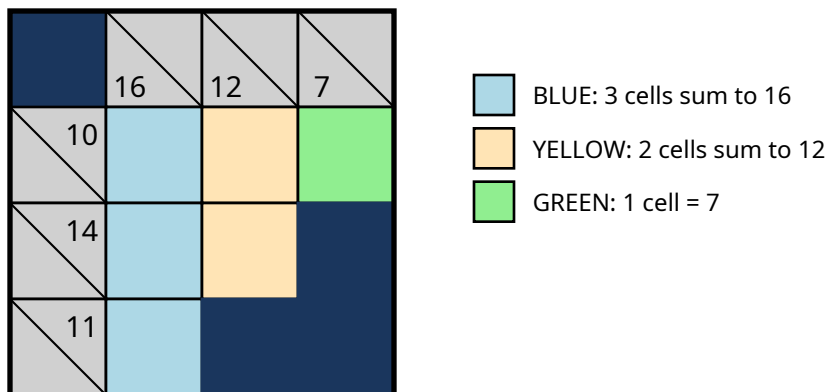
Diagram 2: Understanding Across Runs (Horizontal)



Across runs go HORIZONTALLY, starting after the clue cell.

BLUE run: 3 cells \square 23 | YELLOW run: 2 cells \square 15 | GREEN run: 2 cells \square 9

Diagram 3: Understanding Down Runs (Vertical)



Down runs go VERTICALLY, starting below the clue cell.

BLUE run: 3 cells \square 17 | YELLOW run: 2 cells \square 10 | PURPLE run: 3 cells \square 14

Runs start at clues. End at gray cells or edges. Simple.

The Key Insight

Every white cell serves double duty.

It's part of an across run AND a down run.

Fill in one cell? You're affecting both directions.

This intersection is what makes Kakuro work.

Solve one cell. Get information for others. Build momentum.

Take your time with your first few grids. Trace the runs with your finger.

See which clues connect to which cells.

Once this clicks, you're ready to solve.

Basic Rules

Four rules. That's all.

Master these, and you can solve any Kakuro puzzle. Any difficulty level.

These rules are absolute. No exceptions.

Rule 1: Digits 1-9 Only

Each white cell gets one digit.

Only 1 through 9.

No zero. No 10 or higher. No decimals.

Nine choices per cell. That's your entire toolkit.

Seems limiting? It's actually what makes the puzzle solvable.

Rule 2: The Sum Must Match

All digits in a run must add up to the clue. Exactly.

Not "close to." Not "approximately."

Exactly.

Clue says 16? The digits sum to 16. No more. No less.

This is your primary constraint. Every decision honors this rule.

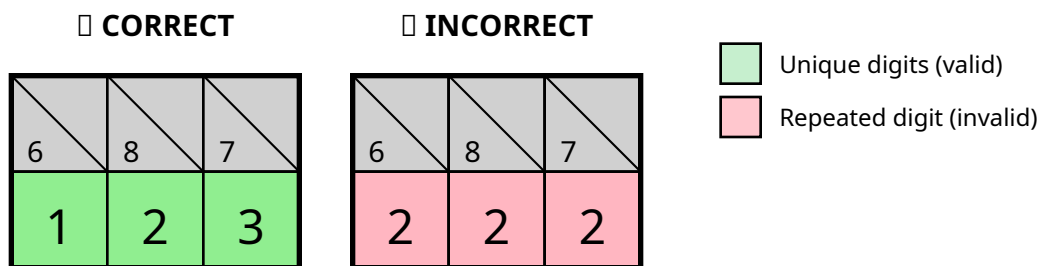
Rule 3: No Repeats in a Run

Within a single run, each digit appears once.

A run of three cells summing to 12?

- □ Could be 3, 4, 5
- □ Could be 1, 2, 9
- □ Cannot be 4, 4, 4
- □ Cannot be 6, 6

Diagram 4: The No-Repetition Rule



Each digit can only appear ONCE within a single run.

Left: Correct example with unique digits. Right: Incorrect example with repeated digit highlighted in red.

Each digit unique. Within that specific run.

Important: This only applies within a run.

Different runs can share digits. Even runs that intersect. The cell at the intersection just serves both runs with one digit.

Diagram 5: Same Digit Can Appear in Different Runs

	17	16
17	9	8
16	8	8

Notice the digit 9:



The 9 appears in both runs but they are DIFFERENT runs

Same digit CAN appear in different runs - not twice in SAME run.

The "9" legally appears in both a GREEN down run ($2+9=11$) AND a PURPLE across run ($9+3+4=16$). The no-repeat rule is per-run, not grid-wide.

Rule 4: Runs Are Independent

Each run's sum is calculated on its own.

Vertical run? Only those vertical cells matter.

Horizontal run? Only those horizontal cells matter.

Don't try to make numbers in different runs relate to each other beyond where they cross.

This independence is helpful. Solve different sections at your own pace. Focus where you can make progress.

Diagram 6: A Complete Solved Example

	4	6
3	1	2
7	3	4

Verify the solution:

Row 1: $1+2=3$ □ | Row 2: $3+4=7$ □ | Col 1: $1+3=4$ □ | Col 2: $2+4=6$ □

A simple solved puzzle showing all four rules in action: each cell serves both runs, all sums match clues, no digits repeat within any run.

Common Beginner Mistakes

Everyone makes these at first.

Knowing them saves time. Saves frustration.

Even experienced solvers catch themselves occasionally.

Mistake #1: Using Wrong Numbers

It's tempting when chasing a large sum.

"What if I use 10?"

Stop. Only 1-9. Ever.

If you're stuck and thinking about breaking this rule, you've made an error earlier. Backtrack.

Mistake #2: Repeating Digits

Most common mistake. Especially in longer runs.

You calculate correctly. But accidentally use the same digit twice.

Quick fix: Trace each run with your finger. Read the digits aloud. Catches repetition instantly.

Mistake #3: Miscounting Cells

Before picking numbers: count the cells.

Three cells? Or four?

This changes everything. One wrong count sends you down the wrong path.

Take the extra second. Count carefully.

Mistake #4: Reading the Wrong Clue

Gray cells with two clues are tricky when you're moving fast.

Remember:

- **Across clue:** Upper-right triangle ▸ points right
- **Down clue:** Lower-left triangle ▾ points down

Numbers not working out? Check you're using the right clue.

Mistake #5: Forgetting Intersections

Every white cell (mostly) belongs to two runs. Across AND down.

Write a digit? You're committing it to both runs.

Quick fix: After filling a run, immediately check the intersecting runs. Make sure your numbers don't create impossible situations.

Mistake #6: Guessing Too Early

Resist the temptation.

Kakuro is designed for logical deduction. If you feel stuck, don't guess—look for a different run. Review what you know.

Guessing leads to cascading errors. Hard to untangle.

Mistake #7: Skipping Pencil Marks

Trying to keep all possibilities in your head?

Recipe for mistakes.

Use light pencil marks in cell corners. Note possible digits. Update as you eliminate options.

External working memory. Invaluable.

Mistake #8: Ignoring Unique Combinations

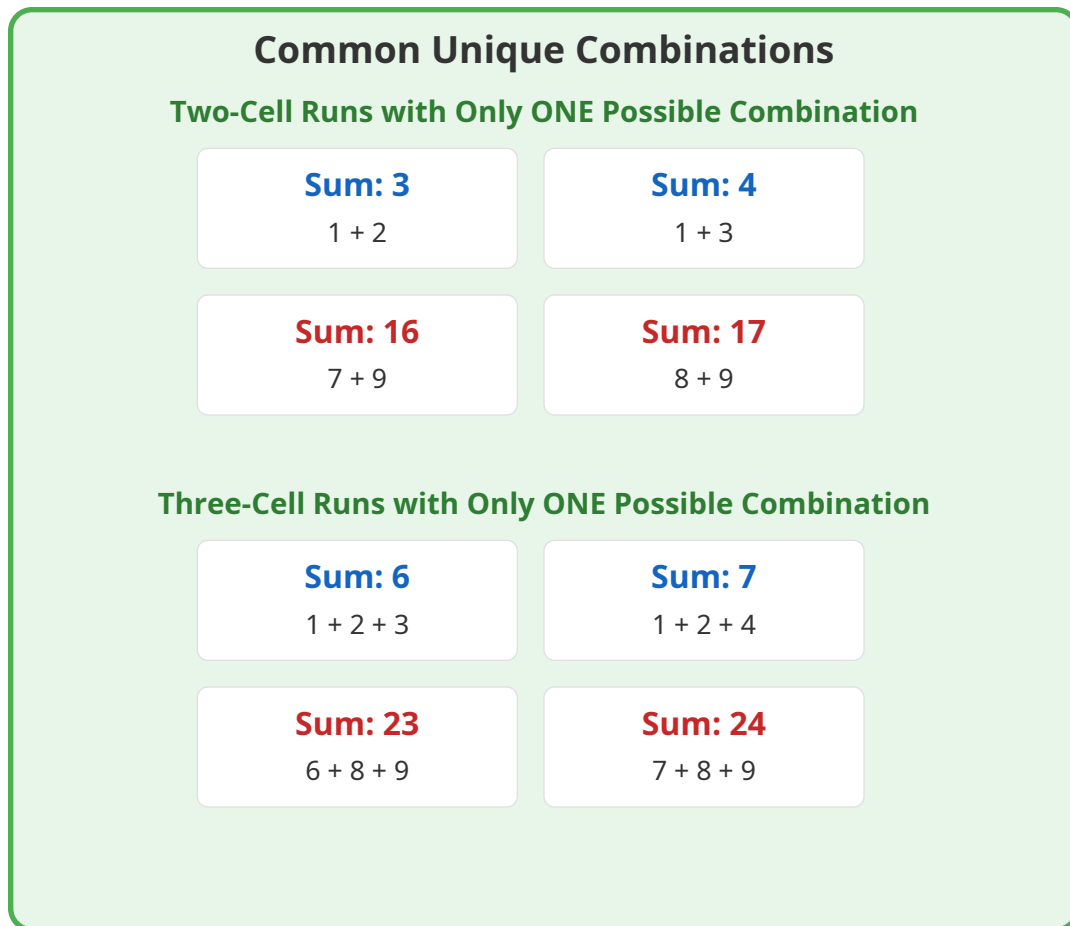
Certain clue-and-length combos have only ONE possible set of digits.

Two cells summing to 3? Only {1, 2}.

Three cells summing to 24? Only {7, 8, 9}.

These are gifts. Immediate progress.

Beginners often overlook them. Don't.



Two-cell uniques: sums of 3, 4, 16, 17. Three-cell uniques: sums of 6, 7, 23, 24. Each has only ONE possible digit combination. Keep this handy until memorized.

Moving Forward

You now understand Kakuro:

- The grid structure
- The clue system
- The four unbreakable rules
- The common traps

Foundation laid.

Next chapter: actual solving techniques. The strategies that make Kakuro not just solvable, but genuinely enjoyable.

You'll learn to:

- Spot unique combinations instantly
- Use elimination to narrow possibilities
- Find the best places to start any puzzle
- Build momentum that carries you to the solution

Every expert started exactly where you are now.

The difference between struggling and succeeding? Understanding the patterns.

You're already on your way.

Let's continue to Chapter 2.

Chapter 2: Essential Solving Techniques

You know how Kakuro works.

Now let's solve it.

Four essential techniques. Master these, and you'll breeze through beginner puzzles—with a solid foundation for harder ones.

Technique 1: Unique Combinations

Your most powerful tool.

Certain sums can only be made one way. Spot them? Fill them in immediately. Complete confidence.

Two-Cell Uniques

Memorize these. They're your bread and butter.

Sum of 3: Only 1+2

Sum of 4: Only 1+3

Sum of 16: Only 7+9

Sum of 17: Only 8+9

See a two-cell run with clue "3"?

You know instantly: it's 1 and 2. Maybe not which goes where yet. But you've narrowed dozens of possibilities to just two arrangements.

That's the power.

Clue of 17 across two cells? It's 8 and 9. Guaranteed. No cross-referencing needed.

Non-Unique Two-Cell

Not all two-cell runs are unique. But many have few options:

Sum of 5: 1+4 OR 2+3

Sum of 6: 1+5 OR 2+4

Sum of 7: 1+6 OR 2+5 OR 3+4

Sum of 15: 6+9 OR 7+8

Knowing all possibilities = faster narrowing.

Sum of 7 in two cells? Three combinations. Check the intersecting runs. Usually one combination works.

Three-Cell Uniques

Less common. Equally valuable.

Sum of 6: Only 1+2+3

Sum of 7: Only 1+2+4

Sum of 23: Only 6+8+9

Sum of 24: Only 7+8+9

Clue of 24 across three cells?

Write 7, 8, 9 into those spaces. Order comes later.

Three cells. Solved in an instant.

Common Three-Cell Combos

Sum of 8: 1+2+5 OR 1+3+4

Sum of 9: 1+2+6 OR 1+3+5 OR 2+3+4

Sum of 22: 5+8+9 OR 6+7+9

Unique Combinations Reference

Two-Cell Unique Combinations

Sum: 3 1 + 2	Sum: 4 1 + 3
Sum: 16 7 + 9	Sum: 17 8 + 9

Three-Cell Unique Combinations

Sum: 6 1 + 2 + 3	Sum: 7 1 + 2 + 4
Sum: 23 6 + 8 + 9	Sum: 24 7 + 8 + 9

Green = memorize these. They give instant answers!

Complete reference: all unique combinations for 2-cell and 3-cell runs, plus common non-uniques. Green = memorize these.

Keep it handy while learning. Soon these become second nature.

Practical Application

Two runs intersect:

- Across: 2 cells, clue 17
- Down: 2 cells, clue 4

You know immediately:

- Across must be 8 and 9
- Down must be 1 and 3

The intersection cell must work for both.

What overlaps? Nothing—8, 9 don't match 1, 3.

Impossible intersection? Either you misread a clue, or miscounted cells.

Unique combinations don't just solve. They verify.

Technique 2: Elimination Method

Unique combinations give instant answers.

Everything else? Systematic elimination.

Cross-reference intersecting runs. Narrow down what can go where.

The Process

Step 1: Pick a run. List all possible digit combinations for that sum.

Step 2: Check each cell in that run. What intersecting runs cross through it?

Step 3: Remove digits that would create conflicts in intersecting runs.

Step 4: One possibility left? Solved.

Worked Example

Let's walk through elimination step by step.

Setup:

- Across run: 3 cells, clue 15
- Down run: 2 cells, clue 9 (intersects middle cell of across run)

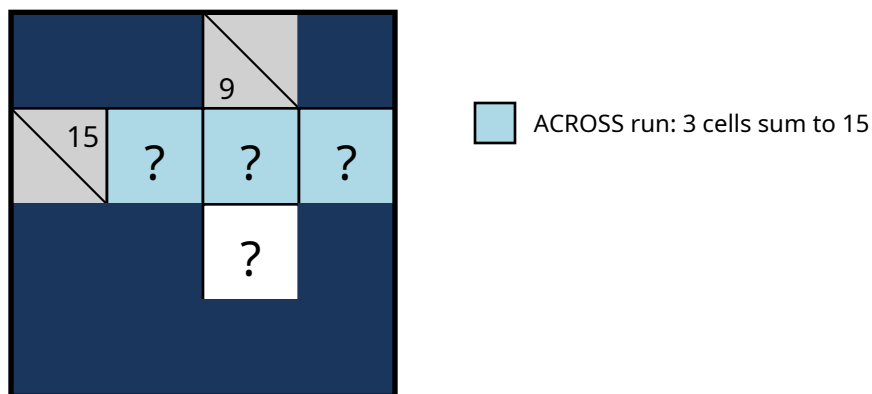
Step 1: Possibilities for 15-across-3-cells:

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

Lots of options. Don't panic.

Diagram 2a: Elimination Method — Setup

Initial State



ACROSS 15 Possibilities

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

Grids 1-2: The problem setup and listing all ACROSS possibilities.

Step 2: Down run (clue 9, 2 cells) possibilities:

- 1+8
- 2+7
- 3+6

- 4+5

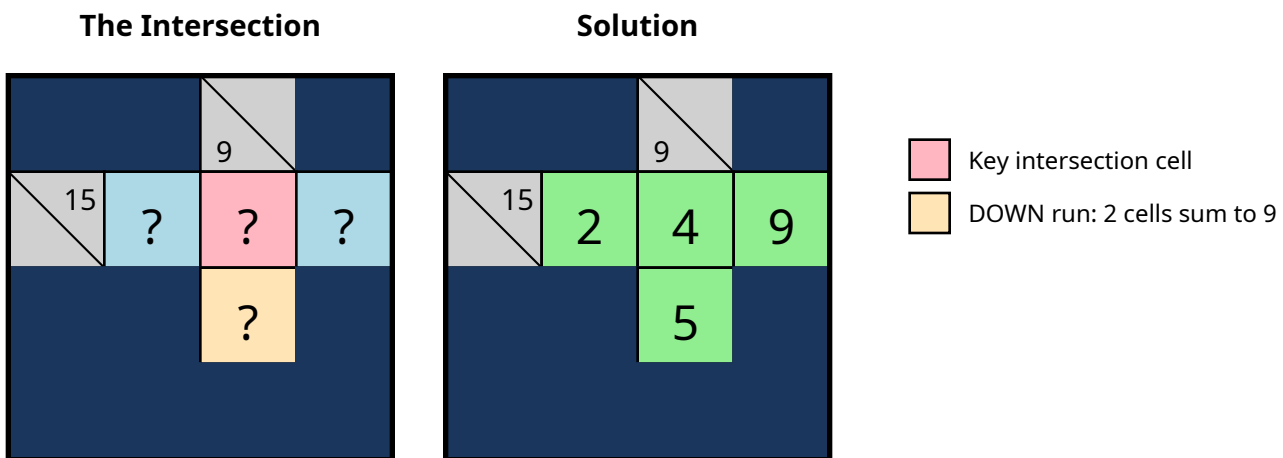
Step 3: The middle cell serves both runs. Which digits work for both?

From across options, middle digits could be: 5, 6, 4, 5, 6, 4, 5, 5

From down options: 1, 8, 2, 7, 3, 6, 4, 5

Common digits: 4, 5, 6

Diagram 2b: Elimination Method — Solution



Intersection = 4

ACROSS middle: 4,5,6 | DOWN top: 1,2,3,4 □ Only 4 in both!

Grids 3-5: Listing DOWN possibilities, finding the intersection, and reaching the solution.

Check other intersections. Narrow further. Eventually, one answer.

The Cascade Effect

This is where Kakuro gets satisfying.

Place one digit with certainty.

That eliminates possibilities in its intersecting run.

Which might leave only one option there.

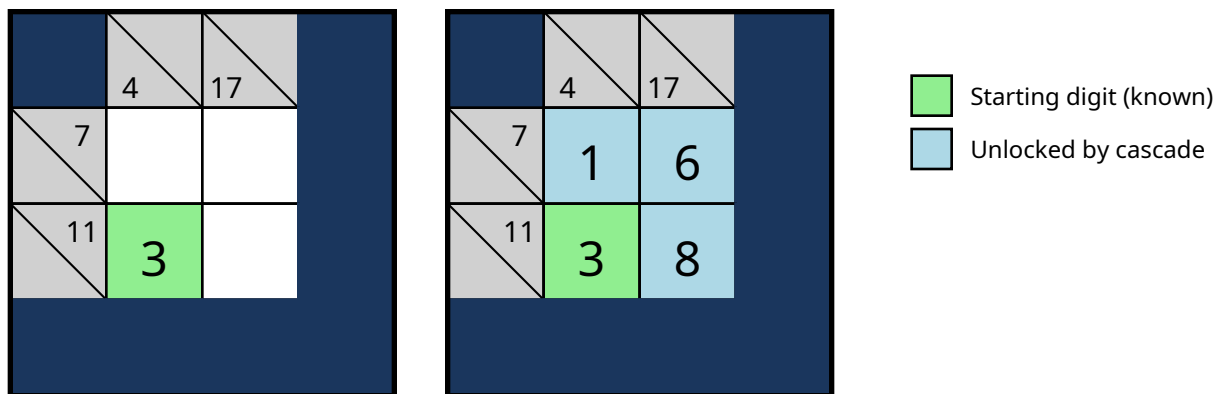
Which eliminates possibilities in another run.

And so on.

One breakthrough. Half the puzzle unlocked.

Diagram 3: The Cascade Effect

BEFORE: One Cell Solved AFTER: Cascade Unlocks 3 More!



The 3 forces: DOWN 4□1, ACROSS 7□1+6, ACROSS 11□3+8

Before-and-after: one digit unlocks multiple cells in a chain reaction.

When to Use Elimination

- No unique combinations visible
- You've filled some digits, need the next step
- You're stuck and need to work systematically
- You want to double-check your work

Technique 3: Starting Strategies

Empty Kakuro grid.

Where do you begin?

First Scan: Unique Combinations

Always.

Look for:

- Two-cell runs with clues 3, 4, 16, or 17
- Three-cell runs with clues 6, 7, 23, or 24

Mark them. Fill them in first. Even without exact order, you know which digits belong.

Crucial information for elimination.

Target Short Runs

After unique combinations: focus on the shortest runs.

Two-cell runs especially.

Why? Fewer possible combinations. Easier to solve.

Two-cell run summing to 10?

- 1+9
- 2+8
- 3+7
- 4+6

Four possibilities.

Five-cell run summing to 25? Dozens of possibilities.

Start small. Build confidence. Let short runs guide you to longer ones.

Corners and Edges

Puzzle constructors often put easier entry points here.

Why? Cells in corners and edges have fewer intersecting runs. Sometimes only one. Simpler to deduce.

Your scanning order:

1. All four corners
2. The edges
3. Work toward center

The center is usually the most complex. Save it.

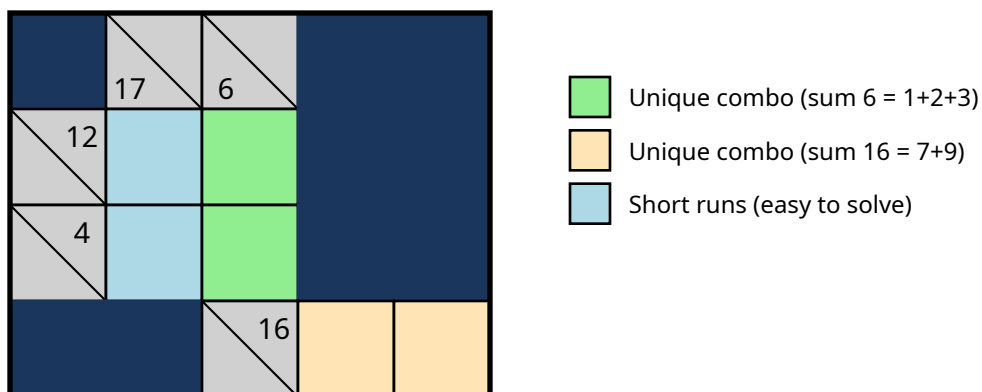
Constrained Cells

Sometimes a cell sits at the intersection of two very restrictive runs.

Sum of 3 in one direction. Sum of 4 in the other.

These heavily constrained intersections? Often only one or two possible digits.

Diagram 4: Identifying Good Starting Points



Solving Order

1. Unique combos 2. Short runs (blue) 3. Build outward

Green = unique combinations | Blue = short runs | Yellow stars = corners | Red circles = constrained intersections

Golden opportunities. Check both runs simultaneously. Often one digit works.

The 3-Run Rule

Once you have a few digits down:

Focus on runs where you've already filled 1-2 digits from intersections.

Partially completed runs are easier because:

- Fewer digits to place
- Known digits eliminate many combinations
- Simple arithmetic reveals the rest

Four-cell run totaling 20. You've got 7 and 9 filled in.

Remaining two cells must sum to 4.

That's $1+3$.

Complex becomes trivial.

When You're Truly Stuck

Tried everything?

1. **Make pencil marks.** Write tiny candidate digits where only 2-3 possibilities exist.
 2. **Work backwards.** Start from a partially completed section. Trace outward.
 3. **Try a different section.** Some puzzles have independent regions. Solve one, then another.
 4. **Take a break.** Fresh eyes spot things you missed. Works surprisingly often.
-

Technique 4: Advanced Tips Preview

You've got the fundamentals:

- Unique combinations
- Elimination
- Starting strategies

Now, a preview of what's ahead.

Intersection Analysis

Beginner level: check one intersection at a time.

Advanced level: analyze multiple intersections simultaneously.

Diagram 5a: Analyzing Multiple Intersections — Setup

Write Pencil Marks

	10	7	12	
15	?	?	?	
14	?	?	?	

- DOWN 10: 1+9, 2+8, 3+7, 4+6
- DOWN 7: 1+6, 2+5, 3+4
- DOWN 12: 3+9, 4+8, 5+7

Each cell must satisfy BOTH its across and down run constraints.

Part 1: Write pencil marks based on each run's constraints.

Diagram 5b: Analyzing Multiple Intersections — Solution

The Solution

	10	7	12	
15	4	2	9	
14	6	5	3	

Verification

ACROSS: $4+2+9=15$, $6+5+3=14$ | DOWN: $4+6=10$, $2+5=7$, $9+3=12$

Part 2: Cross-check all constraints together to find the unique solution.

Questions advanced solvers ask:

- "If I place 7 here, what happens in three directions?"

- "These two runs share two intersections—what works for both?"
- "Does this combination create an impossible situation three moves later?"

Pattern recognition at a higher level. Not just immediate conflicts. Several steps ahead.

Working Backwards

Sometimes the easiest path isn't forward.

Notice a particularly constrained cell? Solve that intersection first. Even if it means leaving other areas incomplete.

Example:

Near the end of a puzzle:

- Run A needs sum of 6 with 2 cells remaining (1+5 or 2+4)
- Run B needs exactly 8 more in 2 cells (1+7, 2+6, or 3+5)
- They share one cell

The shared cell must work for both.

Check:

- If it's 1: Works for both (1+5=6, 1+7=8) □
- If it's 2: Works for both (2+4=6, 2+6=8) □
- If it's 5: Only first run (5+1=6, but no 5+?=8 option) □

Narrowed to 1 or 2. Check another intersecting run. Done.

When to Guess

Let's be honest.

Expert puzzles sometimes reach a point where logic alone doesn't immediately reveal the next move.

Two choices:

1. Work through every possibility systematically (time-consuming, guaranteed)
2. Make an educated guess. See if it leads to contradiction.

Option 2 is fine. Here's how:

Guidelines:

- Only guess when narrowed to 2-3 possibilities
- Guess where you'll quickly see if you're wrong (lots of nearby intersections)
- Use pencil lightly
- Hit a contradiction? Backtrack immediately

Some purists say guessing isn't "real" solving.

Ignore them.

The "Almost Done" Pitfall

Common scenario:

90% done. Feeling great. Last few cells seem impossible.

You made an error earlier. The math doesn't work.

Don't panic.

Don't erase everything.

- Check your most recent 10-15 entries first (error is usually recent)
- Verify each completed run adds up correctly
- Look for duplicate digits in the same run (most common error)

Diagram 6a: Troubleshooting — Repeated Digits

❑ WITH ERROR

	13	12	
10	3	3	
	9	8	
	1	1	

❑ CORRECTED

	13	12	
10	3	7	
	9	4	
	1	1	

- Error: same digit twice in run
- Fixed: all unique digits

Problem: $3+3=6 \neq 10$. Fix: Change to $3+7=10$. DOWN 12: $7+4+1=12$

Part 1: The most common error — same digit used twice in a run.

Diagram 6b: Troubleshooting — Wrong Sums

❑ WITH ERROR

	12	11	
7	2	6	
	8	5	
	2		

❑ CORRECTED

	11	11	
7	1	6	
	8	5	
	2		

- Error: sum doesn't match
- Fixed: $1+6=7$

Problem: $2+6=8 \neq 7$. Fix: Change 2 to 1. ACROSS 7: $1+6=7$

Part 2: Finding errors when sums don't add up correctly.

Often it's simple. Wrote 6 instead of 8. Fix one digit. Everything falls into place.

Pattern Recognition

The more puzzles you solve, the more you recognize:

- "This layout usually means the corner is 1 or 2"
- "These two clues intersecting? Almost always..."
- "This digit distribution feels wrong"

This intuition can't be taught directly.

It comes from practice.

20-30 puzzles: you start feeling it.

100 puzzles: you solve beginners in minutes without conscious thought.

What's Beyond

The techniques in this chapter carry you through all beginner puzzles. Most intermediate ones too.

For expert levels:

- **Forcing chains:** If this goes here, then this forces that, which forces...
- **Sum splitting:** Dividing complex runs into sub-combinations
- **Constraint propagation:** One restriction rippling through the entire grid

Beyond beginner scope. But now you know what's possible.

Putting It All Together

Four techniques in your toolkit:

1. **Unique Combinations** — Instant solutions for specific sums
2. **Elimination Method** — Narrowing possibilities through cross-reference
3. **Starting Strategies** — Finding entry points, building momentum
4. **Advanced Tips** — Thinking ahead for complex puzzles

Mastering Kakuro isn't memorizing every combination.

It's developing a feel for which technique to apply when.

That comes with practice.

Your Solving Workflow

1. Scan for unique combinations. Fill them in.
 2. Target short runs (2-3 cells) and corners.
 3. Use elimination on intersecting runs.
 4. Fill in what you've deduced.
 5. Watch for the cascade effect.
 6. Stuck? Try a different section. Use pencil marks.
 7. Double-check completed runs before moving on.
-

Time to Practice

The beginner puzzles start on page [XX].

Every expert Kakuro solver was once exactly where you are now.

Staring at their first empty grid.

The only difference between them and you?

Practice.

Happy solving!

Chapter 3: Your First Puzzle Walkthrough

Theory is great. But nothing beats solving your first puzzle.

In this chapter, we're going to solve a small Kakuro grid together. Step by step.

Don't just read this. Grab a pencil and follow along. By the end, you'll feel the rhythm of the game.

The Puzzle

We have a compact grid with four clues. It looks simple, but it requires us to use the two core techniques we played with in Chapter 2: **Unique Combinations** and **Elimination**.

Here is our starting grid:

- **Horizontal Clues (rows):** 11 and 7
- **Vertical Clues (columns):** 4 and 14

Let's begin.

Step 1: Scan for Unique Combinations

Remember the first rule of starting? Look for unique sums.

We scan the clues:

- **11 in 2 cells:** Many options (2+9, 3+8, 4+7, 5+6). Not unique.
- **7 in 2 cells:** Many options (1+6, 2+5, 3+4). Not unique.
- **14 in 2 cells:** 5+9, 6+8. Not unique.
- **4 in 2 cells: Bingo.**


The sum of 4 in two cells can ONLY be 1 + 3.

We don't know yet which cell is 1 and which is 3. But we know for a fact that those two cells contain those two digits.

Step 1: Identifying Unique Combinations

	4	14
11		
7		

Clue Analysis:

 Focus on the 4: It must be 1+3

Look for Small Sums

The vertical sum of 4 has only one combination: 1 and 3. We don't know the order yet, but we know those two digits **MUST** go there.

Diagram 1: We identify the sum of 4 as our starting point.

Step 2: Investigation & Elimination

Now we have a strong foothold. The first column contains {1, 3}.

Let's look at the top-left cell. It's the intersection of the **Row summing to 11** and the **Column summing to 4**.

Let's test our two candidates:

Scenario A: The top-left cell is 1.

If the top-left is 1, then the other cell in that row must be 10 (because $1 + 10 = 11$).

But 10 is not a single digit! The maximum digit is 9.

So, the top-left cell **cannot be 1**.

Scenario B: The top-left cell is 3.

If the top-left is 3, then the other cell in that row must be 8 (because $3 + 8 = 11$).

Does 8 work? Yes, it's a valid digit.

Conclusion: The top-left cell **MUST** be 3.

Step 2: Using Elimination

	4	14
11	3	
7		

Elimination Logic:

Must be 3 because 1 doesn't work for the 11-sum

Checking the Intersection

The top-left cell is part of the 11-row. If we put '1' there, the other cell would need to be 10 ($11 - 1$), which is impossible (max 9). So it **MUST** be '3'.

Diagram 2: By testing our candidates, we prove that '3' is the only valid digit for the intersection.

Step 3: Completing the Intersections

Now the dominoes start to fall.

1. **Vertical fill:** Since the top-left is 3, and the column sums to 4, the cell below it must be 1 ($4 - 3 = 1$).

2. **Horizontal fill:** Since the top-left is 3, and the row sums to 11, the cell to its right must be 8 ($11 - 3 = 8$).

We fill these in confidently.

Step 3: Completing Intersections

	4	14
11	3	8
7	1	

Filling the Gaps

Now that we have '3': • Vertical: $4 - 3 = 1$ • Horizontal: $11 - 3 = 8$

Diagram 3: One determined digit allows us to fill two more cells instantly.

Step 4: The Final Cell

We have one cell left. The bottom-right empty square.

We can solve this two ways to check our work:

1. **Across:** The bottom row sums to 7. We already have a 1. So $7 - 1 = 6$.
 2. **Down:** The right column sums to 14. We already have an 8. So $14 - 8 = 6$.
- Both match! The last digit is 6.

Step 4: The Final Cell

	4	14
11	3	8
7	1	6

Verification:



6 fits both Row ($1+6=7$) and Col ($8+6=14$)

Puzzle Solved!

The last cell is '6'. Check the math: Row 2: $1 + 6 = 7$ □ Column 2: $8 + 6 = 14$ □

Diagram 4: The final cell matches both clues. The puzzle is solved.

Lessons Learned

This small puzzle demonstrated the exact workflow you'll use on larger grids:

1. **Find the weak point:** We started with the unique sum (4).
2. **Use intersections:** We used the crossing row (11) to decide between candidates (1 vs 3).
3. **Calculate the rest:** Once the intersection was solved, simple math filled the remaining cells.
4. **Verify:** The final cell satisfied both clues perfectly.

You are now ready to tackle the Beginner Puzzles in Part 2. Turn the page, and good luck!

Part 2: Beginner Level

Chapter 4: Warm-Up Puzzles

6x6 Grids - The Journey Begins

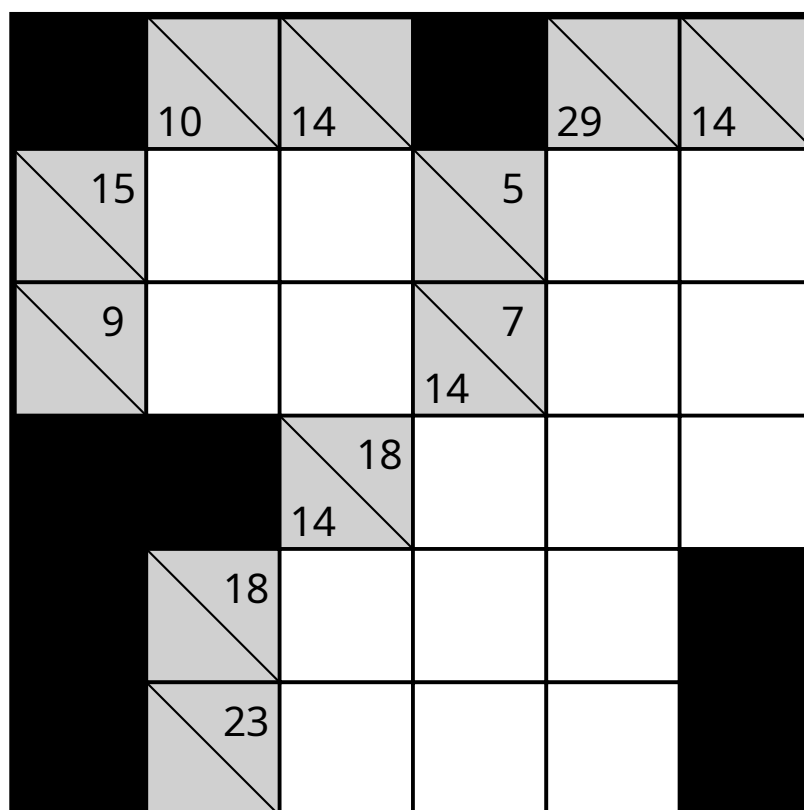
Welcome to the beginner section! These first 20 puzzles are designed to get you comfortable with the mechanics of Kakuro. They use small 6x6 grids, which means the runs are generally shorter and the logic is more straightforward.

Focus on:

- Finding unique combinations (like 3 in two cells = 1+2).
- Looking for the smallest sums.
- Checking intersections carefully.

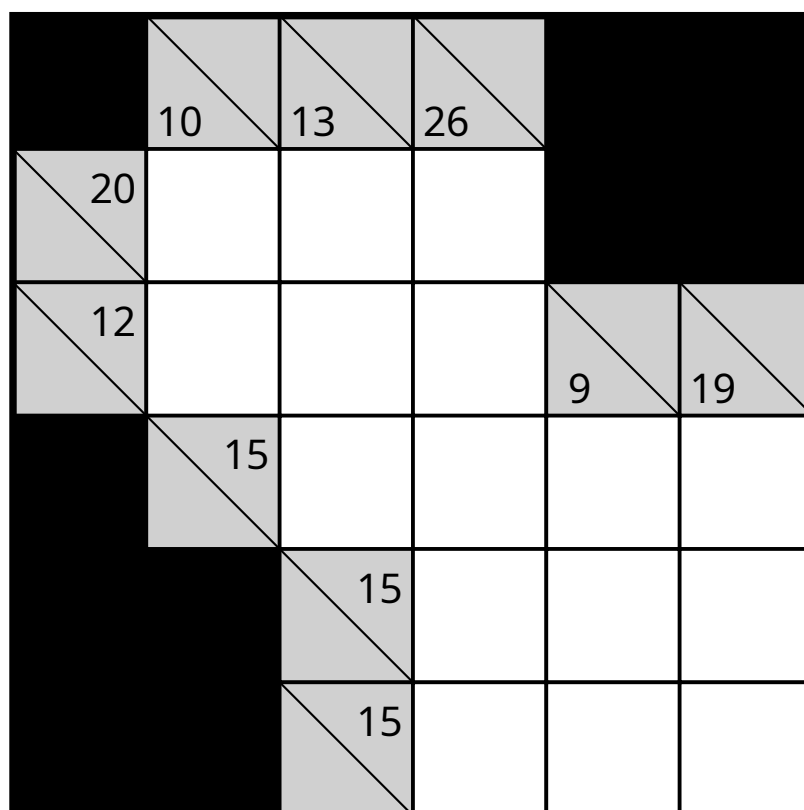
Beginner – Puzzle 1 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 2 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 3 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	26	20	31	16	23
31					
23					
27					
19					
16					

Beginner – Puzzle 4 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	25	22	32	11	18
29					
22					
23					
16					
18					

Beginner – Puzzle 5 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	7	11	22	17	8
22					
19					
	9	11	4		
18					
22					

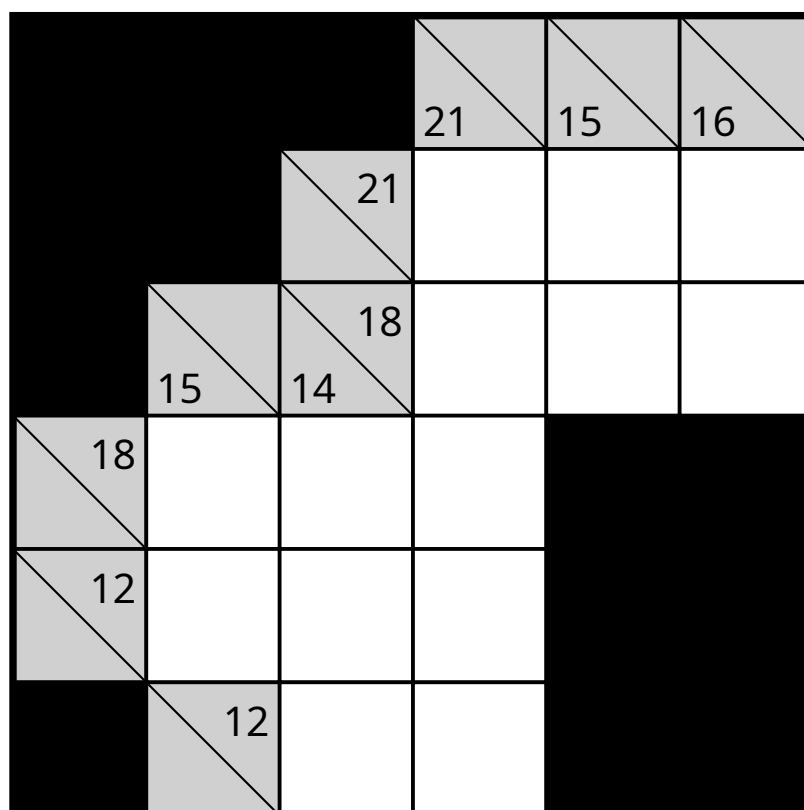
Beginner – Puzzle 6 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	5	27	29	15	8
22					
26					
	15				
	12				
	9				

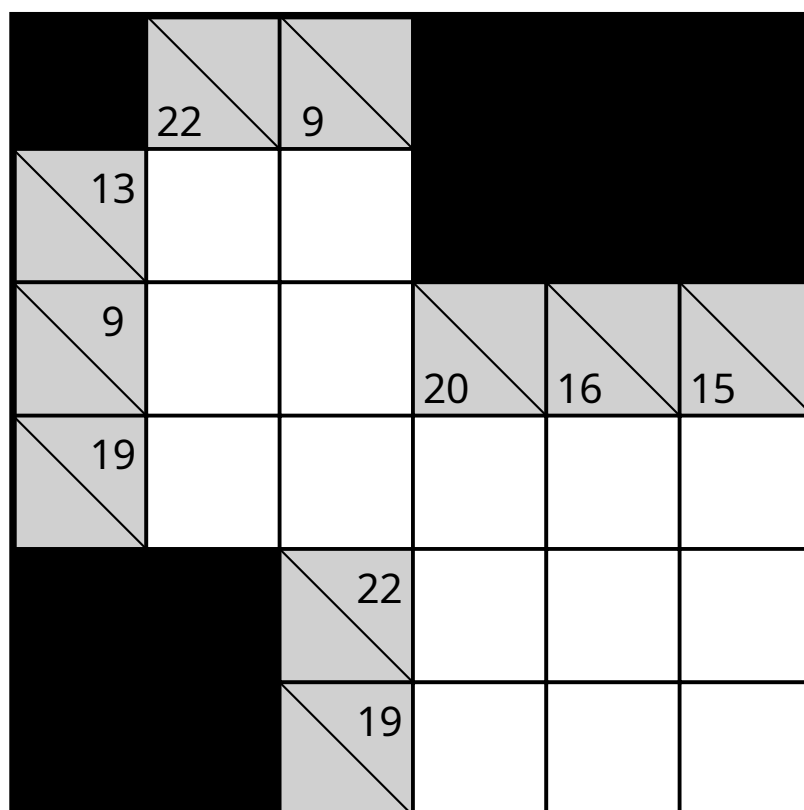
Beginner – Puzzle 7 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 8 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



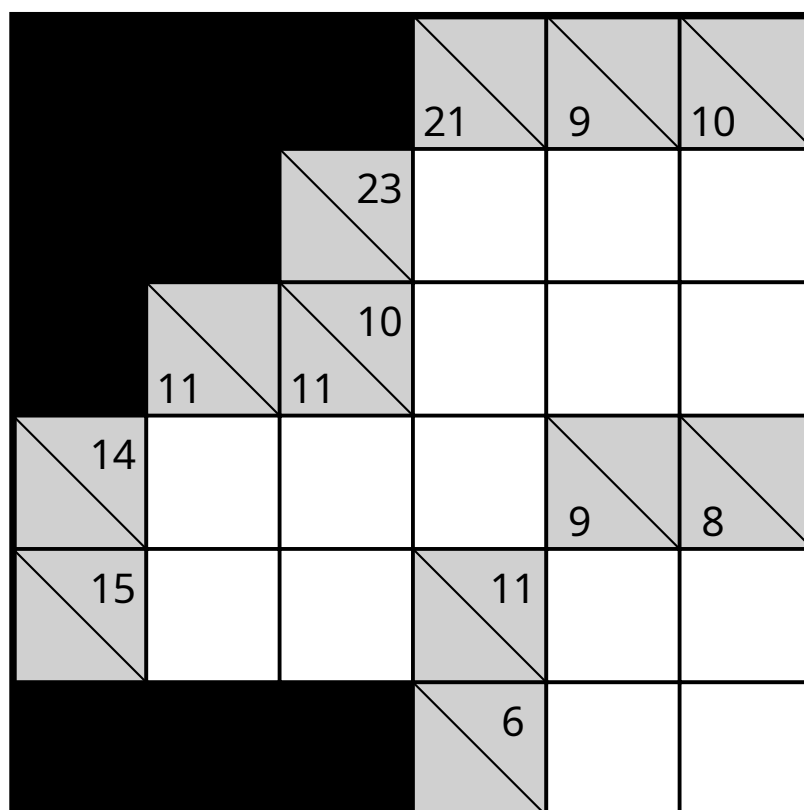
Beginner – Puzzle 9 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	27	28	26	16	14
29					
24					
26					
12					
20					

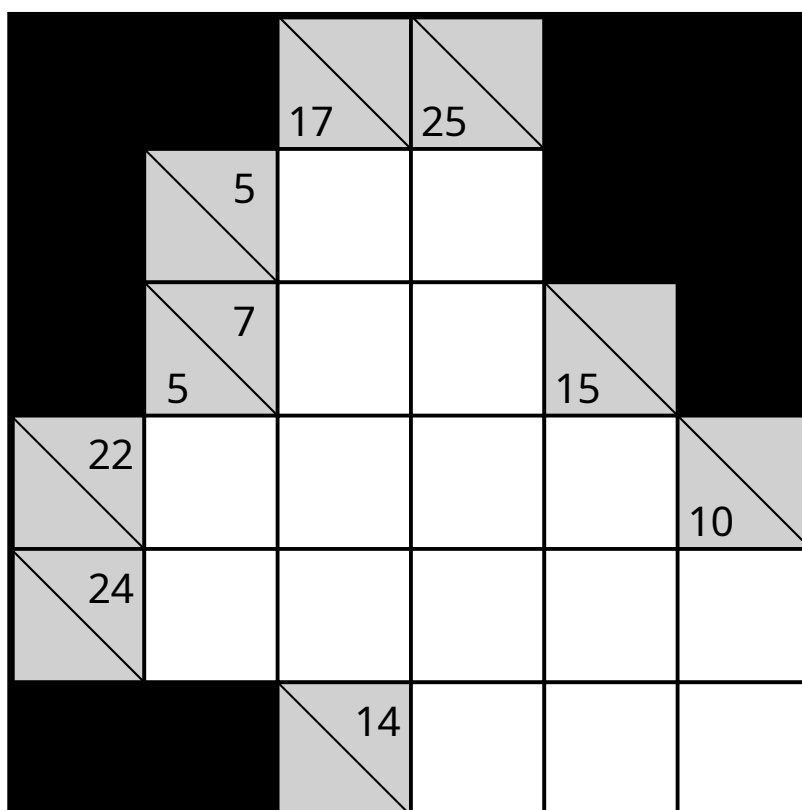
Beginner – Puzzle 10 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 11 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



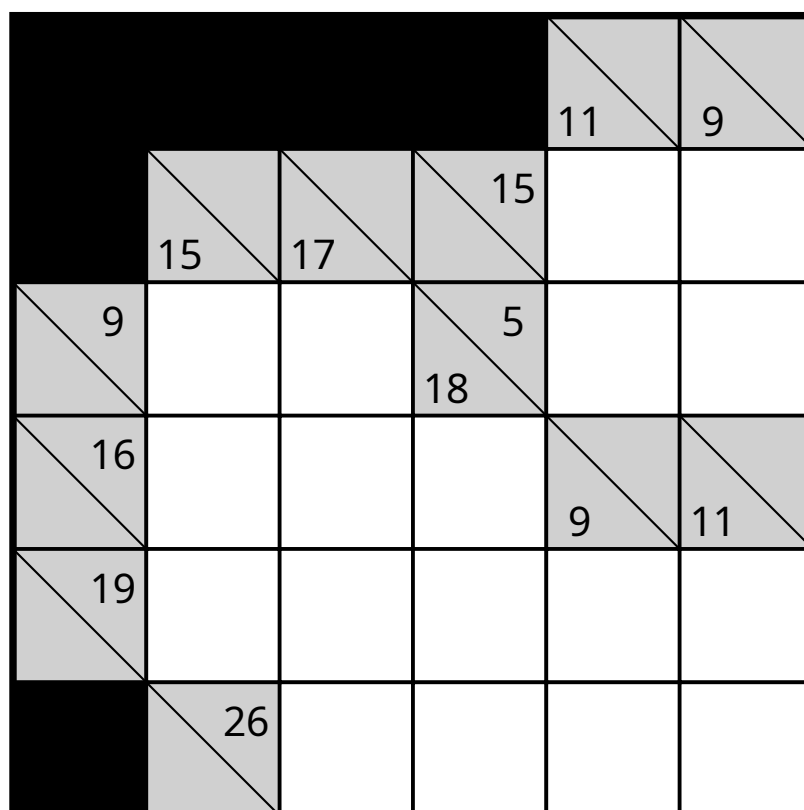
Beginner – Puzzle 12 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	25	31		33	22
10			14		
			17		
23					
17					
30					
34					

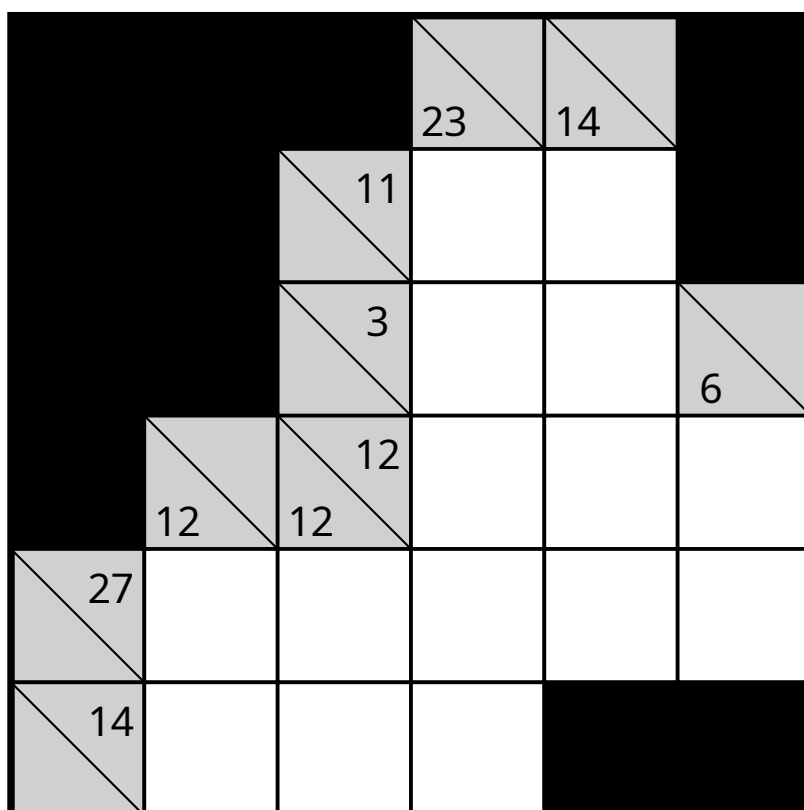
Beginner – Puzzle 13 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 14 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



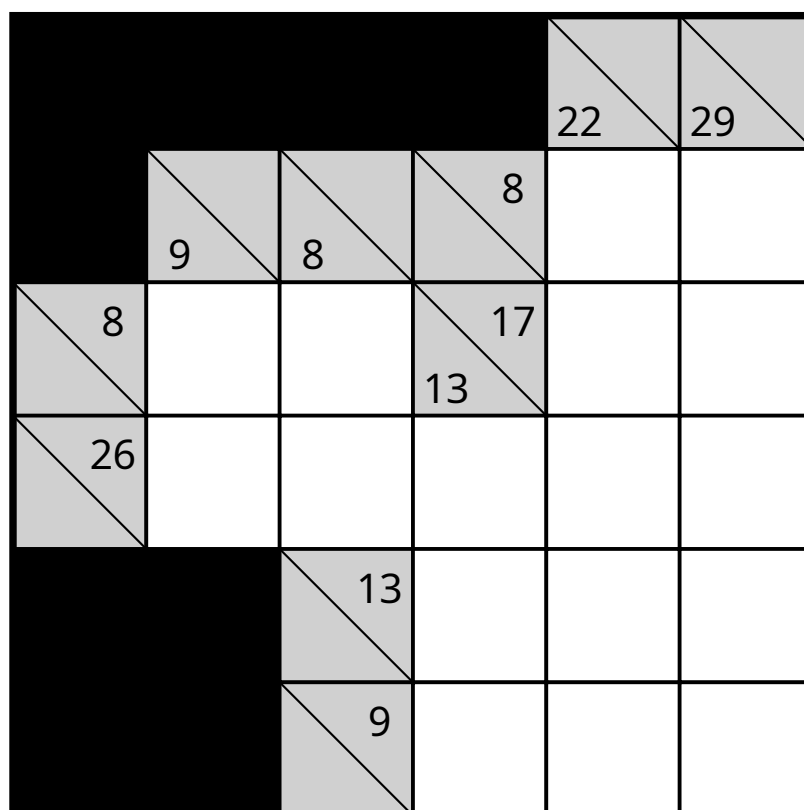
Beginner – Puzzle 15 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

			6	17	23	29
			22			
			14			
			12	19		
			10			
11				7		
11				13		

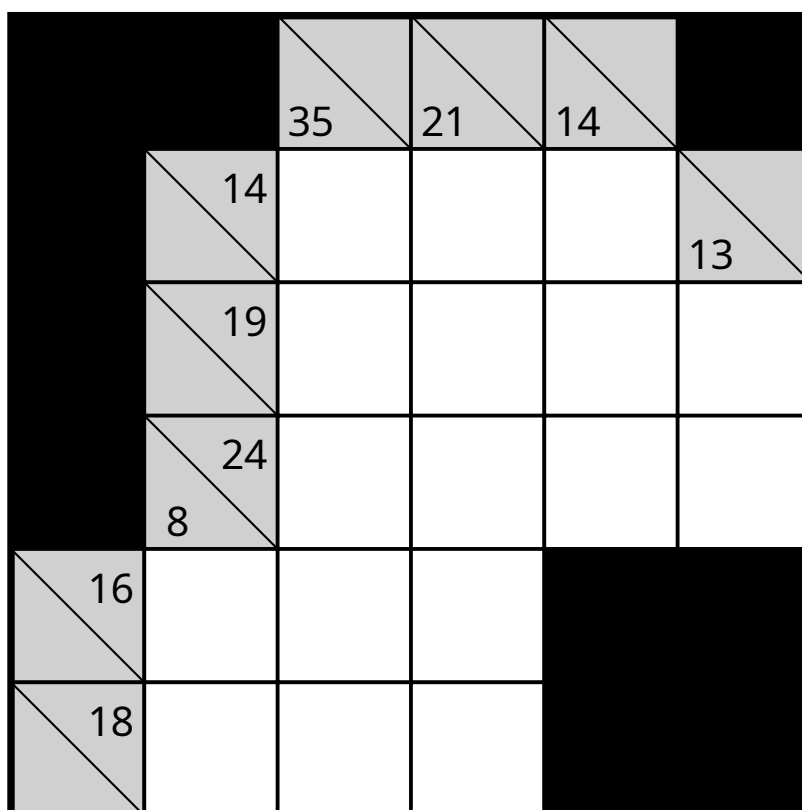
Beginner – Puzzle 16 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



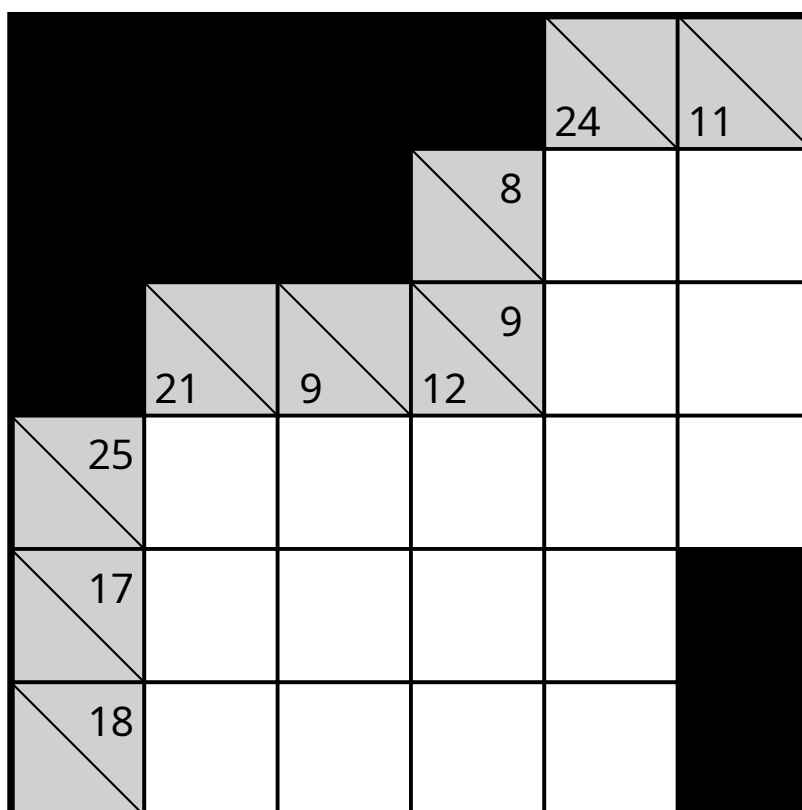
Beginner – Puzzle 17 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 18 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



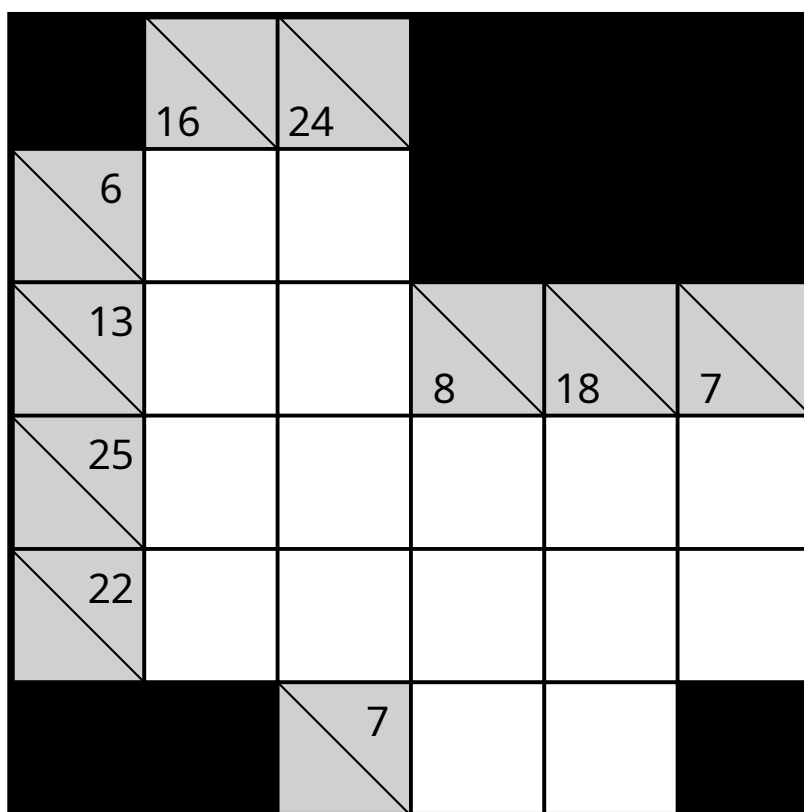
Beginner – Puzzle 19 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	7	28	25	21	7
27					
25					
	20				
19	15				11
13			10		

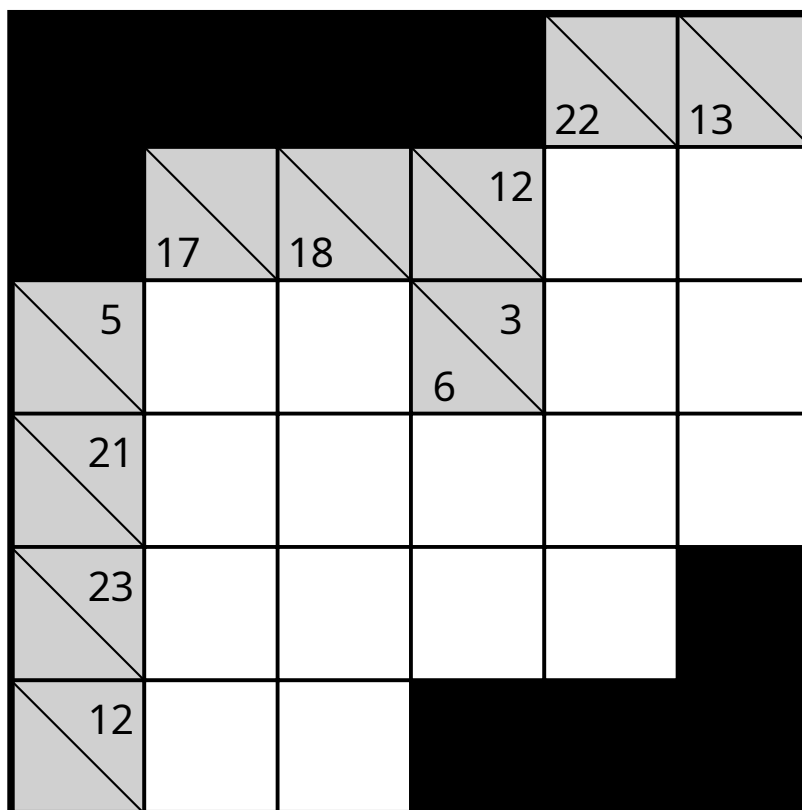
Beginner – Puzzle 20 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 21 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 22 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

		27	28	22	
	20				
22	21				13
25					
28					
16					

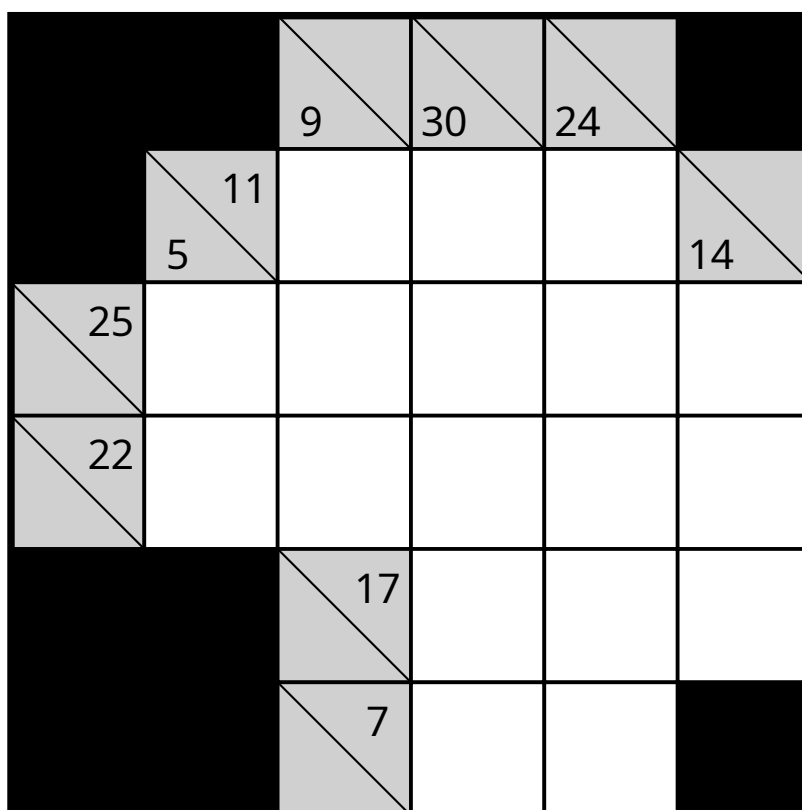
Beginner – Puzzle 23 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	16	16	11	28	22
24					
23					
9			12		
	17		11		
		19			

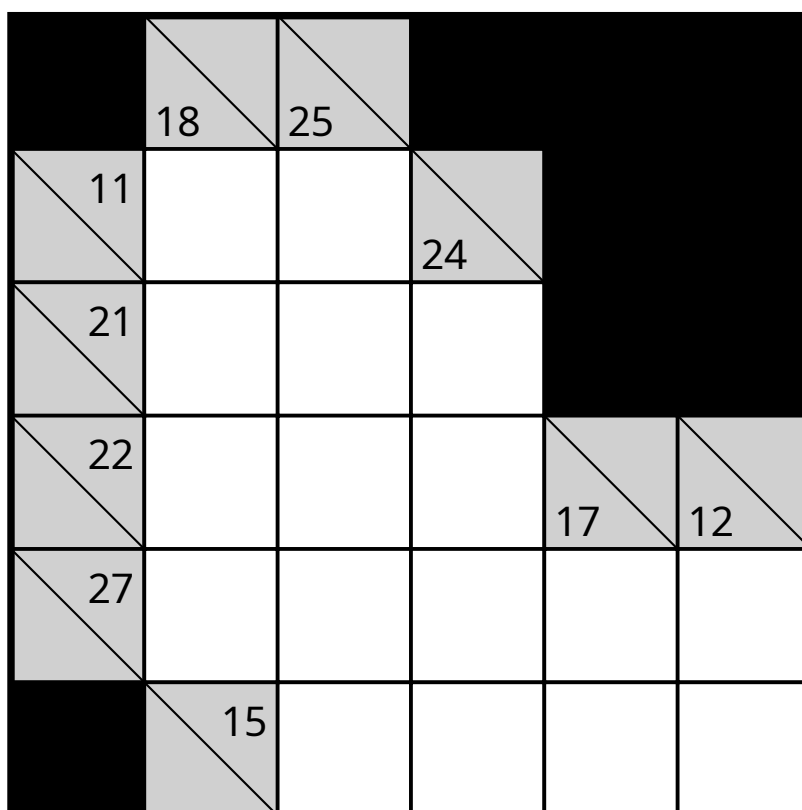
Beginner – Puzzle 24 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 25 – 6×6

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Chapter 5: Building Skills

7x7 Grids - Expanding Your Vision

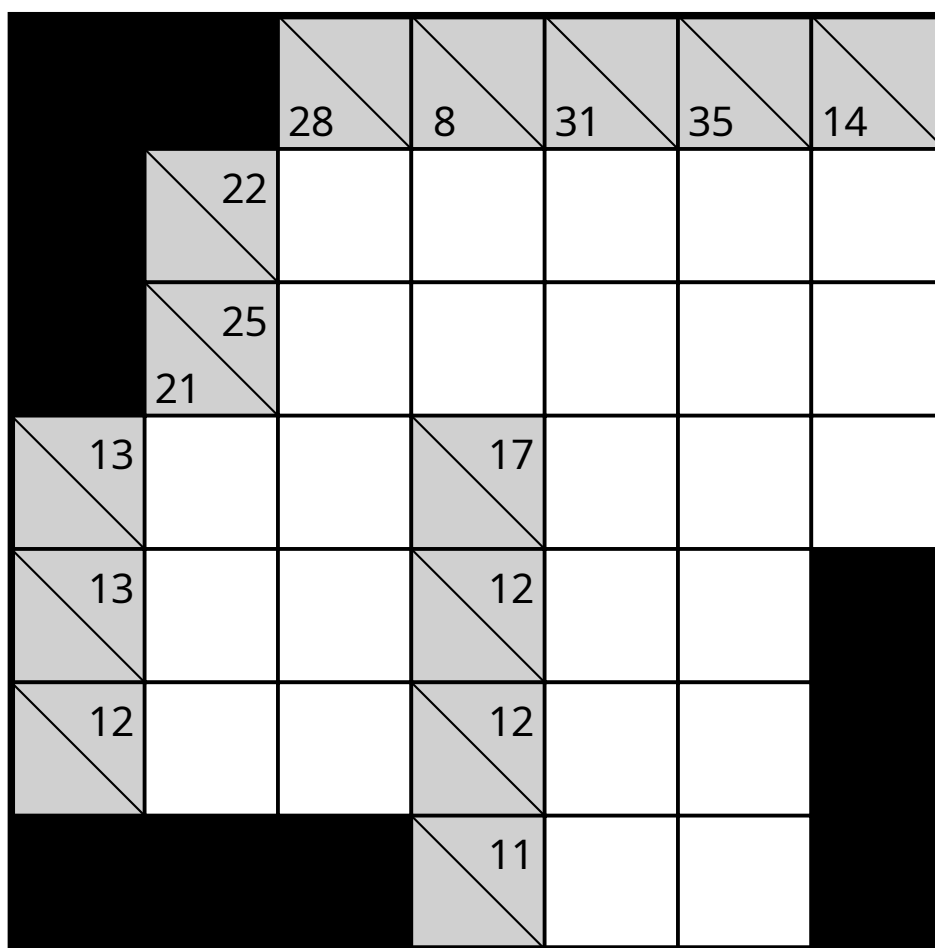
Now that you've warmed up, we're stepping up to 7x7 grids. These puzzles offer slightly more room to maneuver, but also more opportunities for complex interactions.

What's new:

- Longer runs (3-4 cells).
- More intersecting clues.
- You'll need to use the elimination method more frequently.

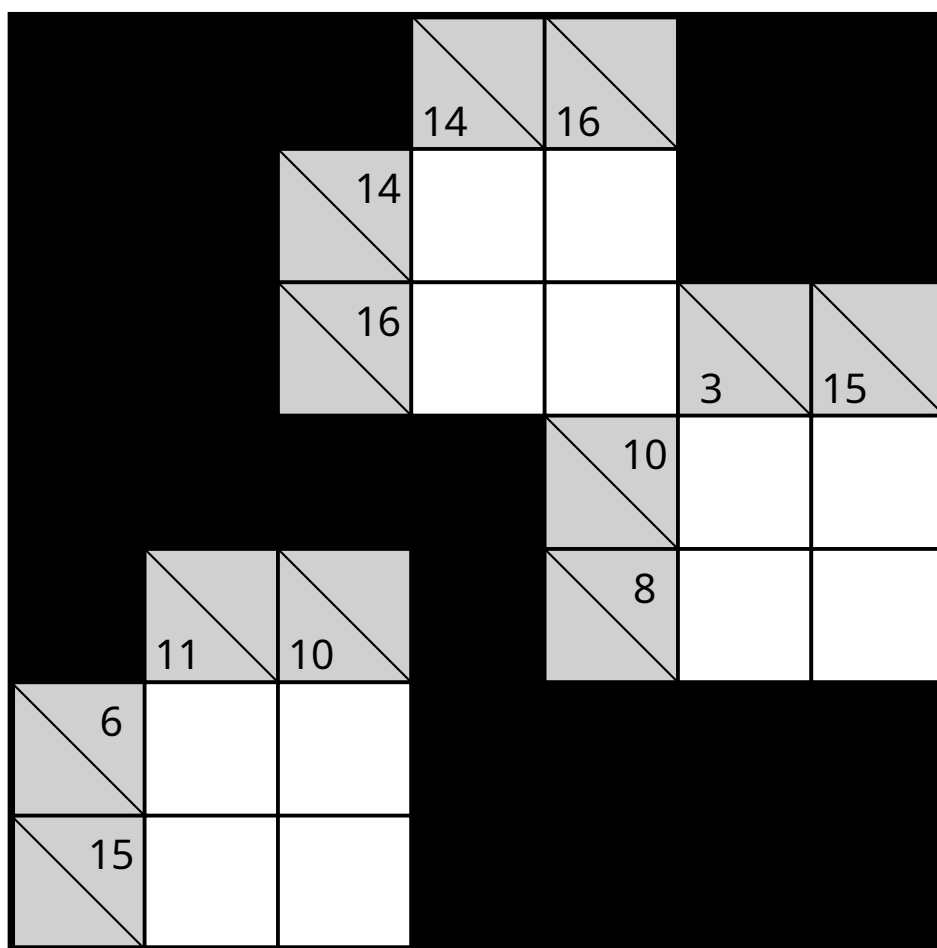
Beginner – Puzzle 26 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



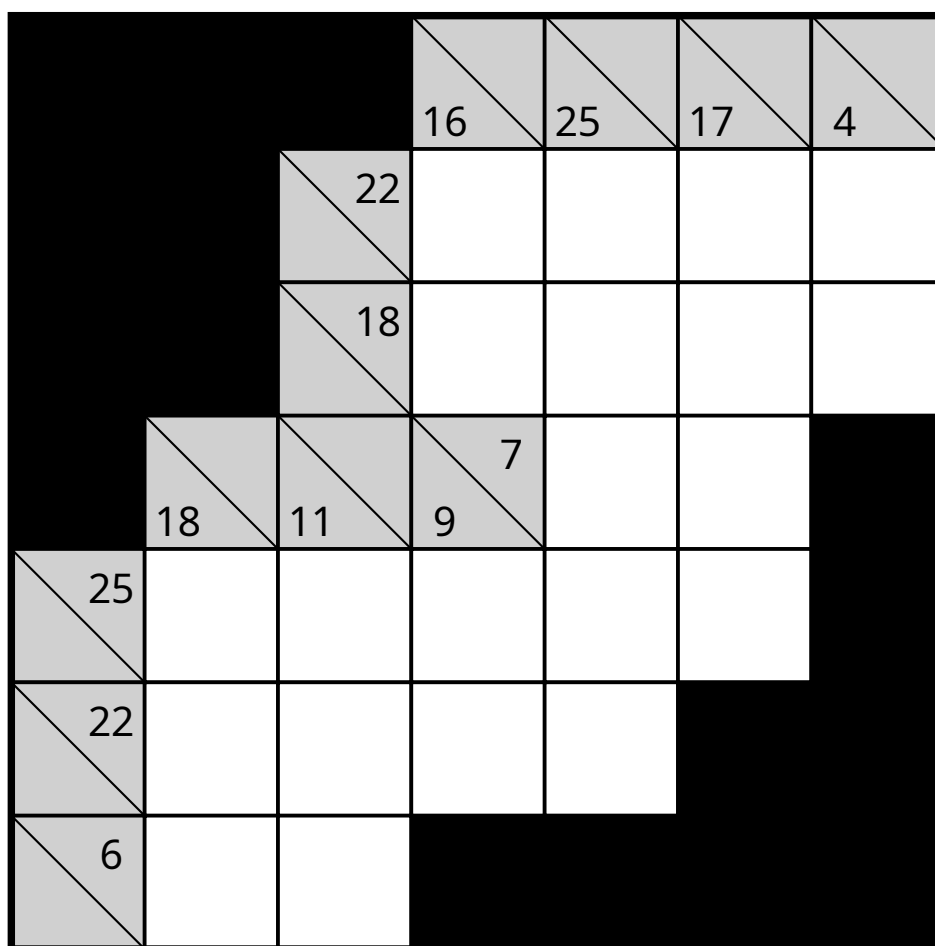
Beginner – Puzzle 27 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



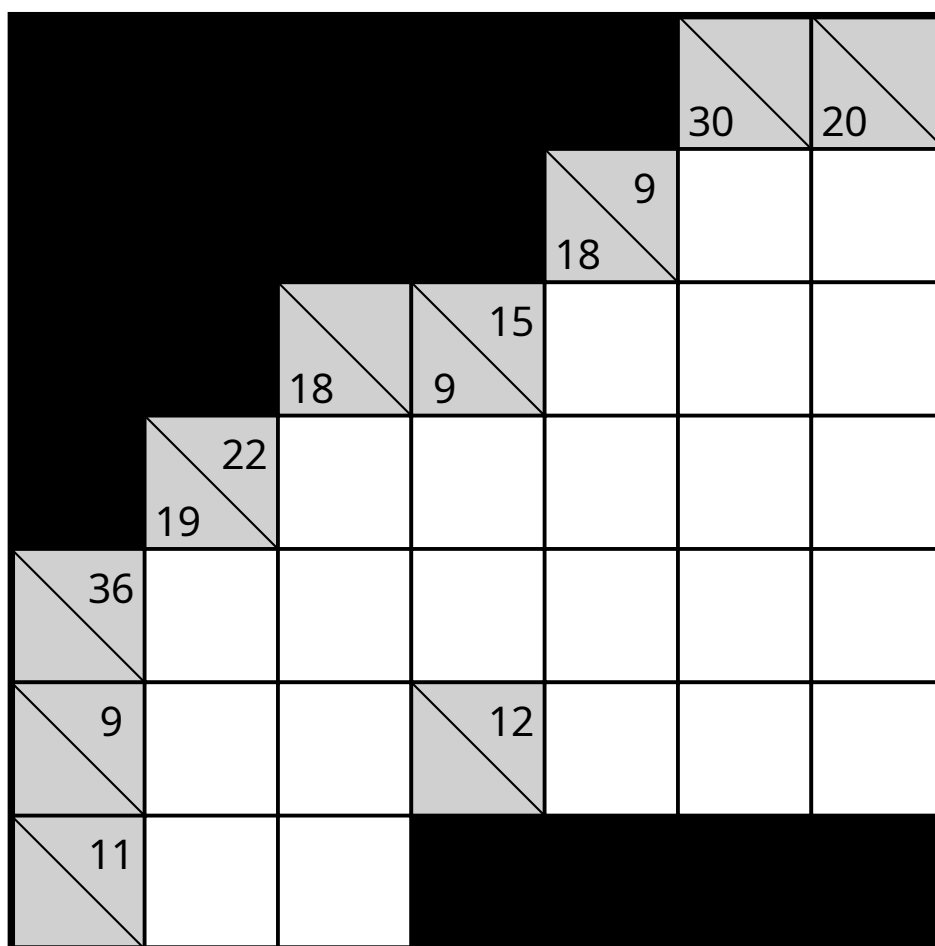
Beginner – Puzzle 28 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



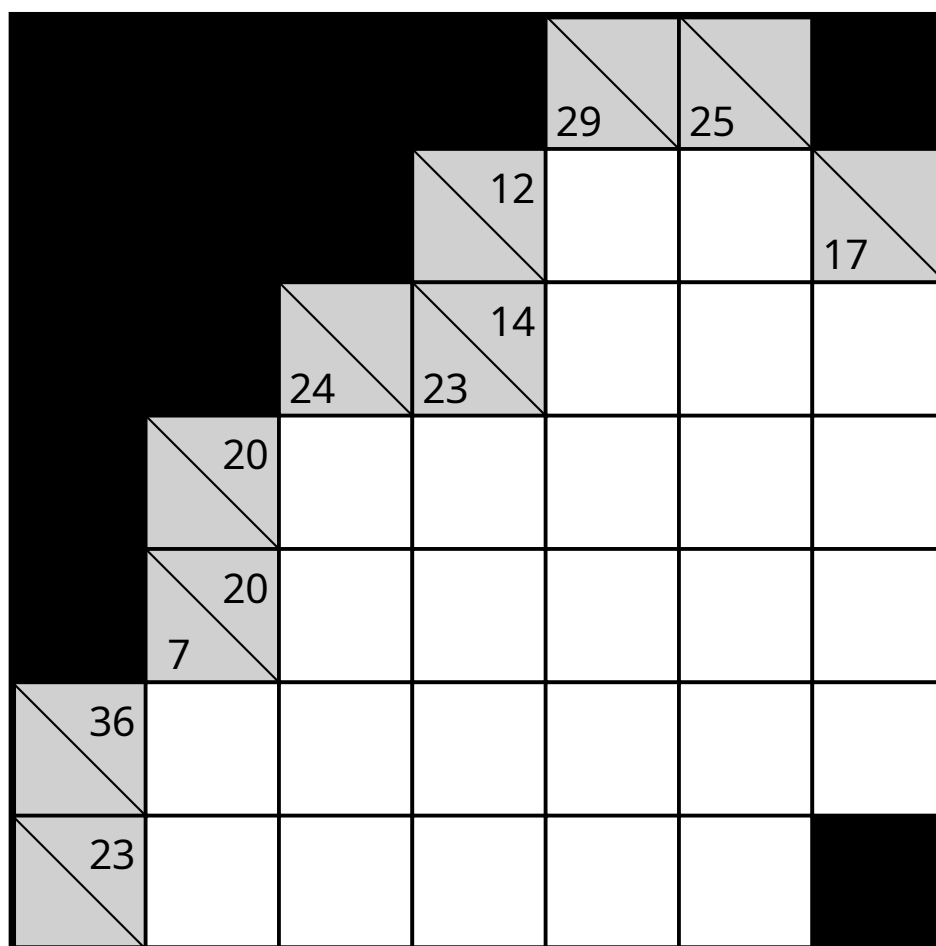
Beginner – Puzzle 29 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



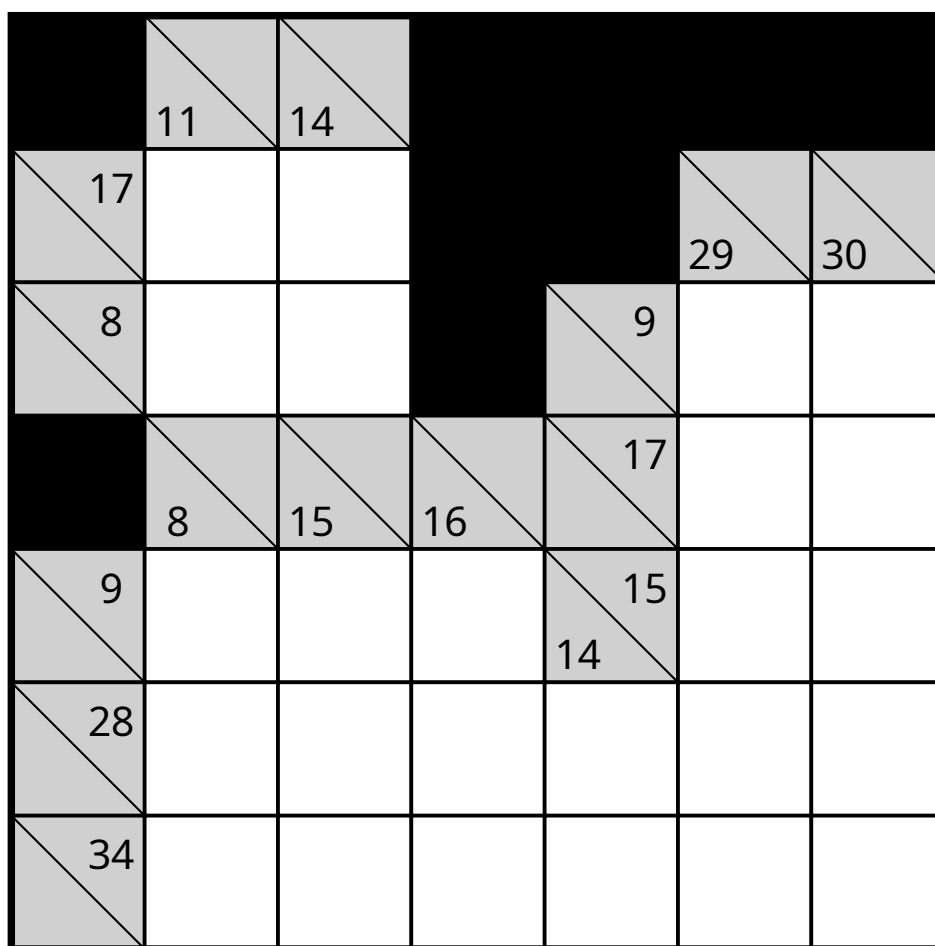
Beginner – Puzzle 30 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



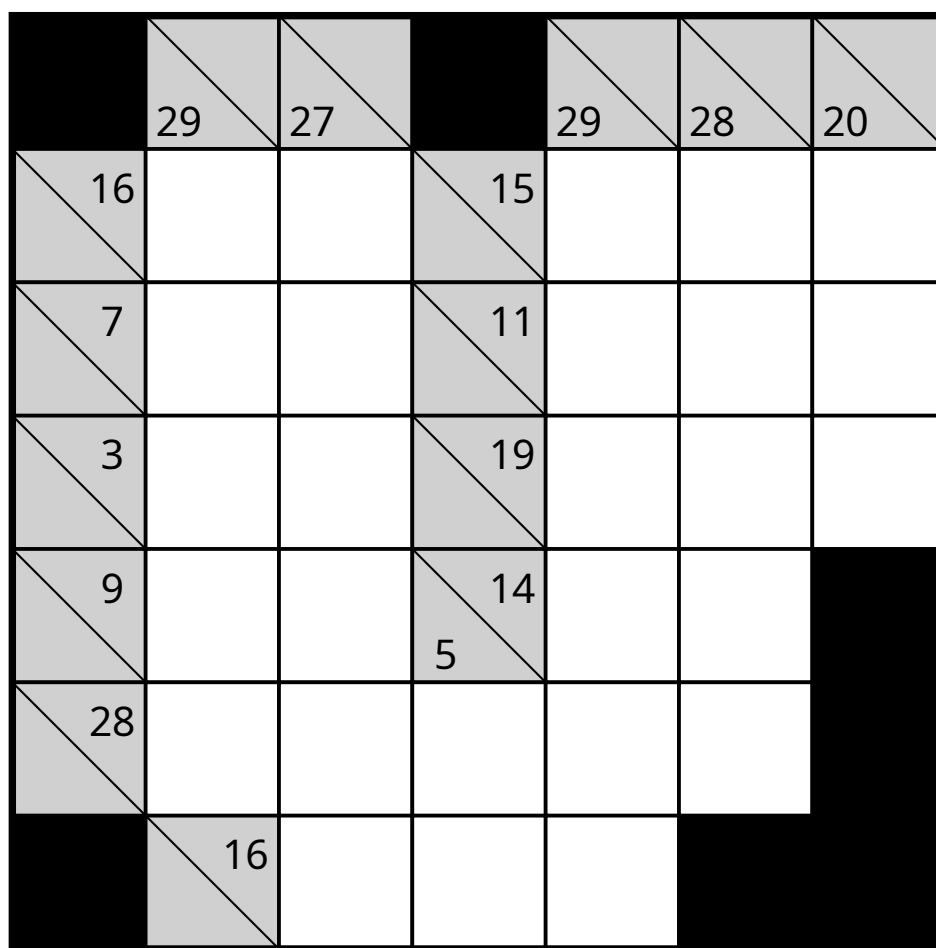
Beginner – Puzzle 31 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



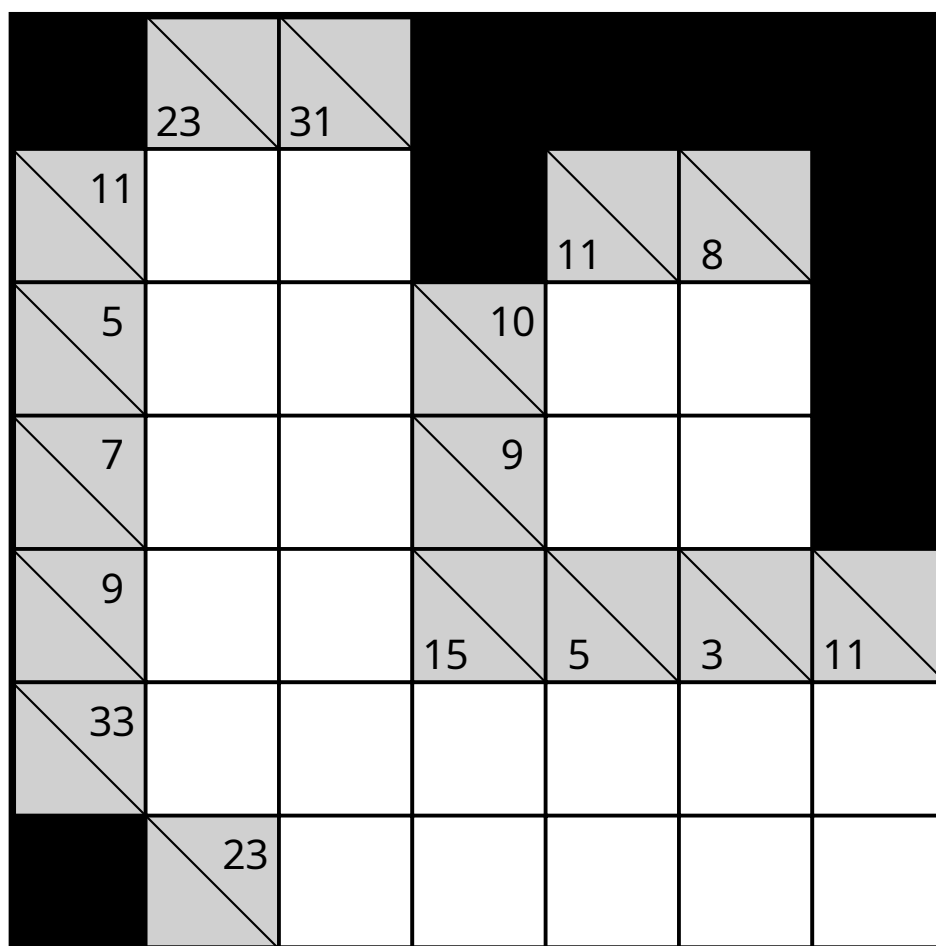
Beginner – Puzzle 32 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 33 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



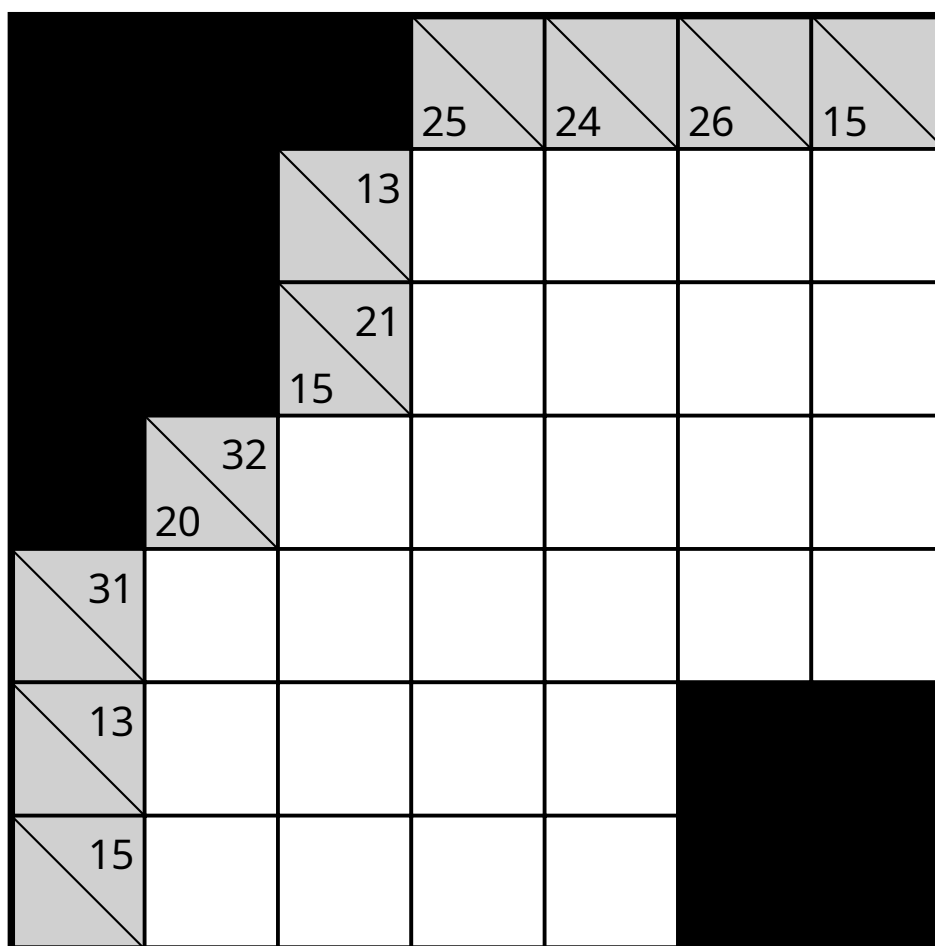
Beginner – Puzzle 34 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	17	22	23	11	27	25
31						
29						
17				10 16		
31						
			17			
			6			

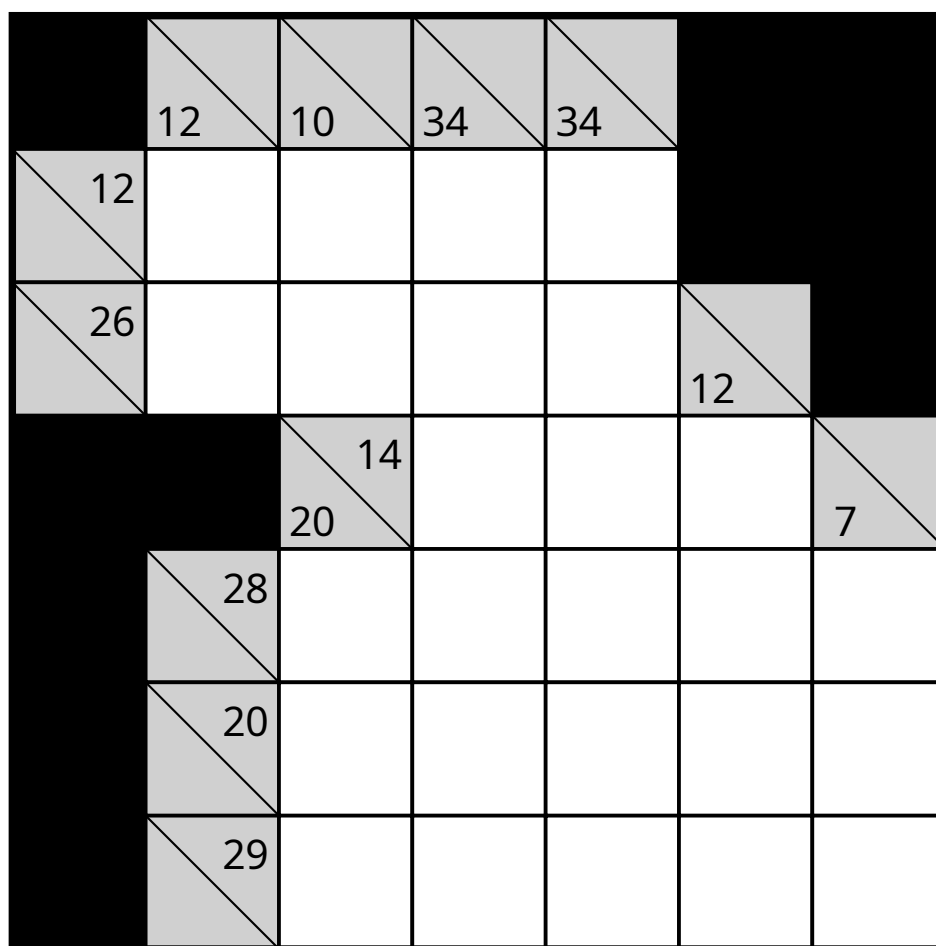
Beginner – Puzzle 35 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



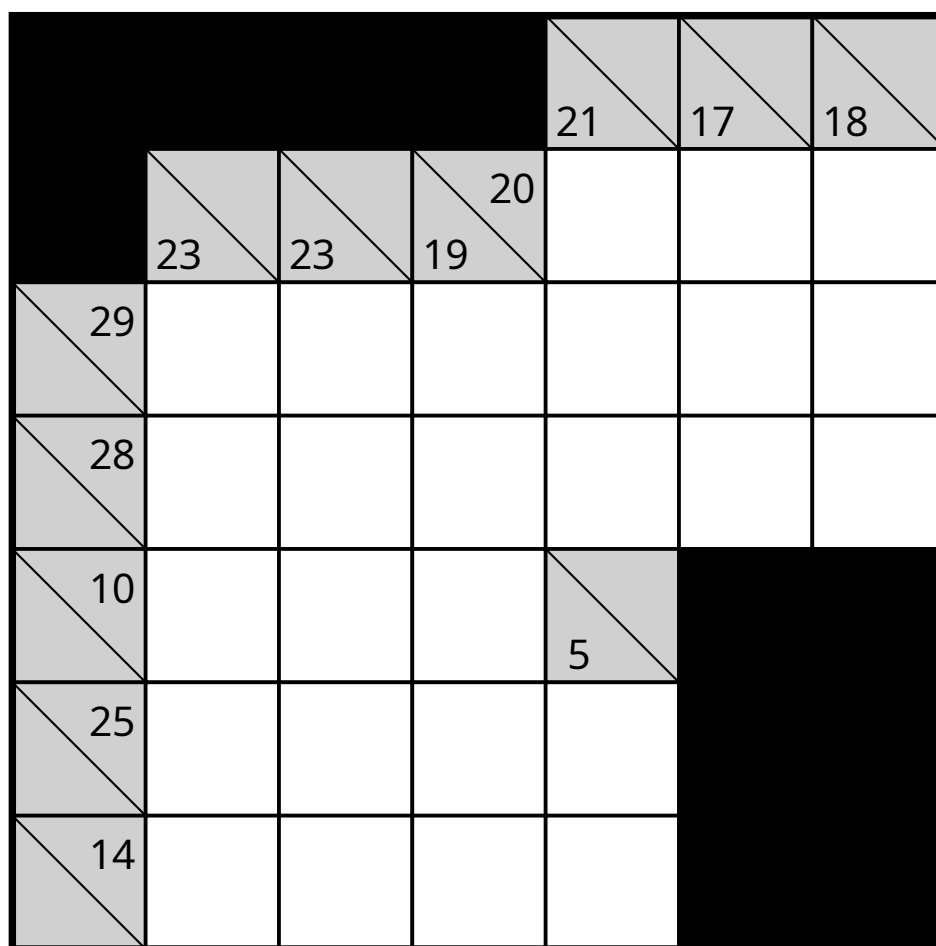
Beginner – Puzzle 36 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



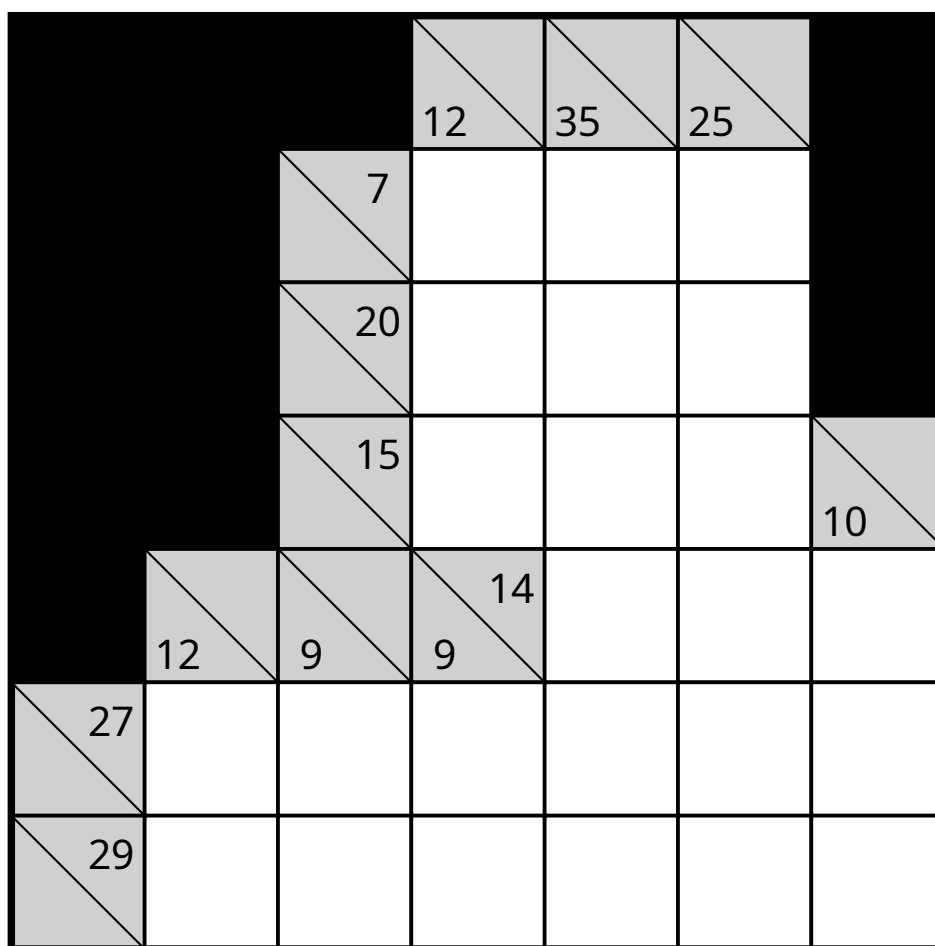
Beginner – Puzzle 37 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



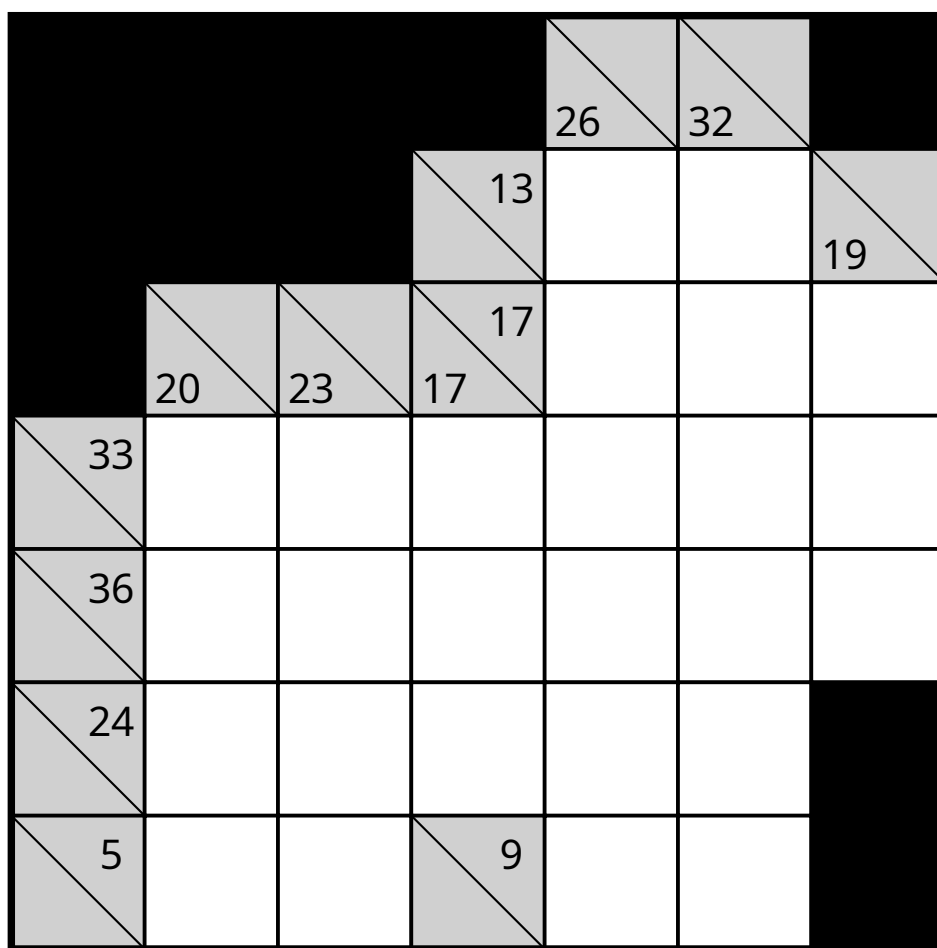
Beginner – Puzzle 38 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



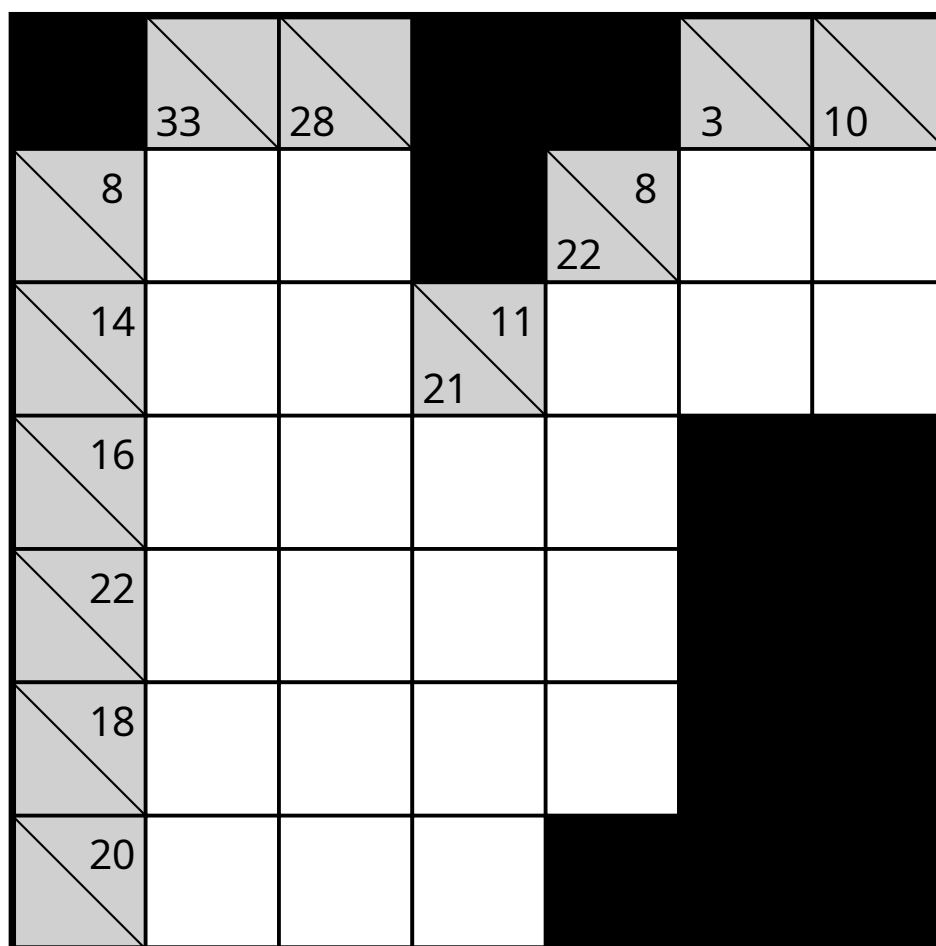
Beginner – Puzzle 39 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



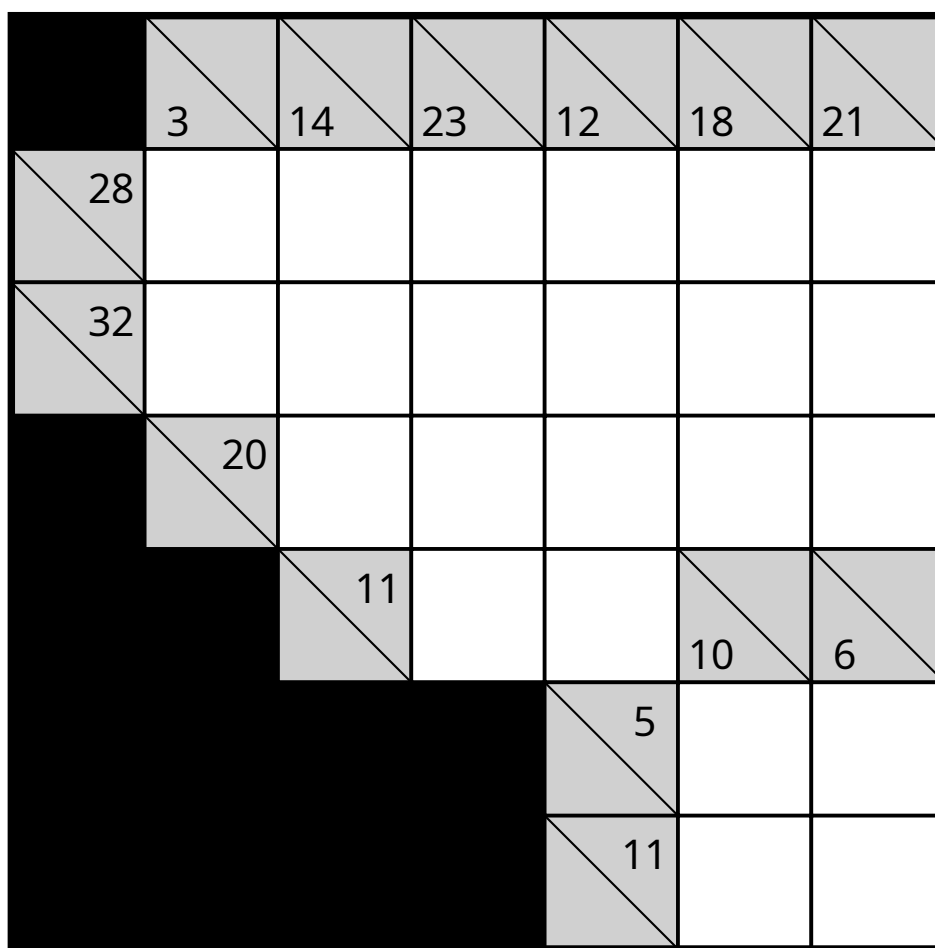
Beginner – Puzzle 40 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



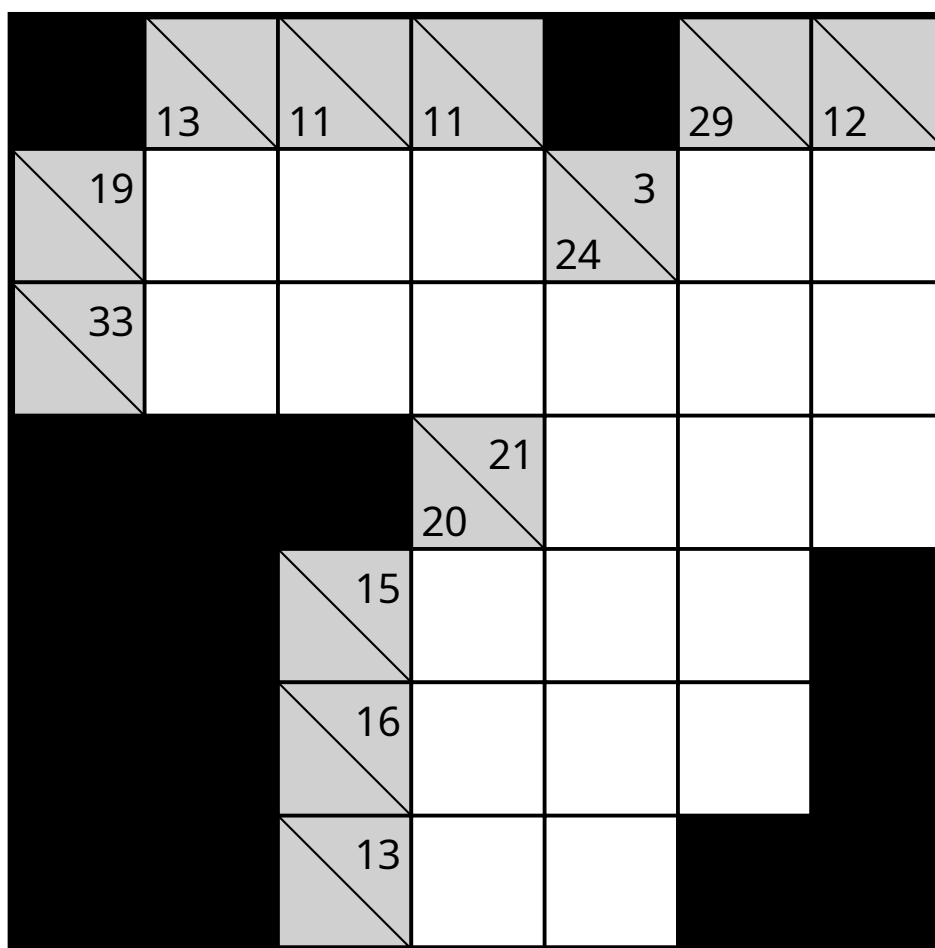
Beginner – Puzzle 41 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 42 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



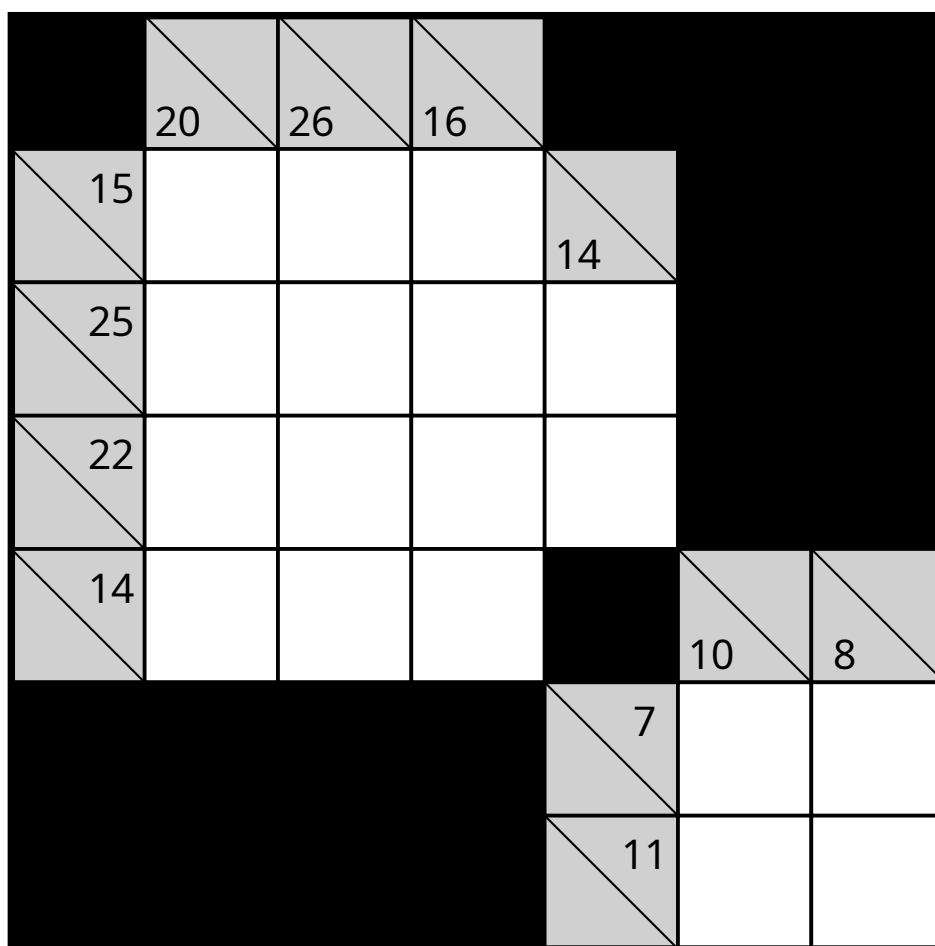
Beginner – Puzzle 43 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	26	29	27		28	9
16				13		
15				3		
				8		
27						13
29						
18				8		
				11		

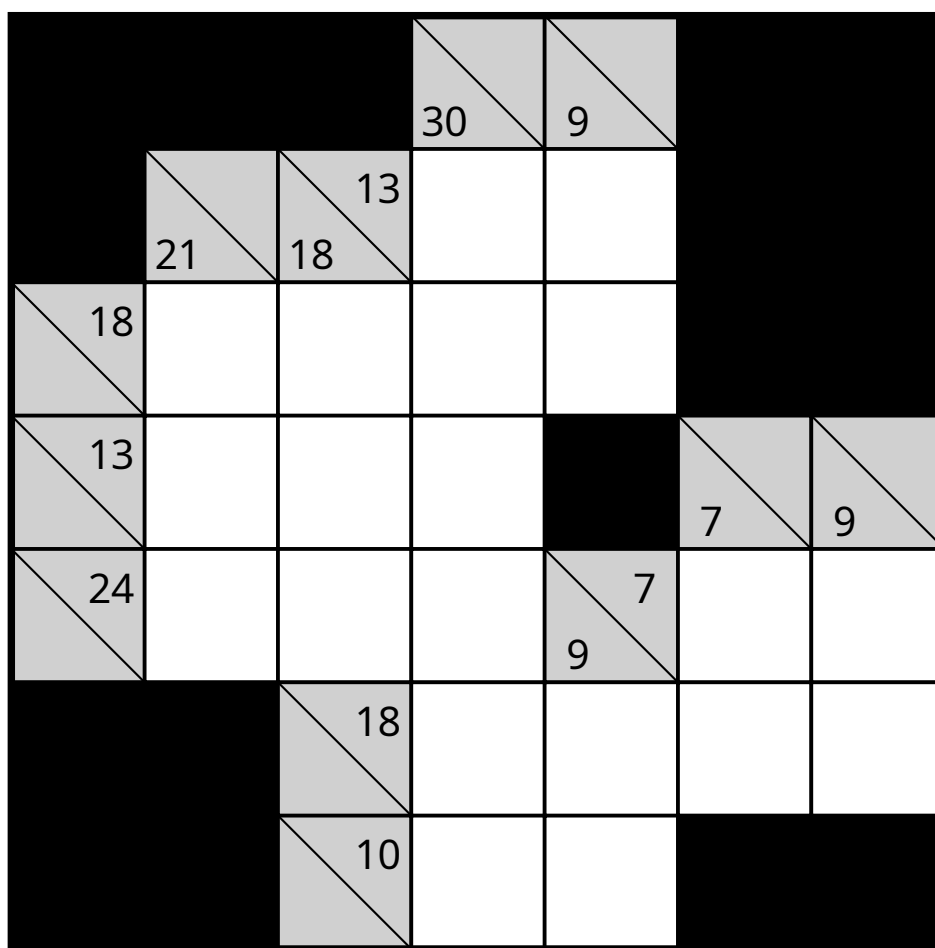
Beginner – Puzzle 44 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



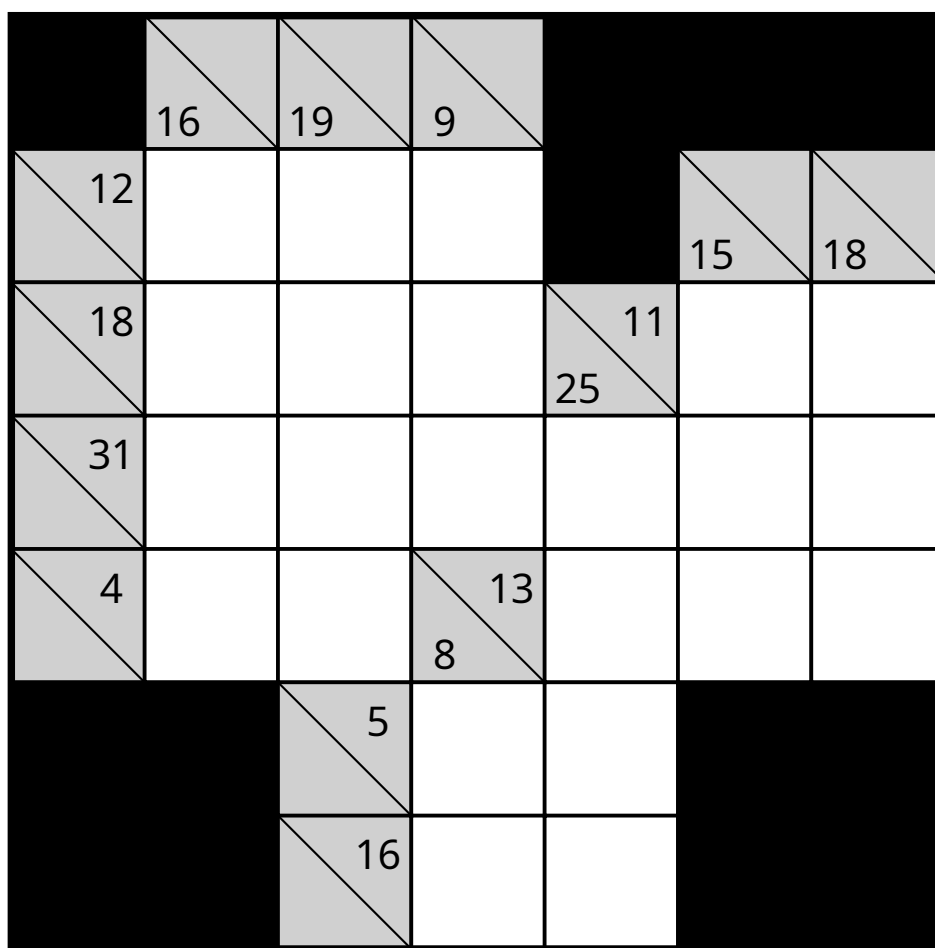
Beginner – Puzzle 45 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



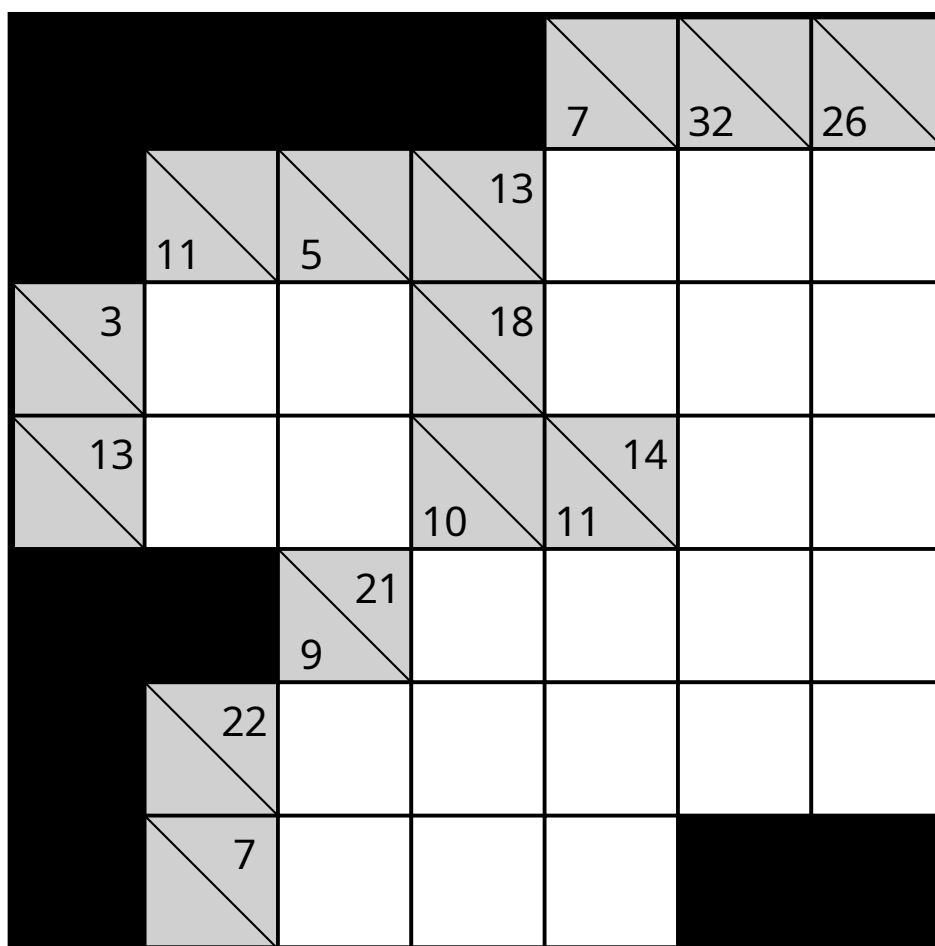
Beginner – Puzzle 46 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



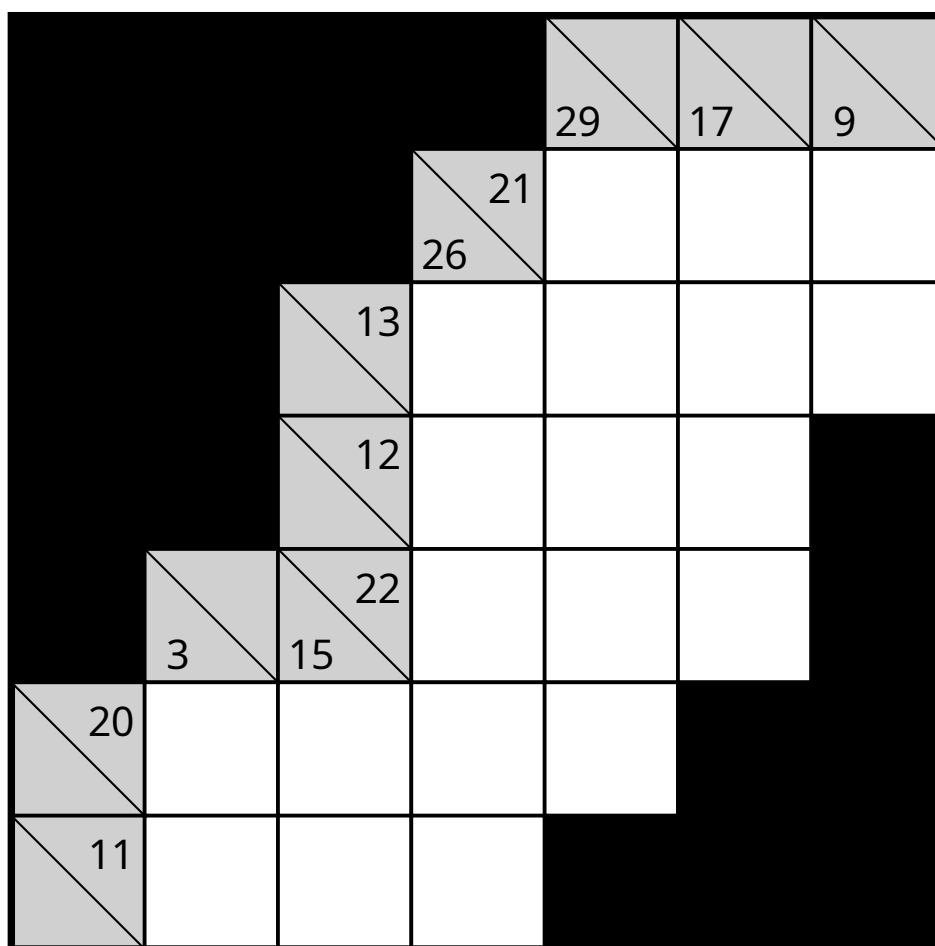
Beginner – Puzzle 47 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 48 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 49 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	18	12	27		14	12
15				6		
7				13		
29				18		
	7	9			9	11
30						
33						

Beginner – Puzzle 50 – 7×7

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	29	29	26		23	28
6				13		
17				11		
				22		
30						
32						
24						
24						

Chapter 6: Beginner Mastery

8x8 Grids - The Final Test

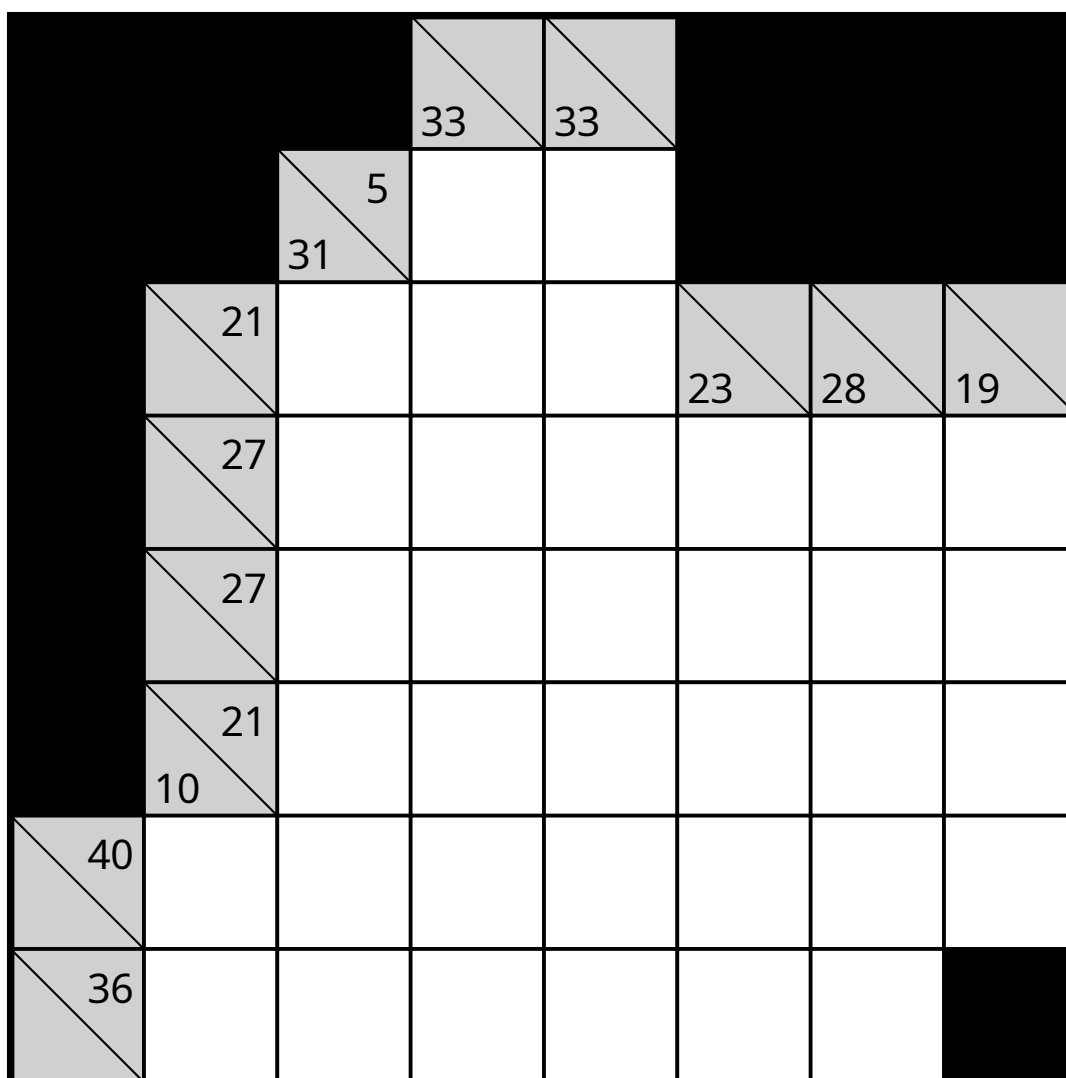
You are now ready for the largest grids in the beginner level. These 8x8 puzzles bridge the gap between beginner and intermediate difficulty.

Goal:

- Mastering the basic patterns.
- Solving without guessing.
- Preparing for the larger 9x9 grids in the next section.

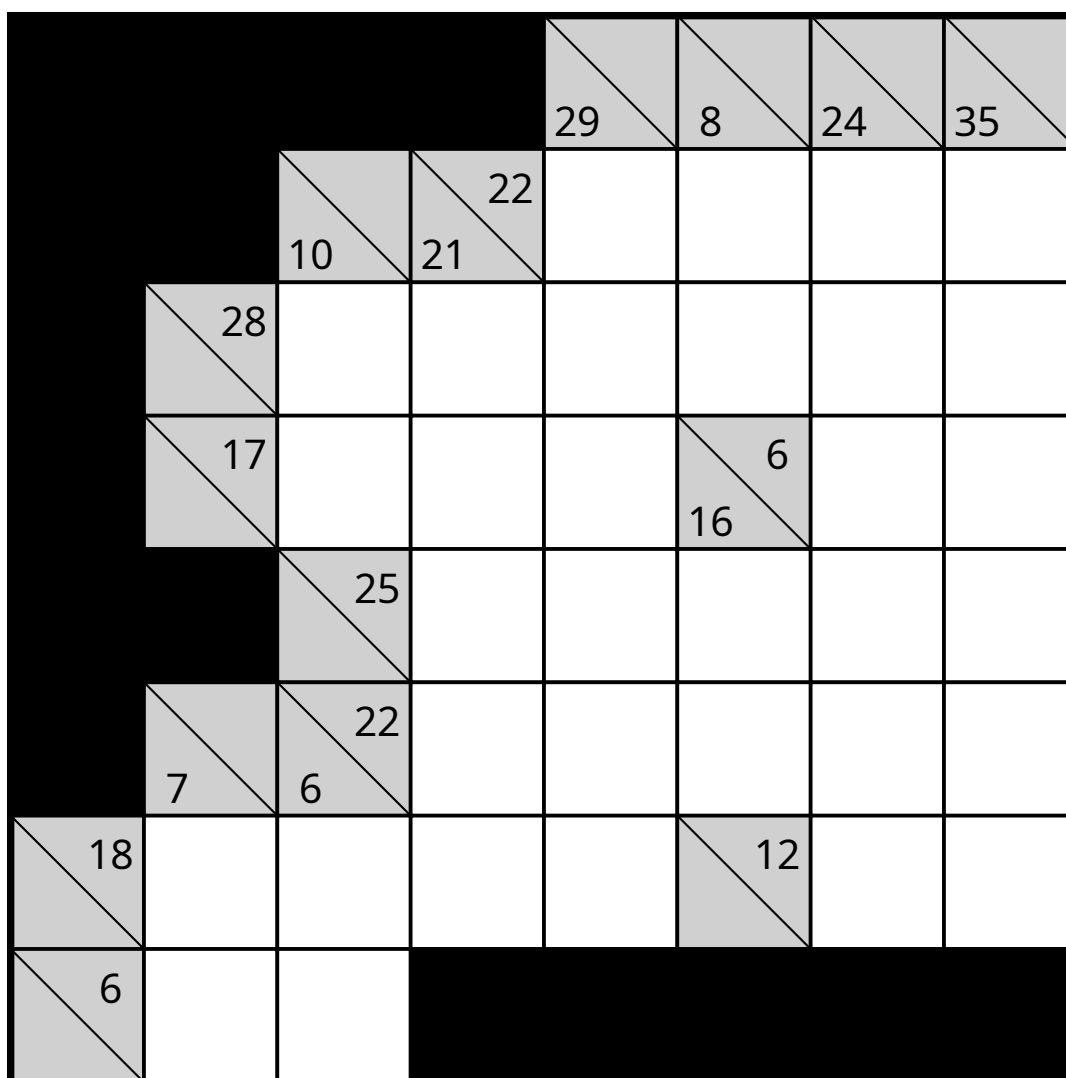
Beginner – Puzzle 51 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 52 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



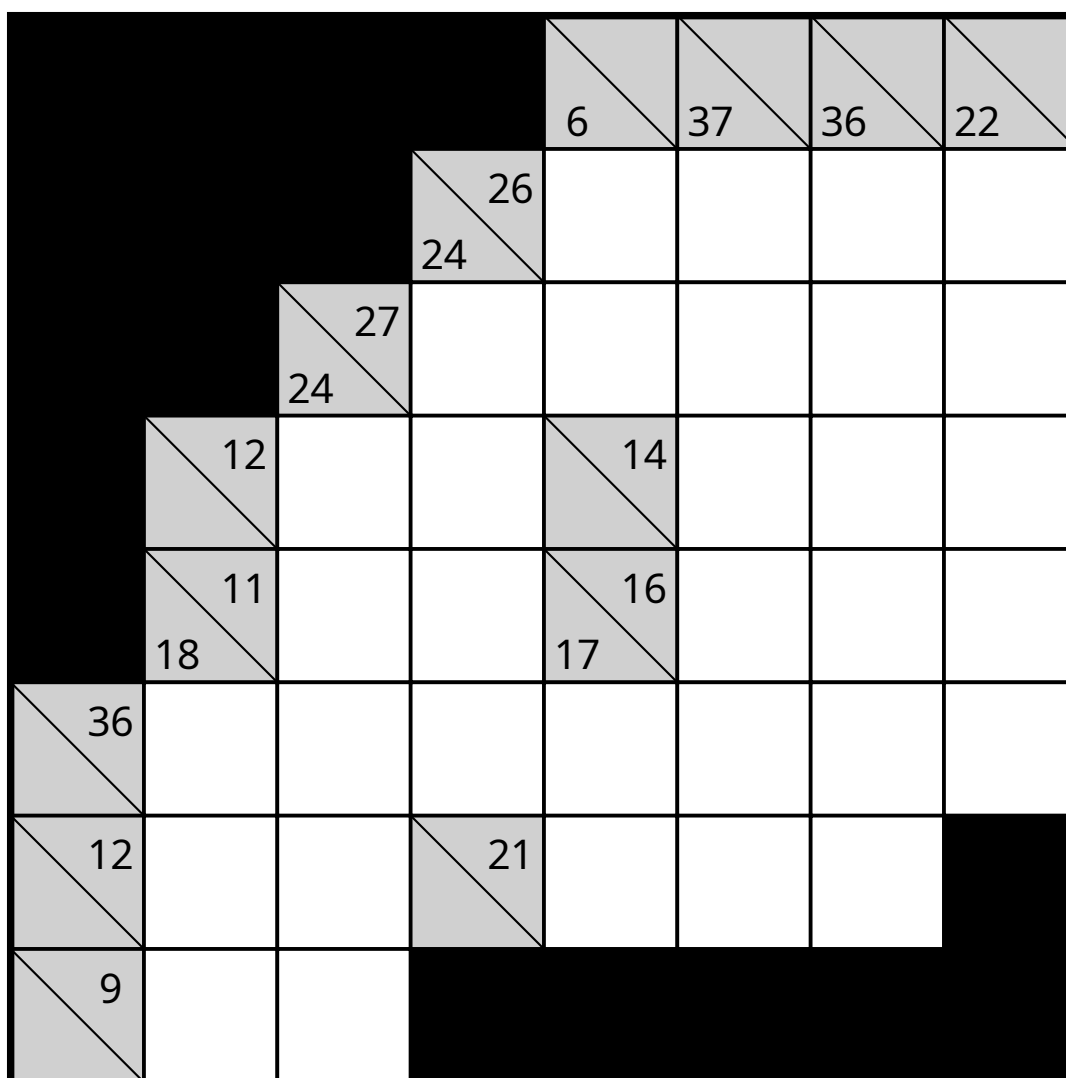
Beginner – Puzzle 53 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

						10	13
	9	32	22	16	13		
21					10		
					19		
29						15	26
	29						
	12						
15				12			
				3			
7			17				
13			11				

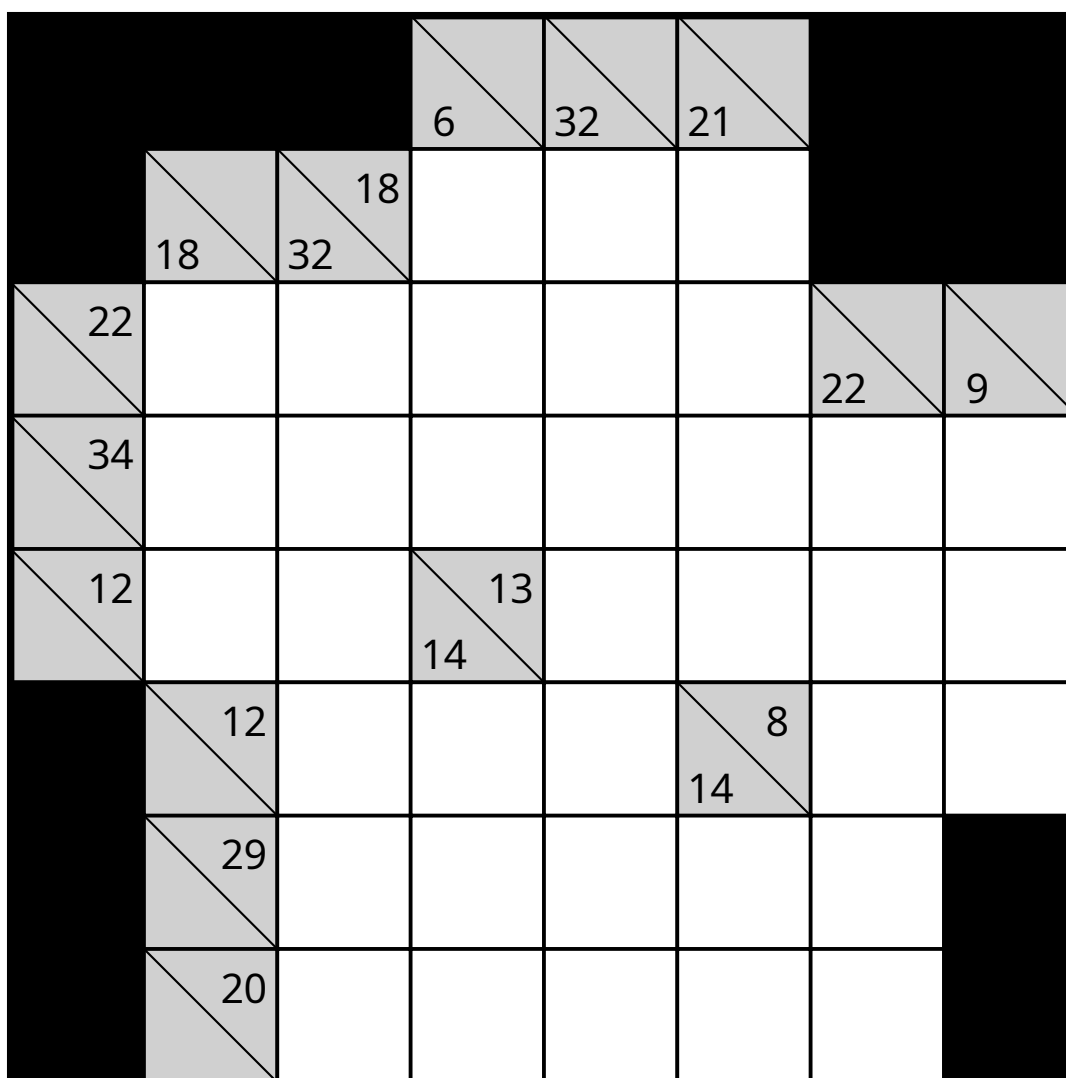
Beginner – Puzzle 54 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



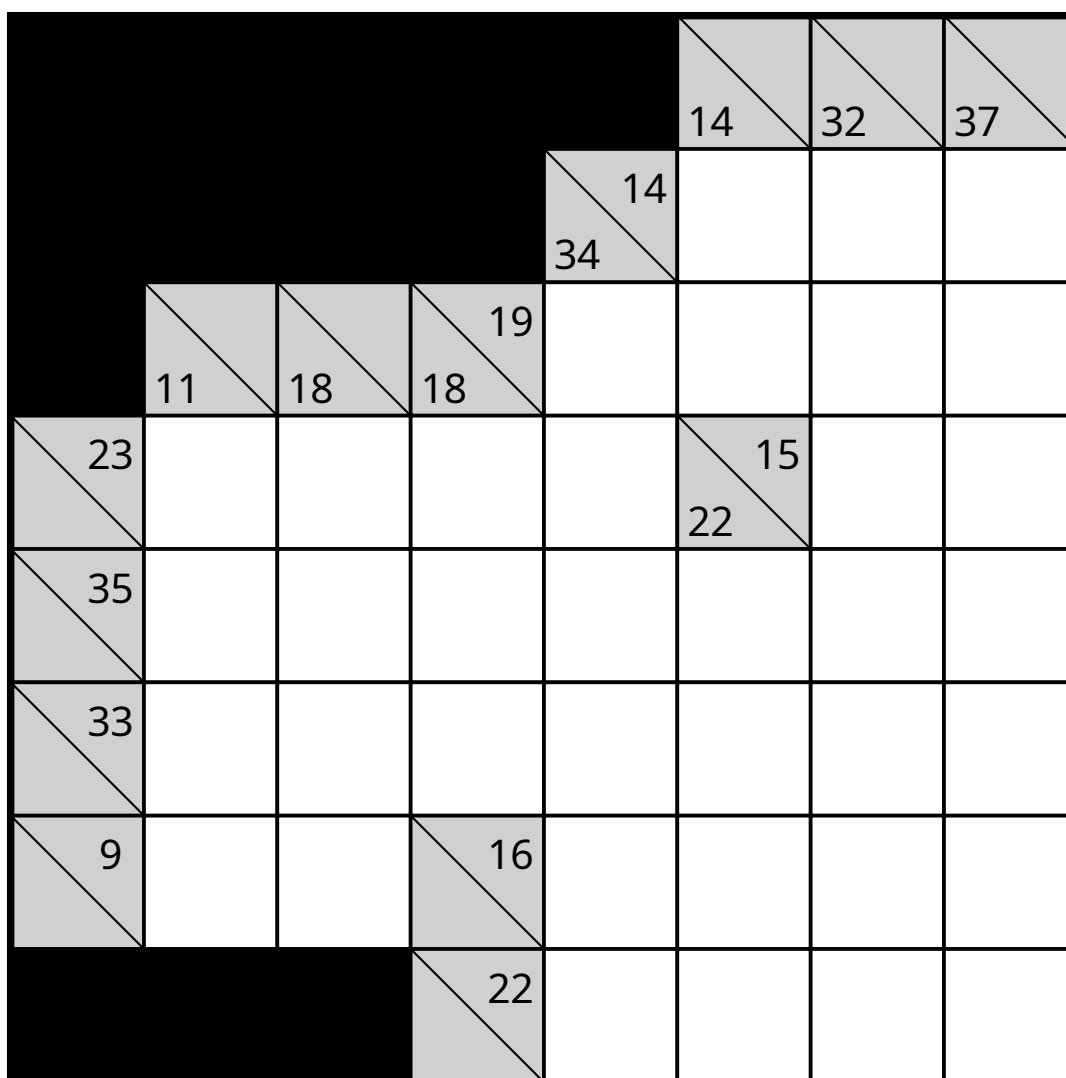
Beginner – Puzzle 55 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 56 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 57 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	24	18	16	27		18	19
27					11		
					21		
31							
36							
	11	14	18				
3			7				
			9			12	10
34							
19				13			

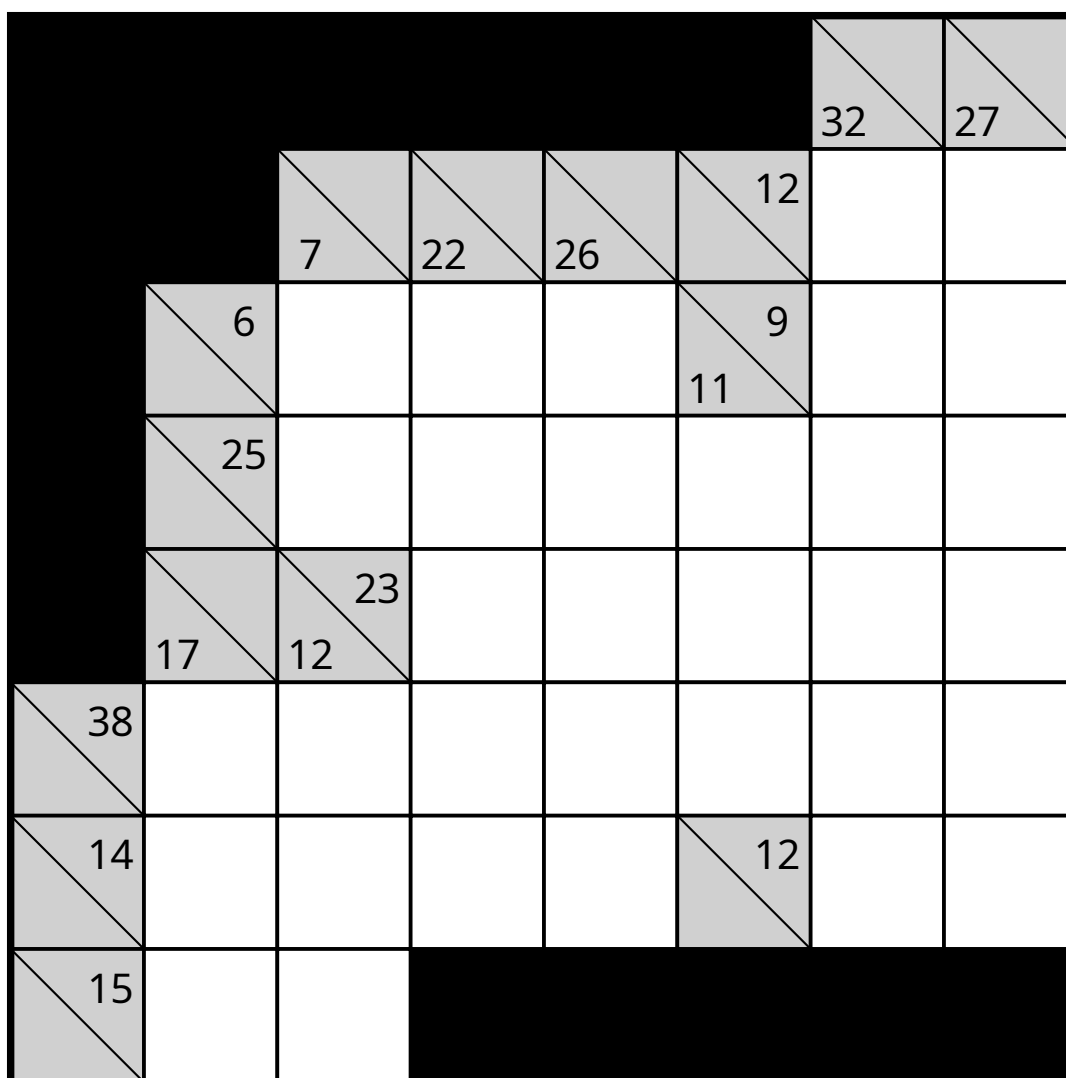
Beginner – Puzzle 58 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	9	13	36				
14							
18							
	3			17	14	17	21
		25					
		10					
	34						
	13						
31							
12			13				

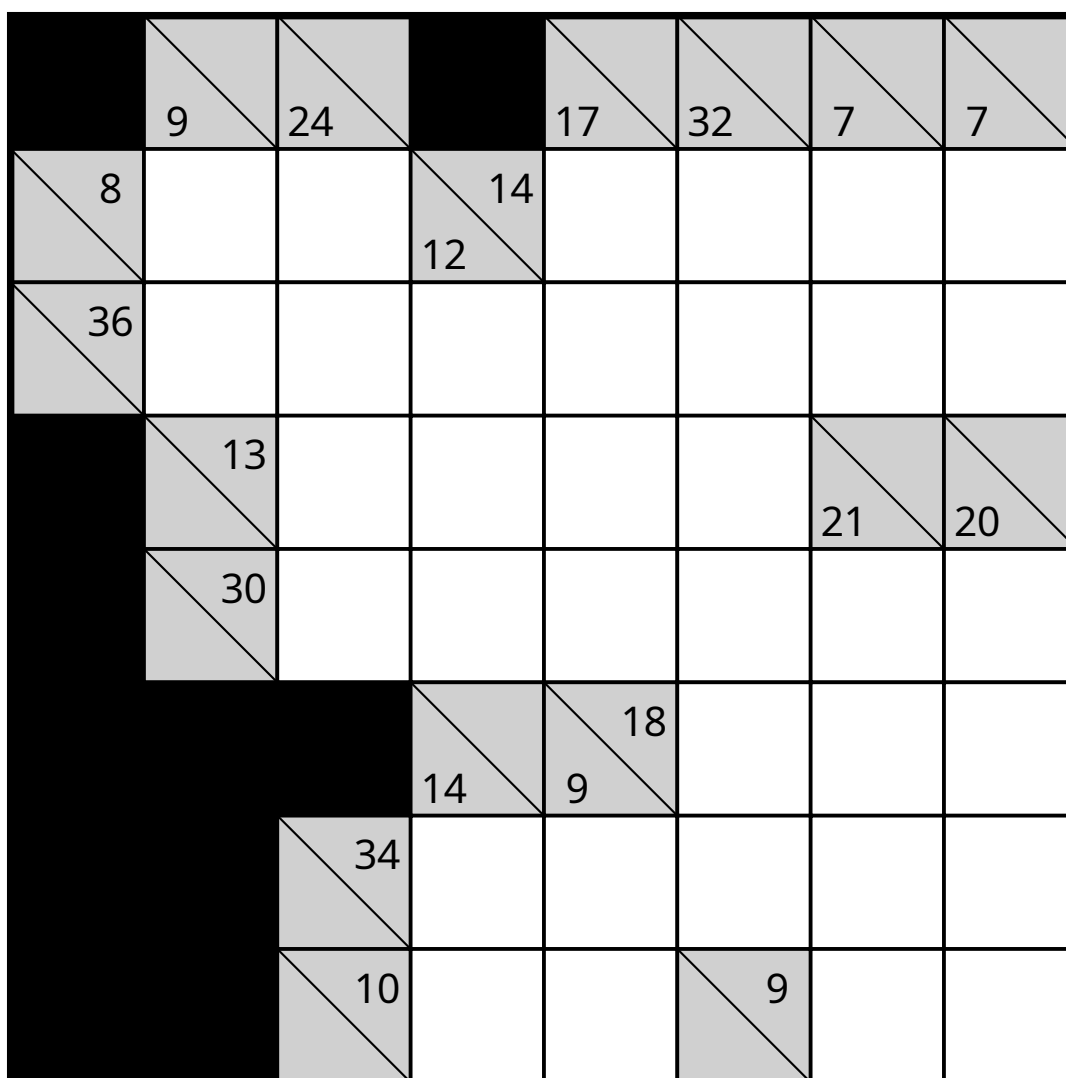
Beginner – Puzzle 59 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



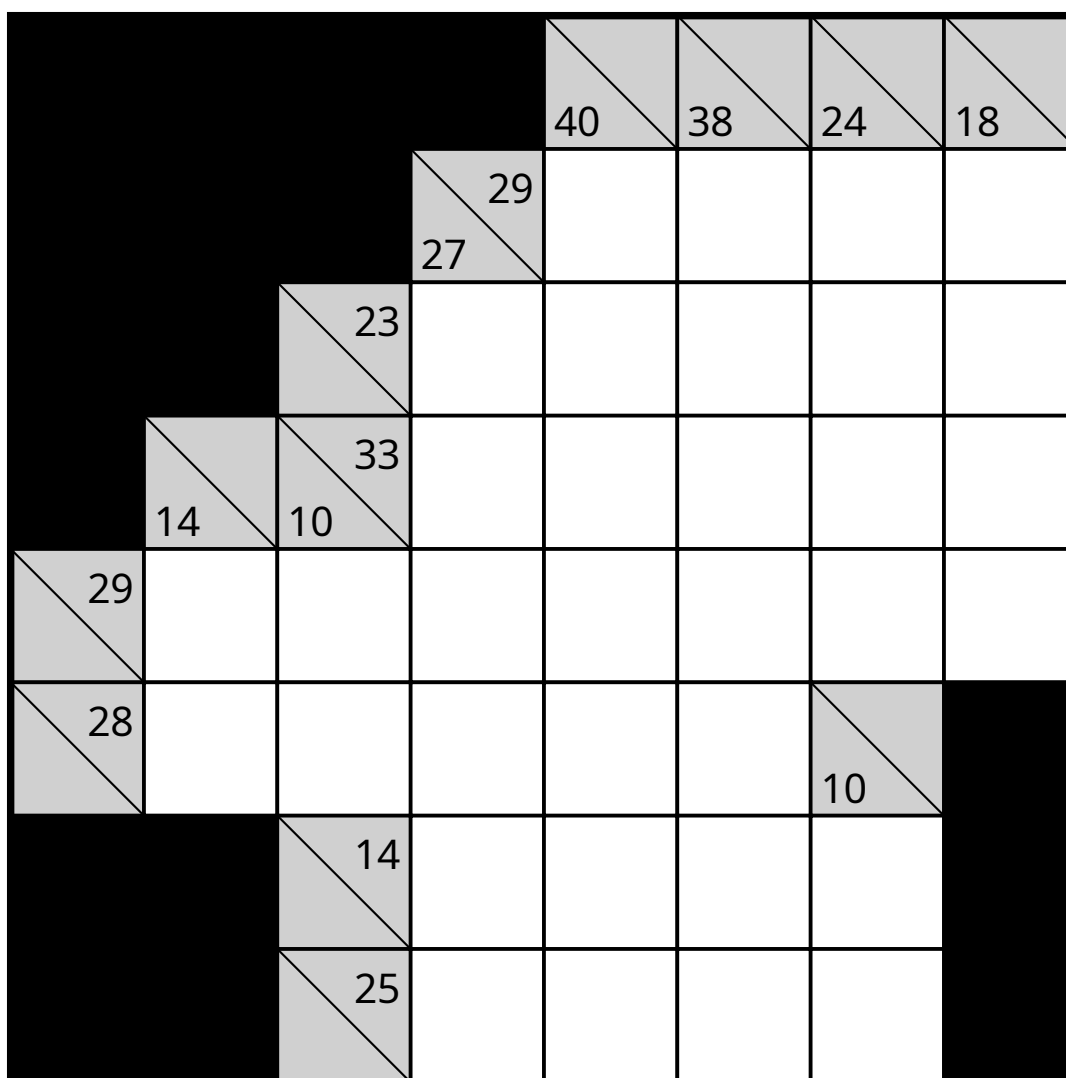
Beginner – Puzzle 60 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



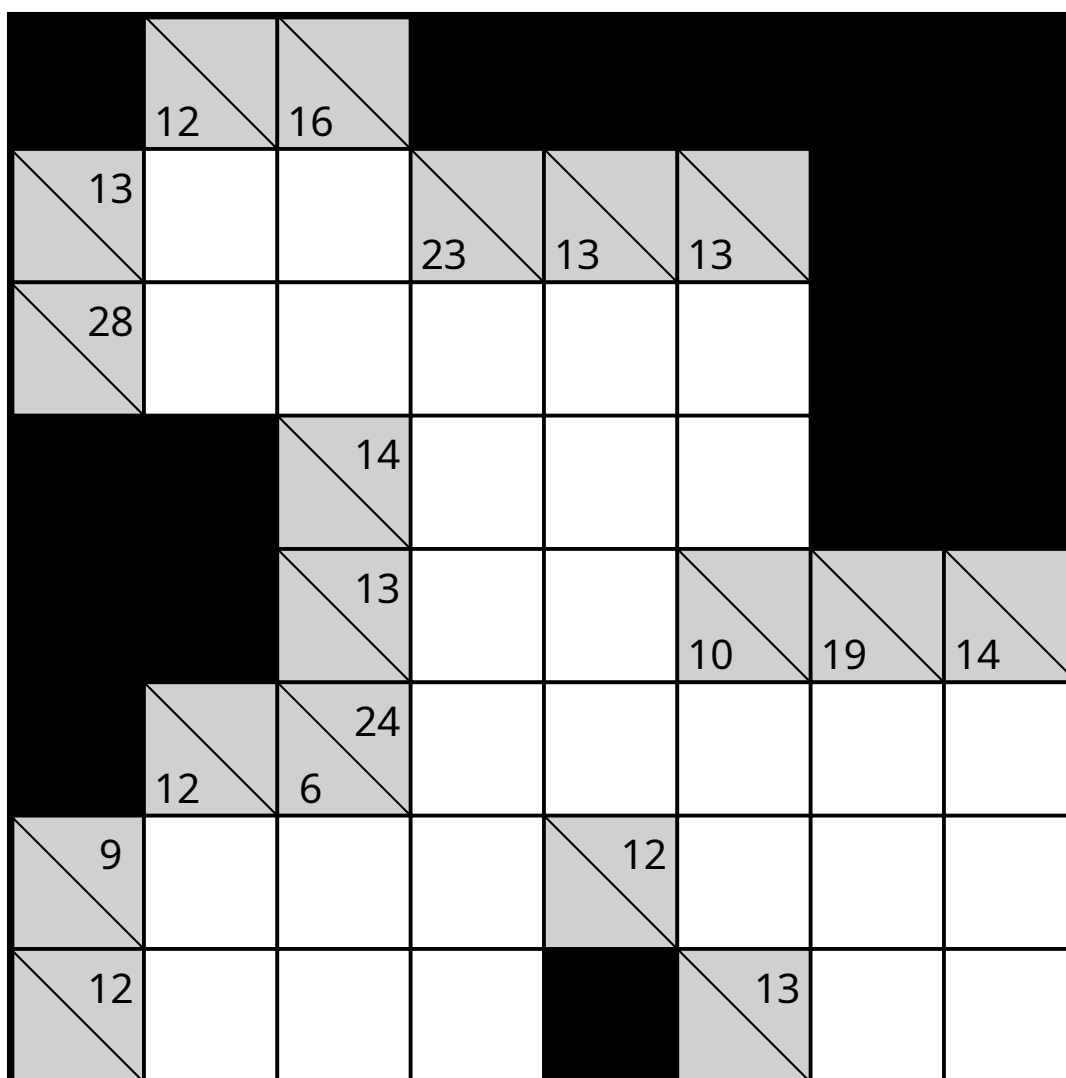
Beginner – Puzzle 61 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



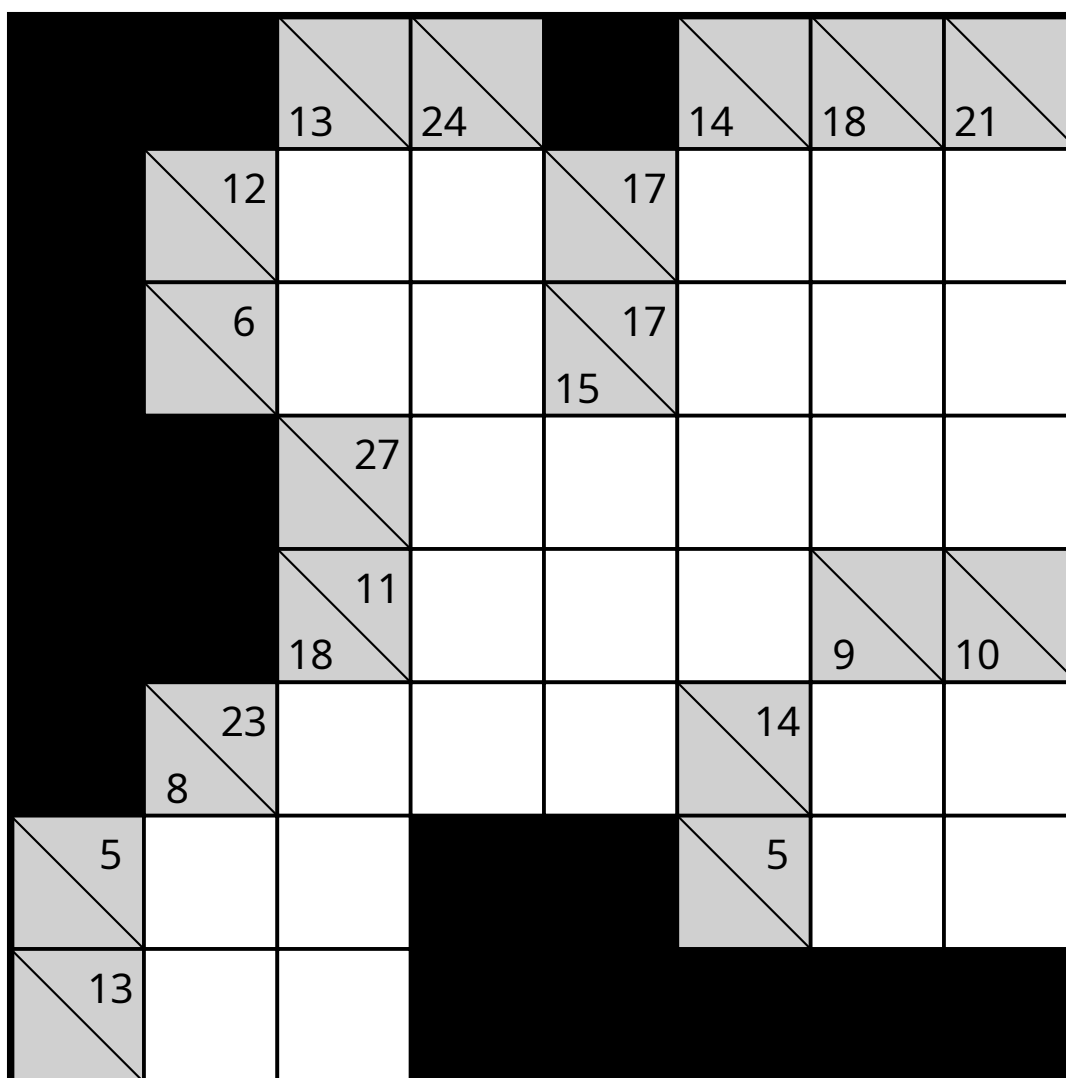
Beginner – Puzzle 62 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



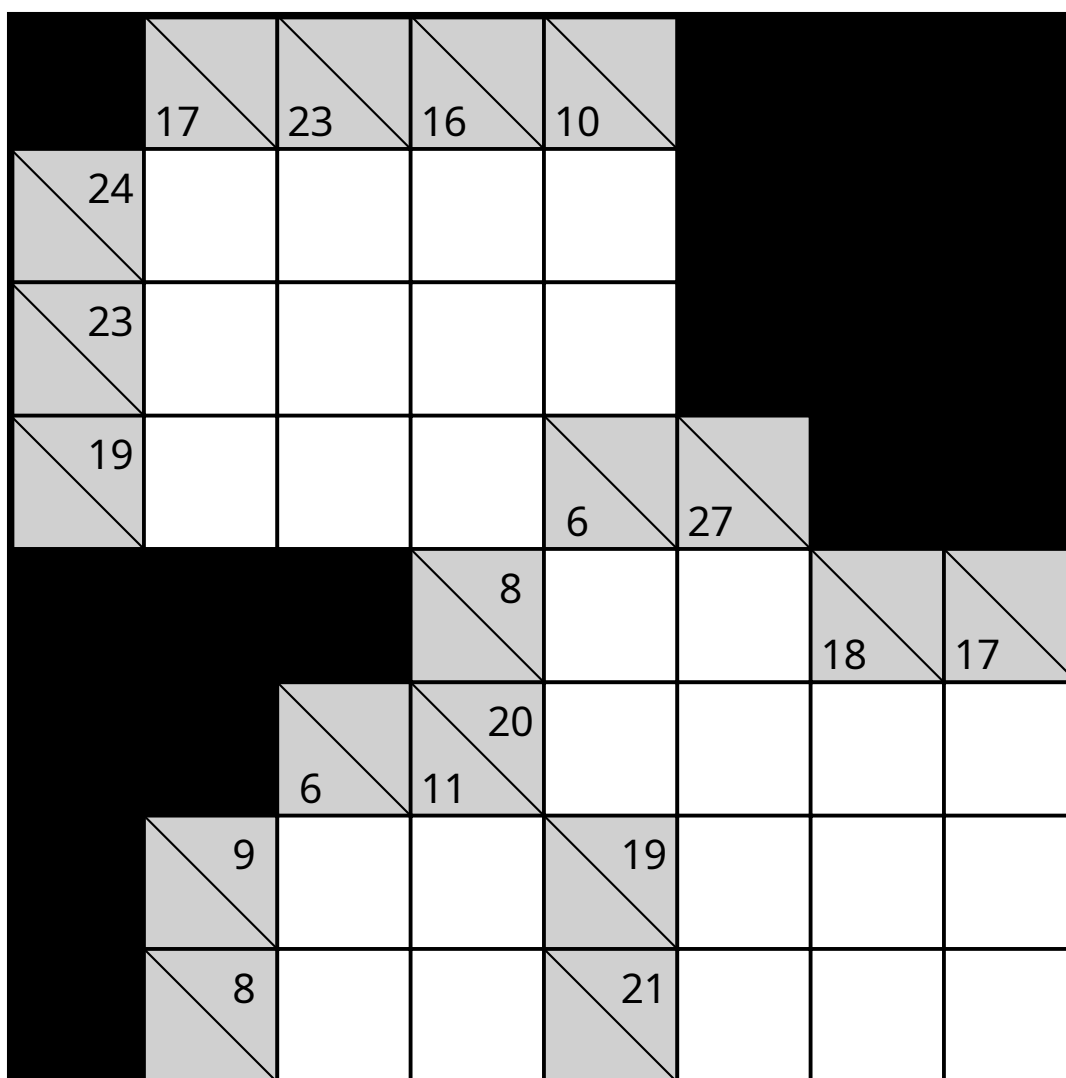
Beginner – Puzzle 63 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



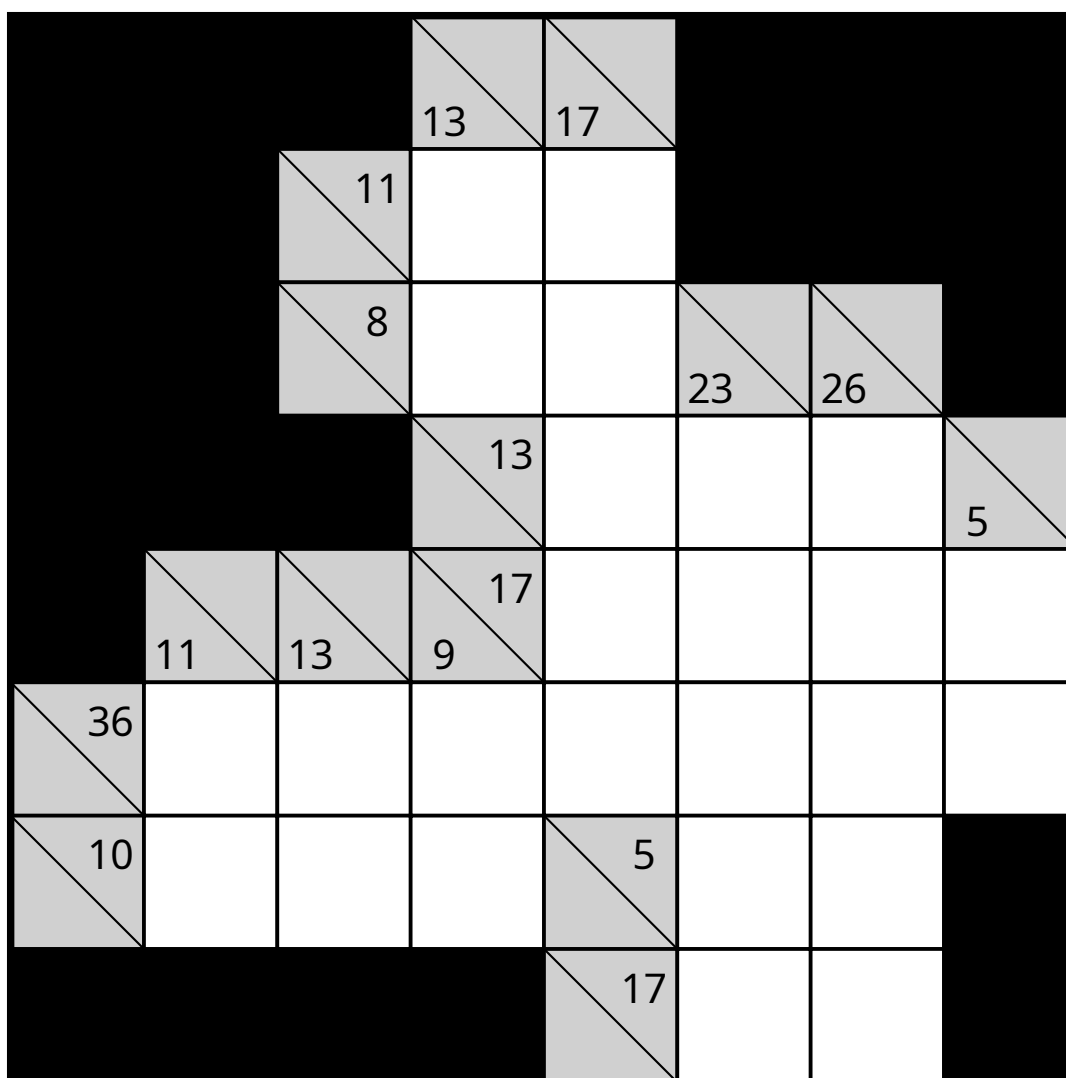
Beginner – Puzzle 64 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



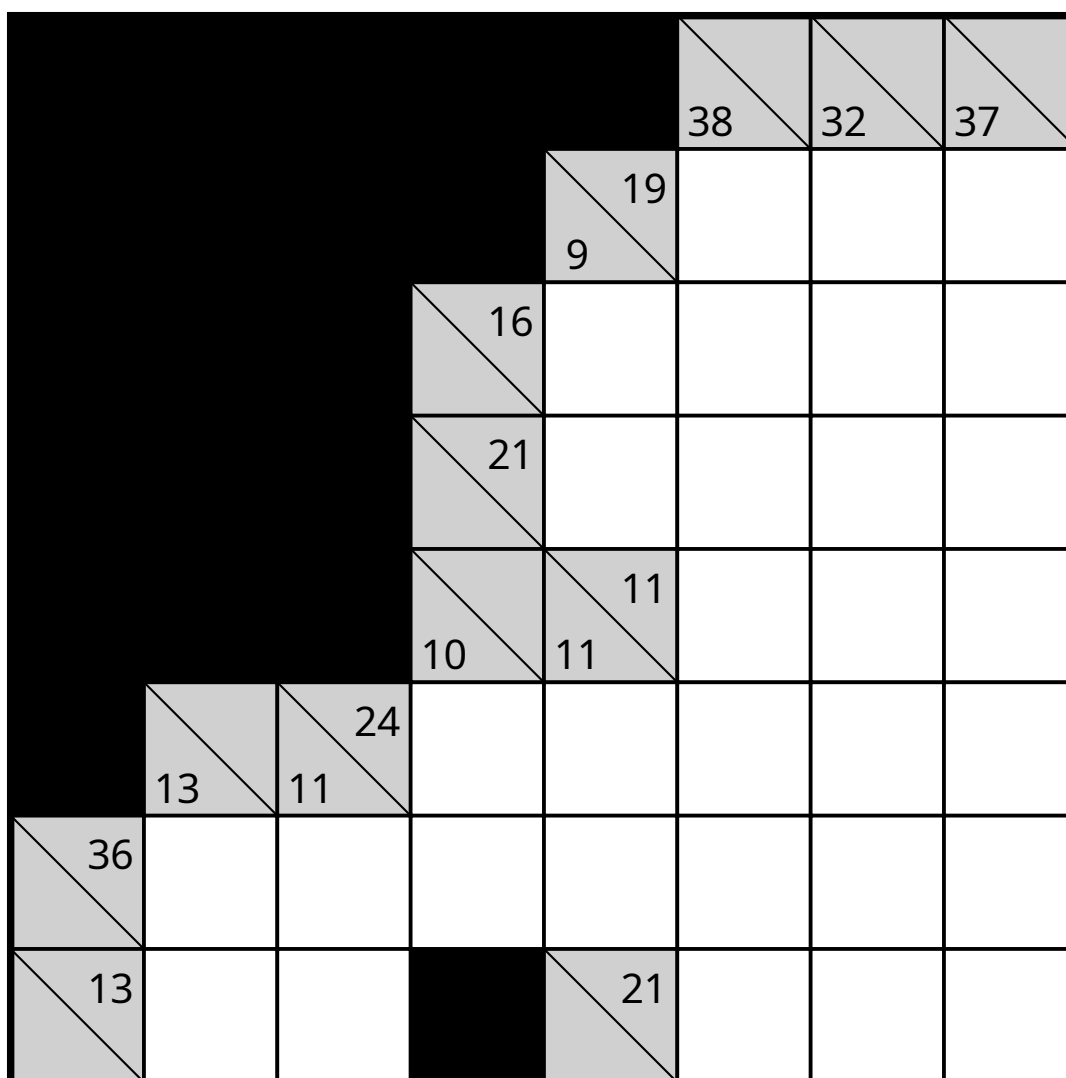
Beginner – Puzzle 65 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



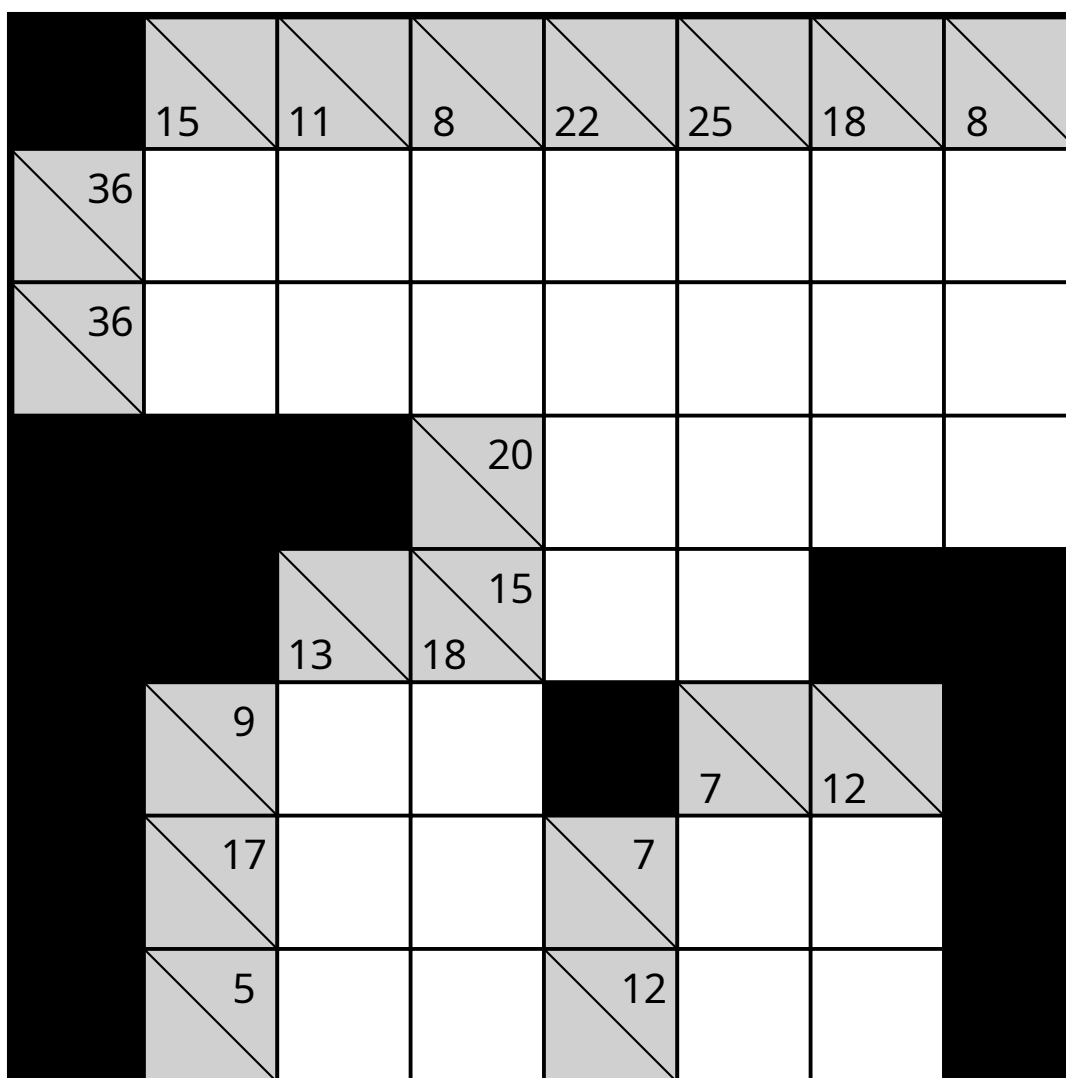
Beginner – Puzzle 66 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



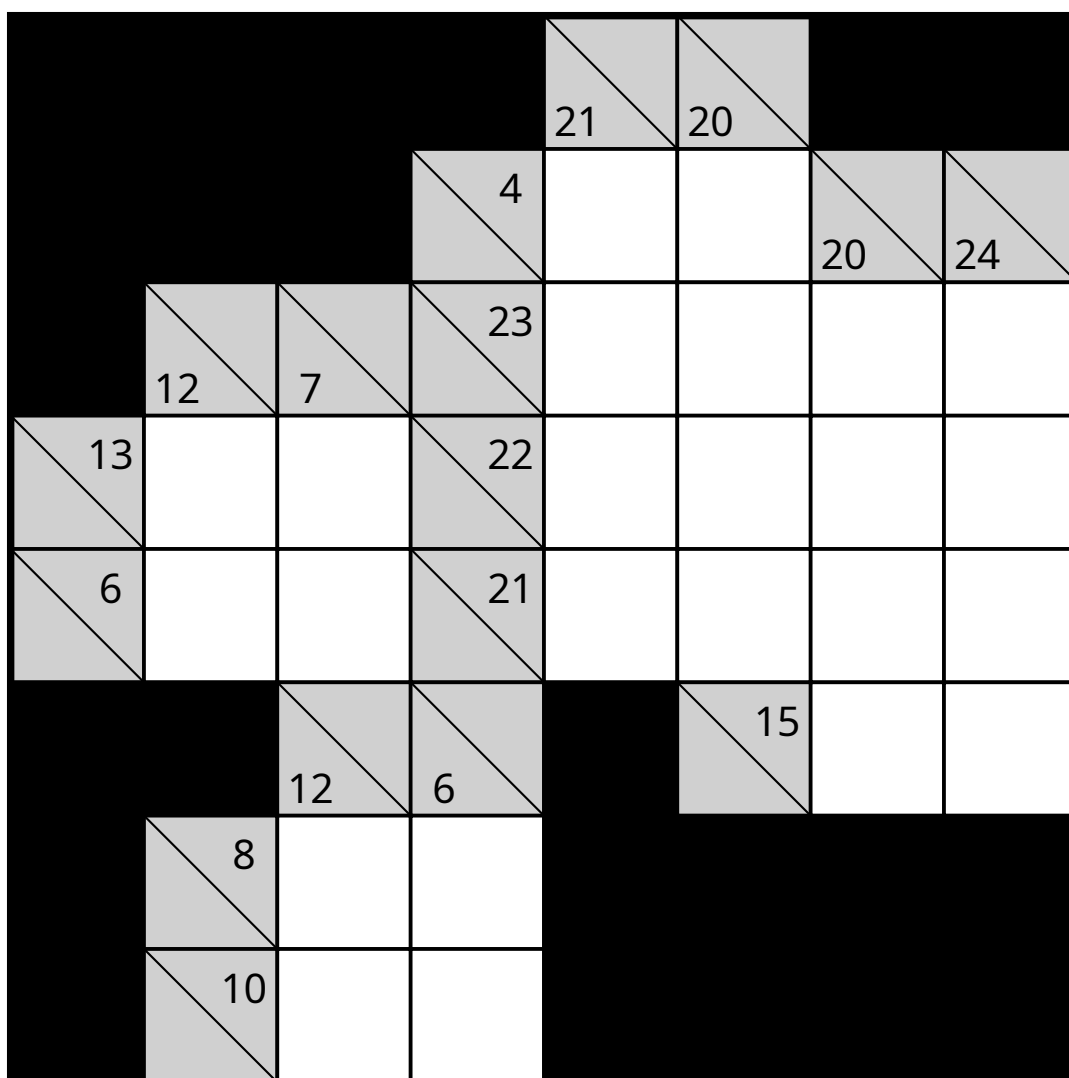
Beginner – Puzzle 67 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



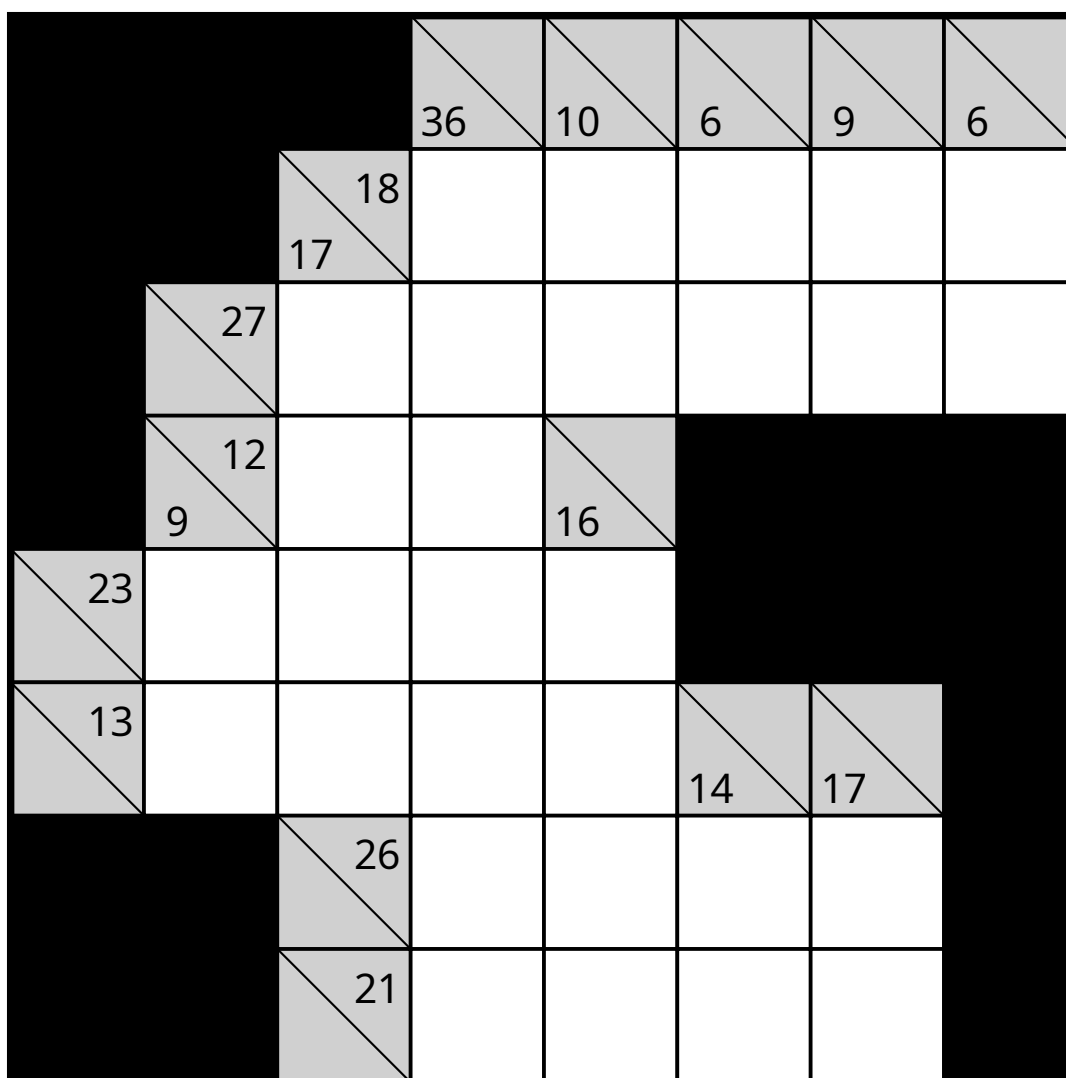
Beginner – Puzzle 68 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



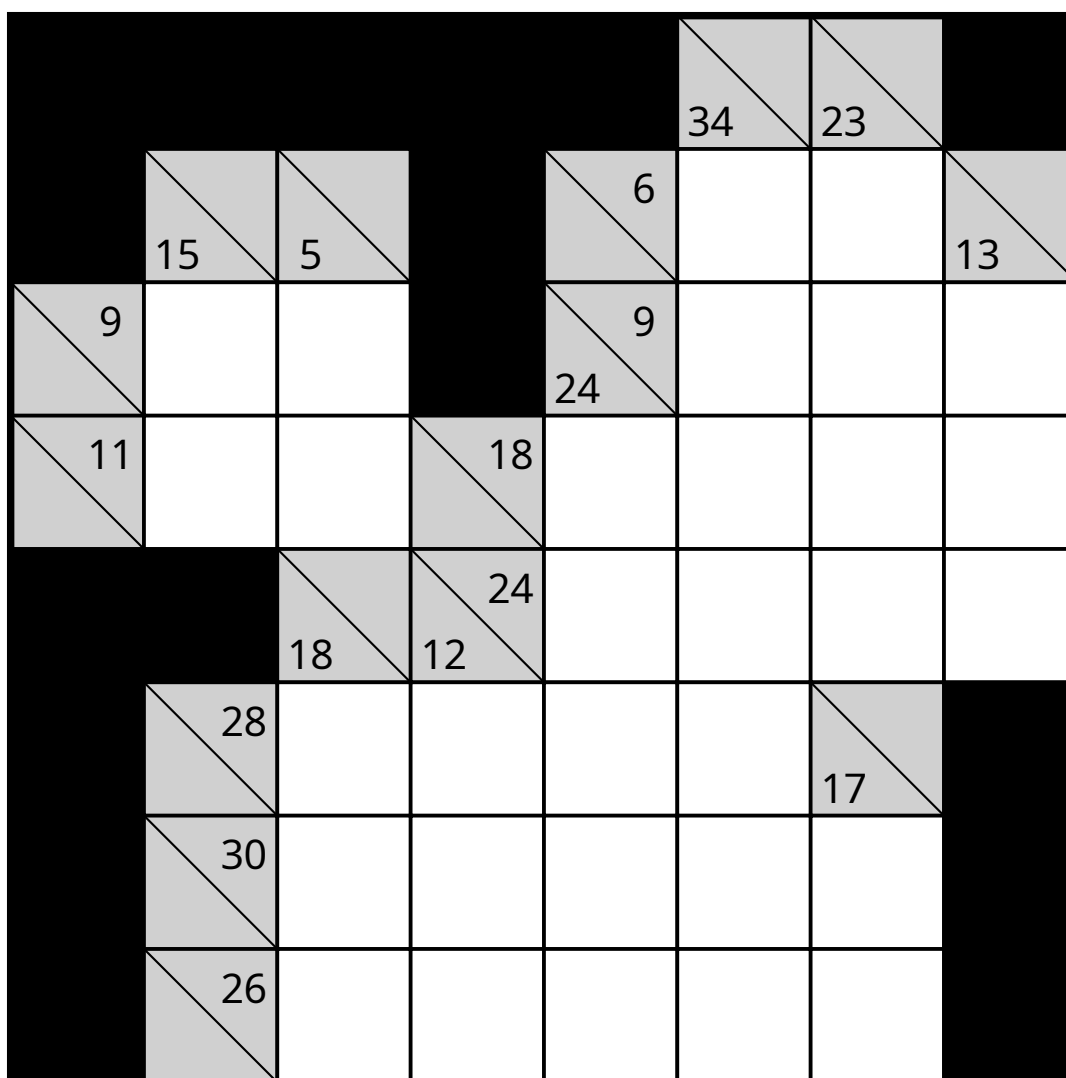
Beginner – Puzzle 69 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



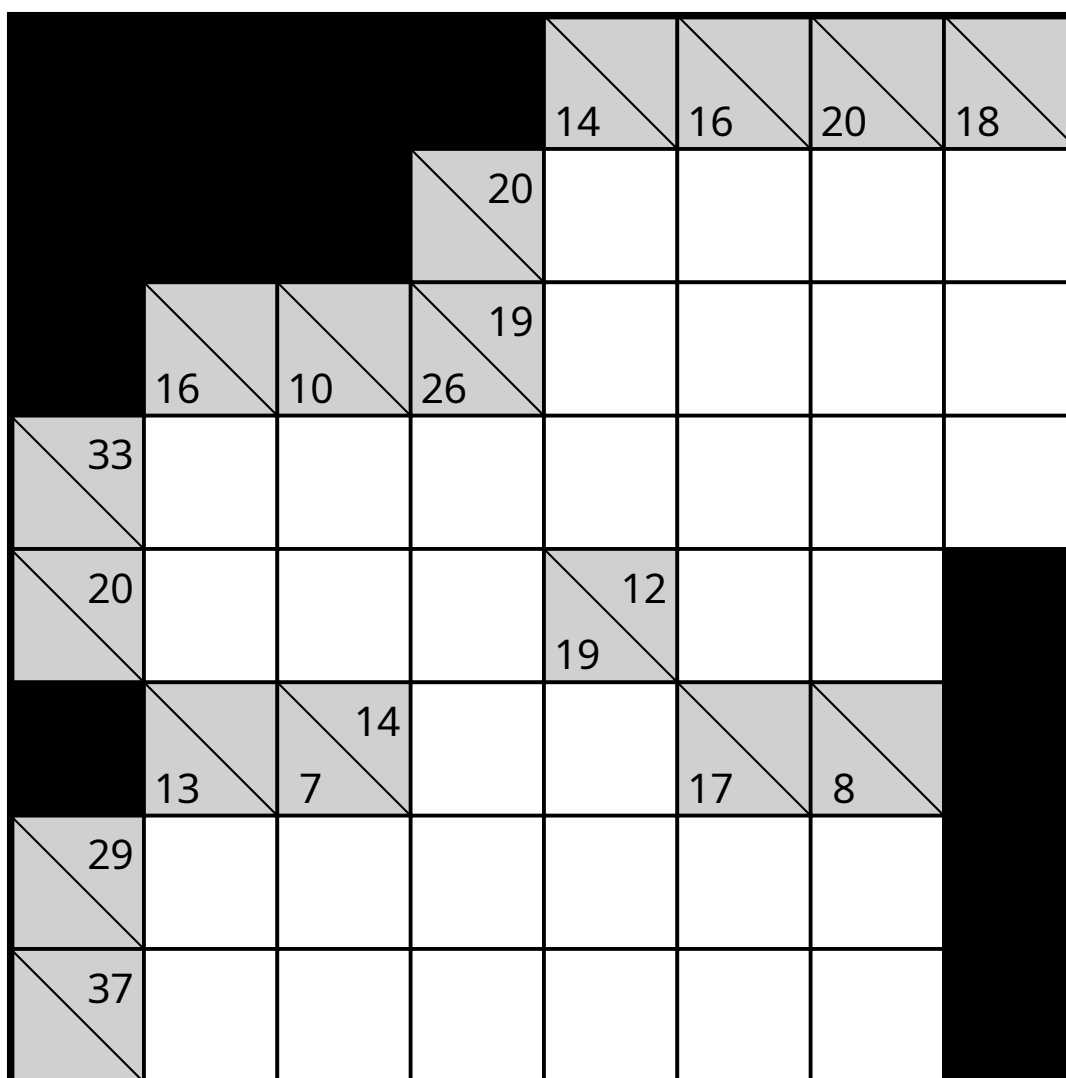
Beginner – Puzzle 70 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



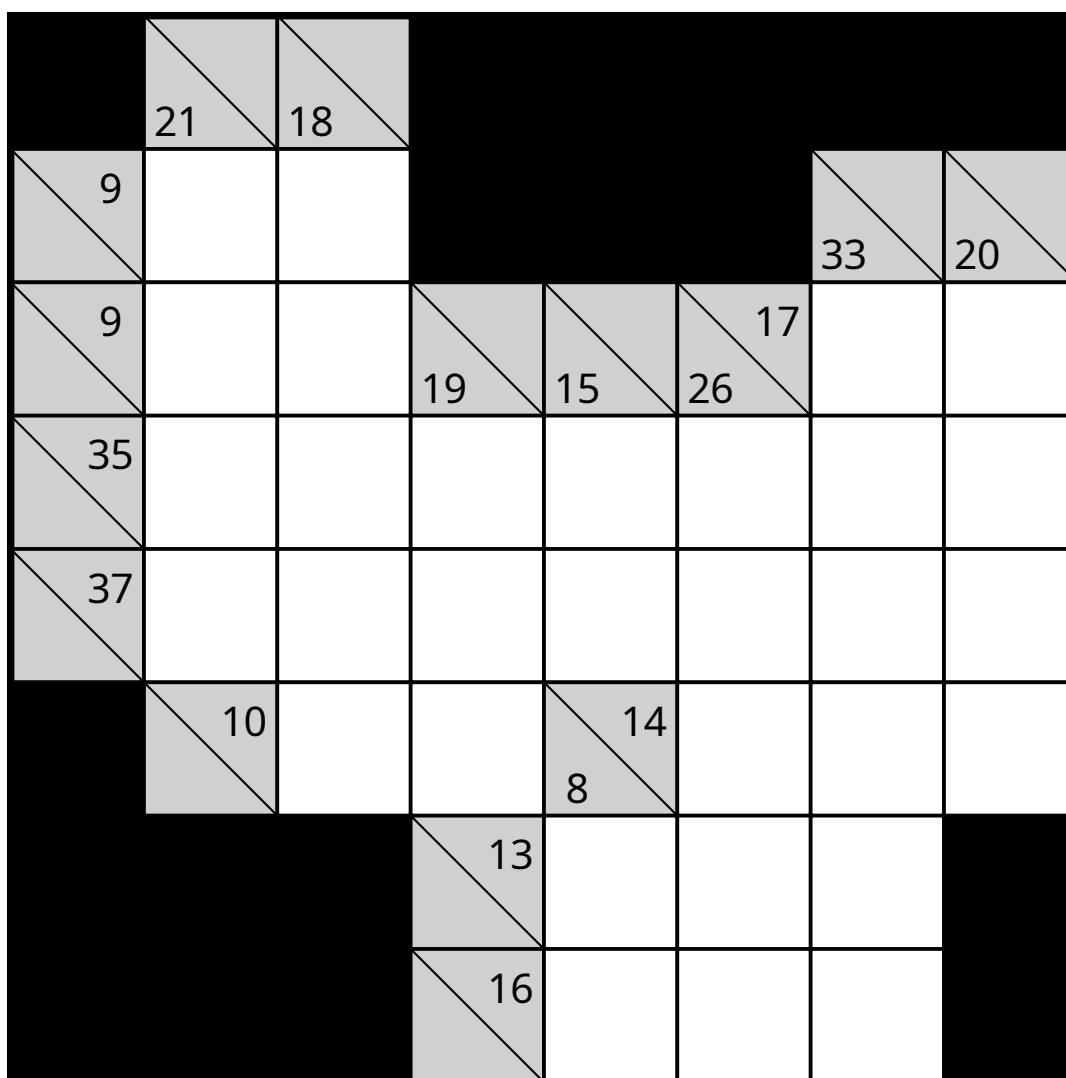
Beginner – Puzzle 71 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 72 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Beginner – Puzzle 73 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

			36	36	20	32	13
			22				
			27				
			21				
			23				18
		35					
		27					
		7					
20					5		
21					7		

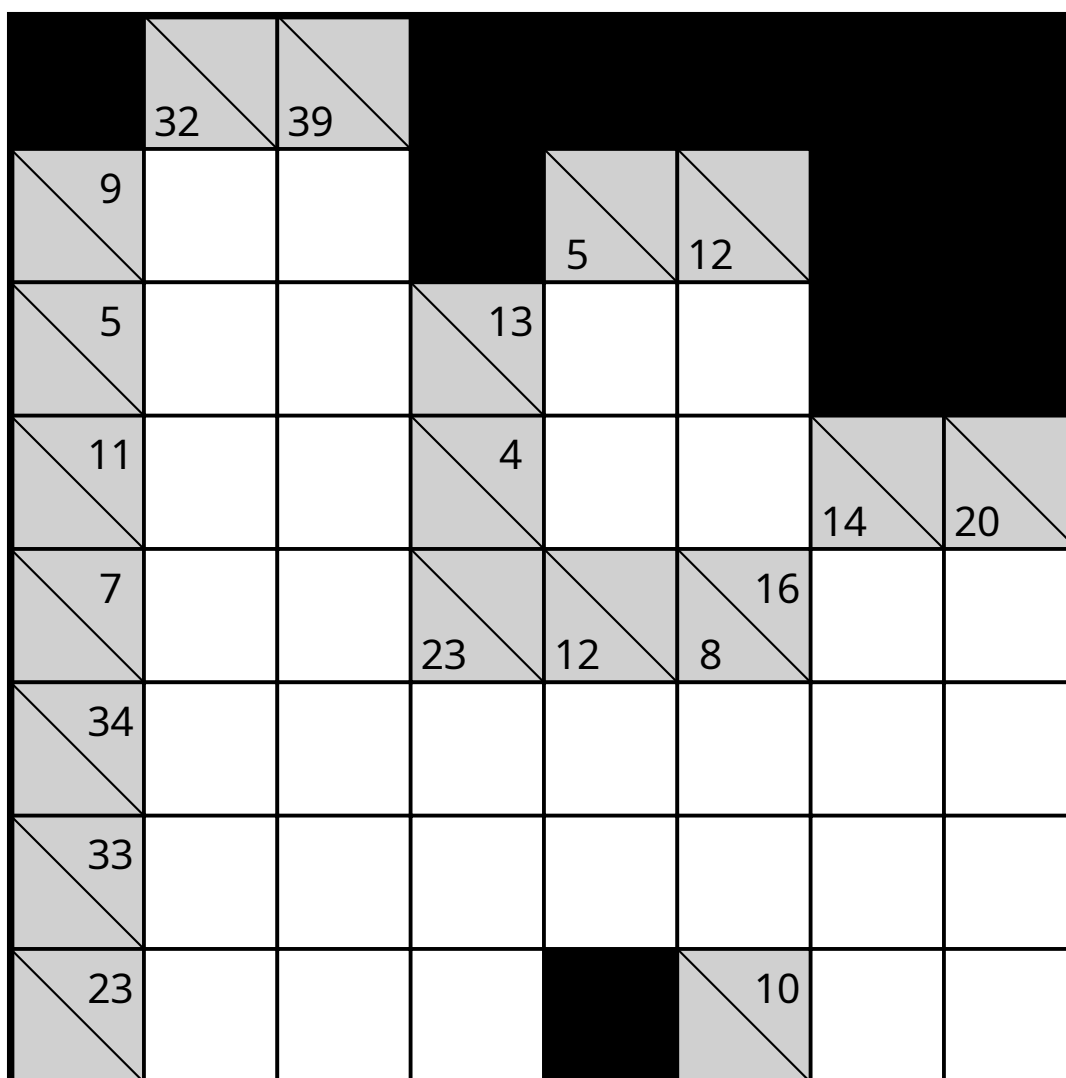
Beginner – Puzzle 74 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	15	21		28	41	30	13
10			24				
4			26				
31			10				21
	39						
		4	18				
	10		17	9			
	11		18				

Beginner – Puzzle 75 – 8×8

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Progress Tracker

Track Your Journey to Mastery

Use this page to log your progress through the Beginner Level.

Puzzle #	Date	Time	Difficulty	Notes
1				
5				
10				
20				
25				
30				
40				
50				
60				
70				

Personal Best:

6x6 Grid: _____

7x7 Grid: _____

8x8 Grid: _____

Beginner Tips & Tricks

Mastering the Basics

Congratulations on completing the Beginner Level! Before moving on to the larger grids, review these key strategies.

1. The Power of "16" and "17" with 2 Cells

- **17 in 2 cells** is always **8+9**.
- **16 in 2 cells** is always **7+9**.
- Why this matters: These are high-value restrictive combinations that often anchor a corner.

2. Corner Logic

When a row and column meet at a corner, valid digits are limited.

- Example: A "4" row meets a "3" column. The intersection cell **MUST** be 1, 2, or 3. But since the row sum is 4 (1+3), and column is 3 (1+2), the common cell is highly constrained.

3. Don't Guess!

If you find yourself guessing, stop. Look for:

1. **Unique sums** available elsewhere.
2. **Cross-checking** vertical vs horizontal possibilities.
3. **Exclusions**: "This cell cannot be 5 because the row already has a 5."

Part 3: Intermediate Level

Chapter 7: Stepping Up

9x9 Grids - Intermediate Challenges

Welcome to the Intermediate Level! You are now graduating to 9x9 grids.

What changes:

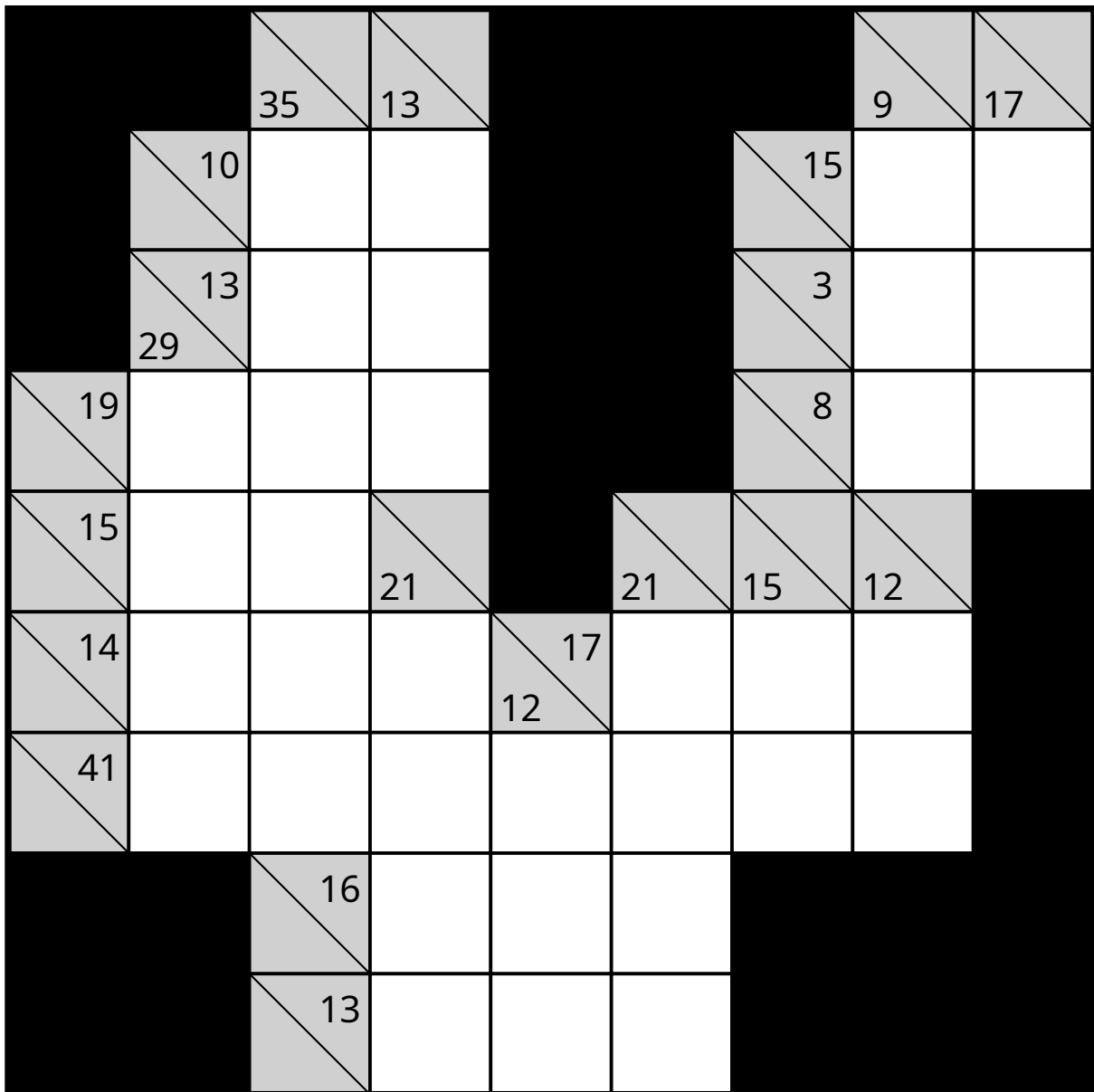
- **Grid Size:** 9x9 gives you 81 cells to consider, though many are black squares.
- **Complexity:** Minimum runs are longer. You will see more 4-cell and 5-cell sums.
- **Interconnectivity:** Sections of the puzzle are less isolated. A decision on the left side might ripple across to the right.

Focus:

- Look for "Bottlenecks" - cells that connect large areas.
- Memorize 3-cell unique sums (e.g., $6 = 1+2+3$, $24 = 7+8+9$).

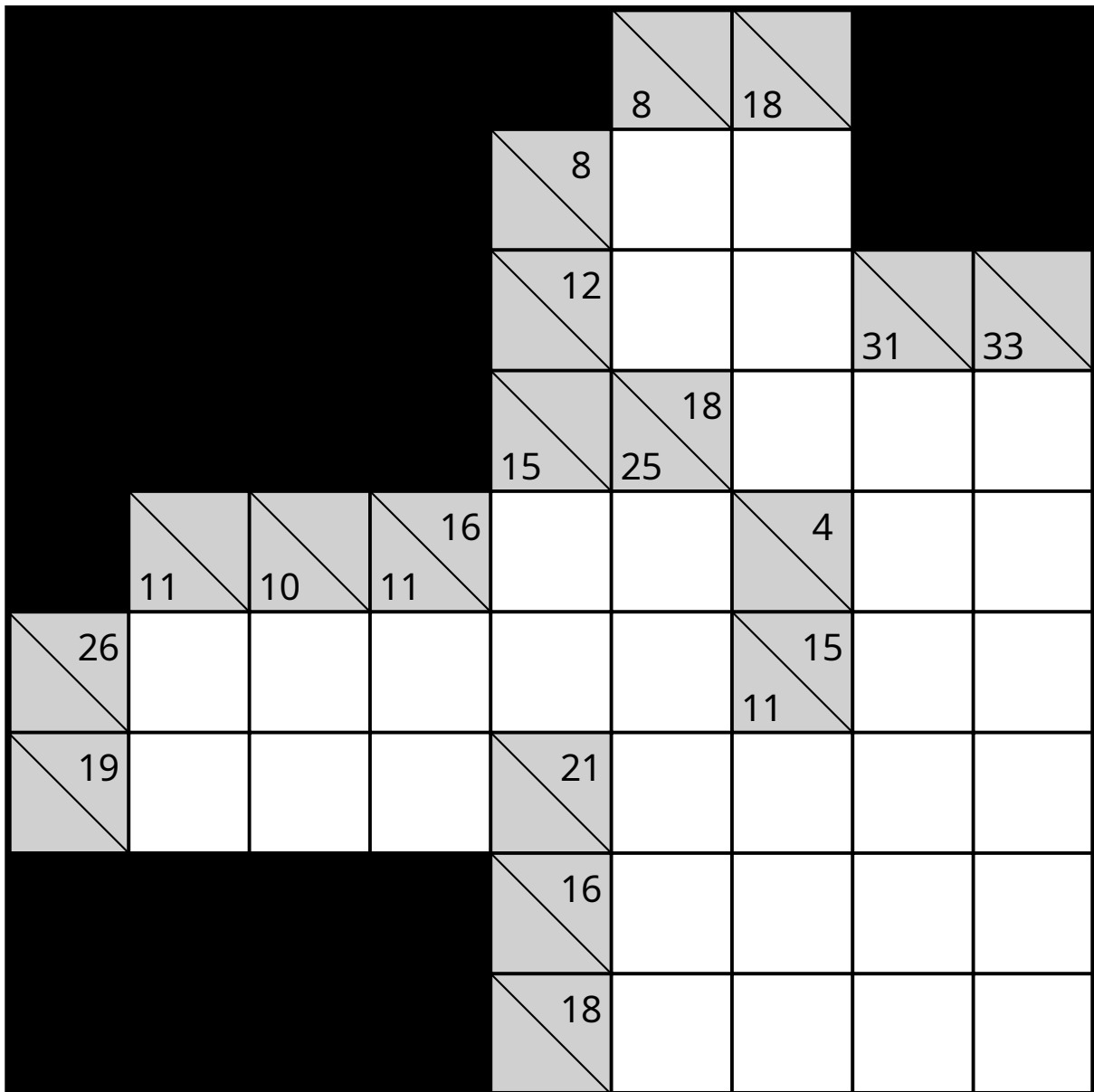
Intermediate – Puzzle 76 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



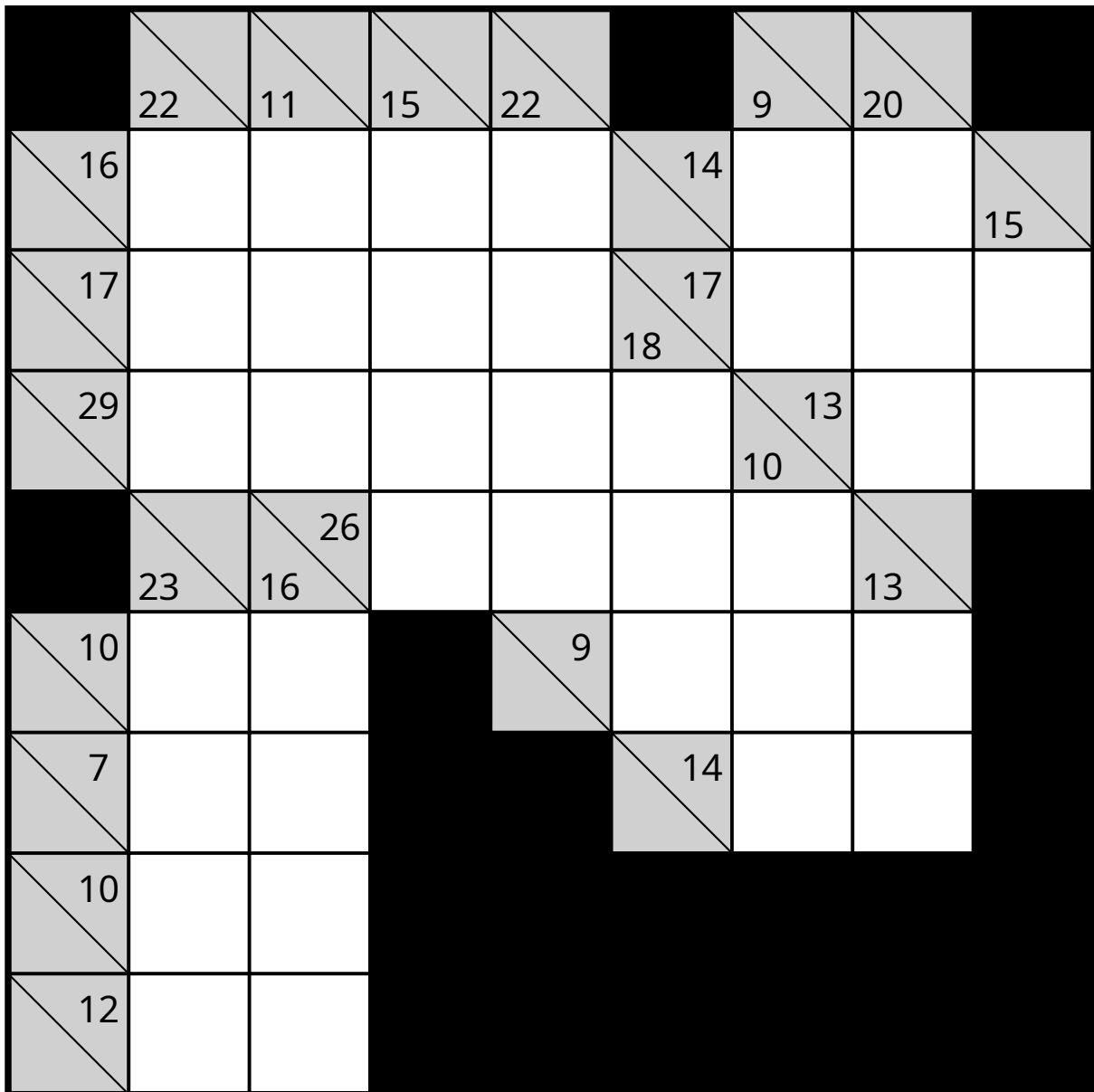
Intermediate – Puzzle 77 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate – Puzzle 78 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



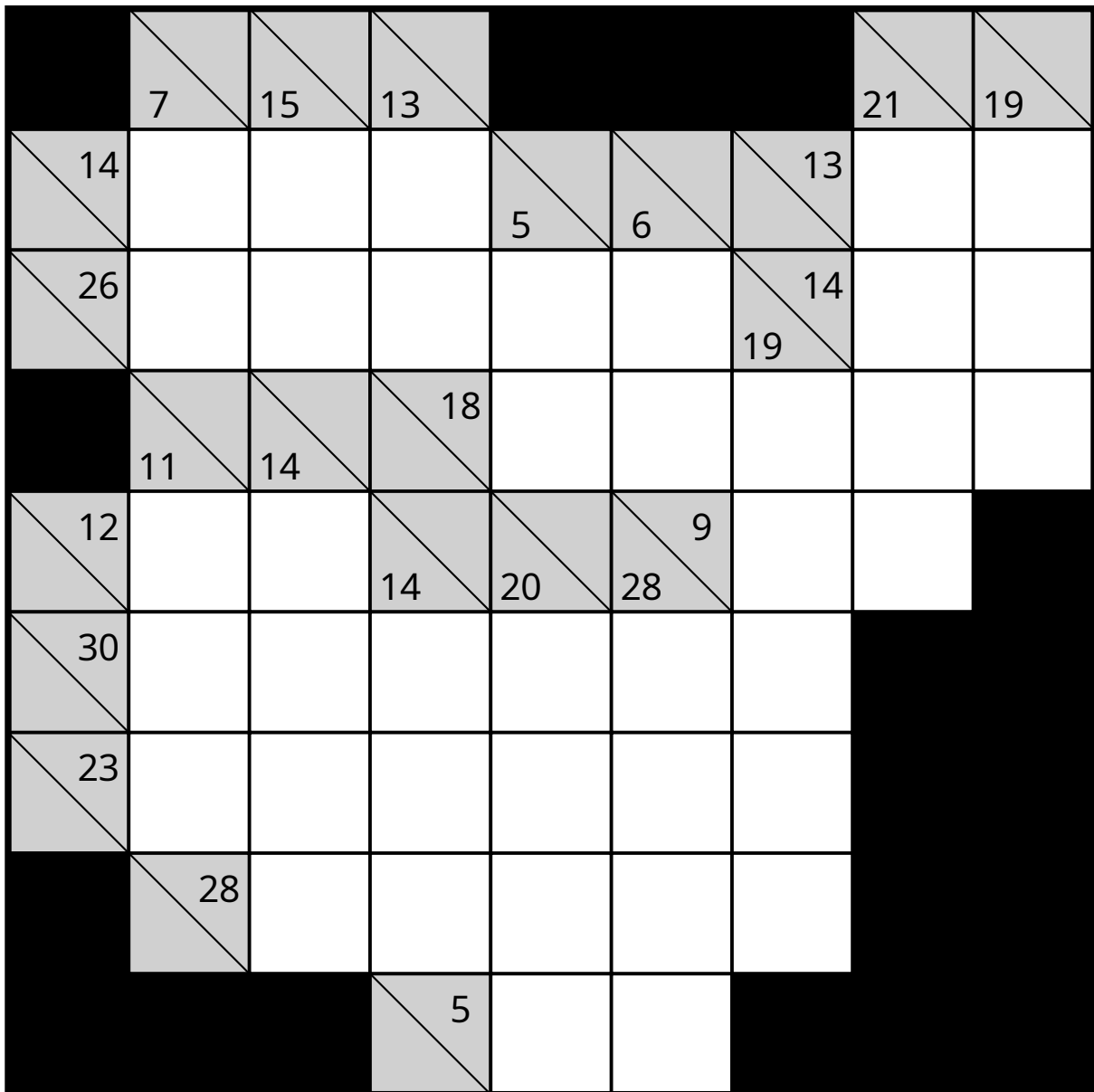
Intermediate – Puzzle 79 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	16	15				7	16	16
16			31		10			
17				21				
				12				
19						13		
						33		
	12	30					19	11
9				23				
14				17				
				11				
			27					
			25					

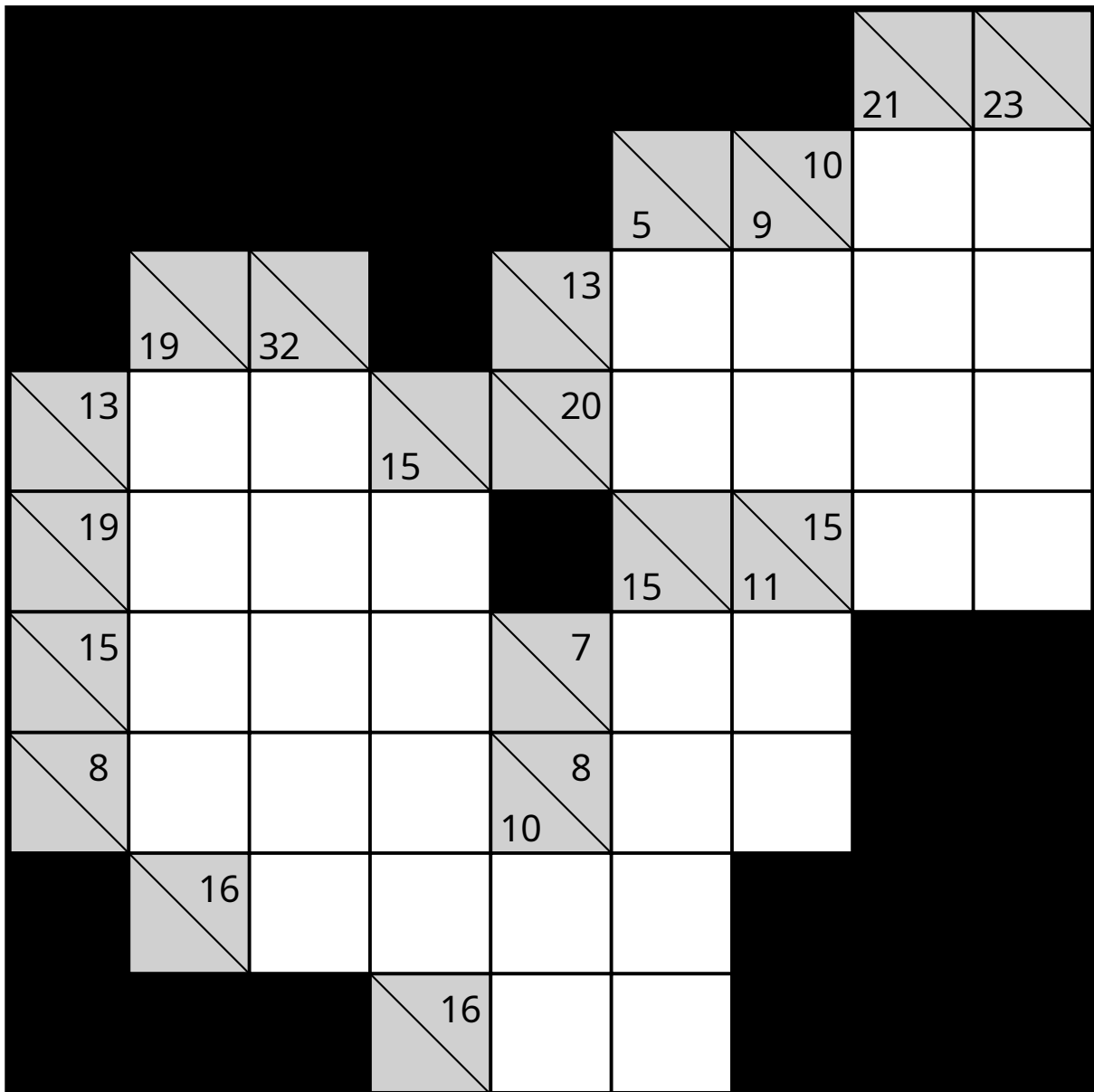
Intermediate – Puzzle 80 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



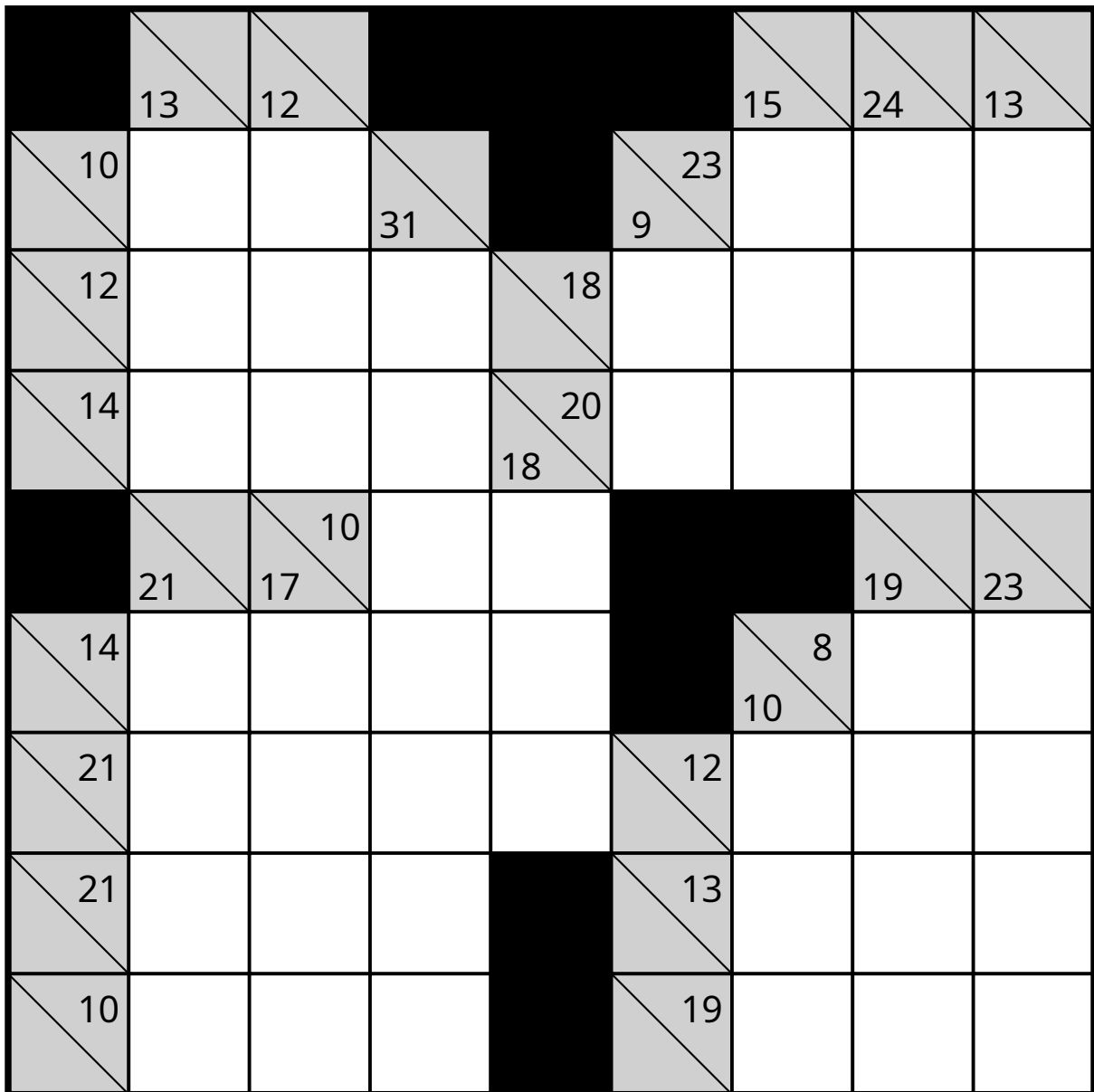
Intermediate – Puzzle 81 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



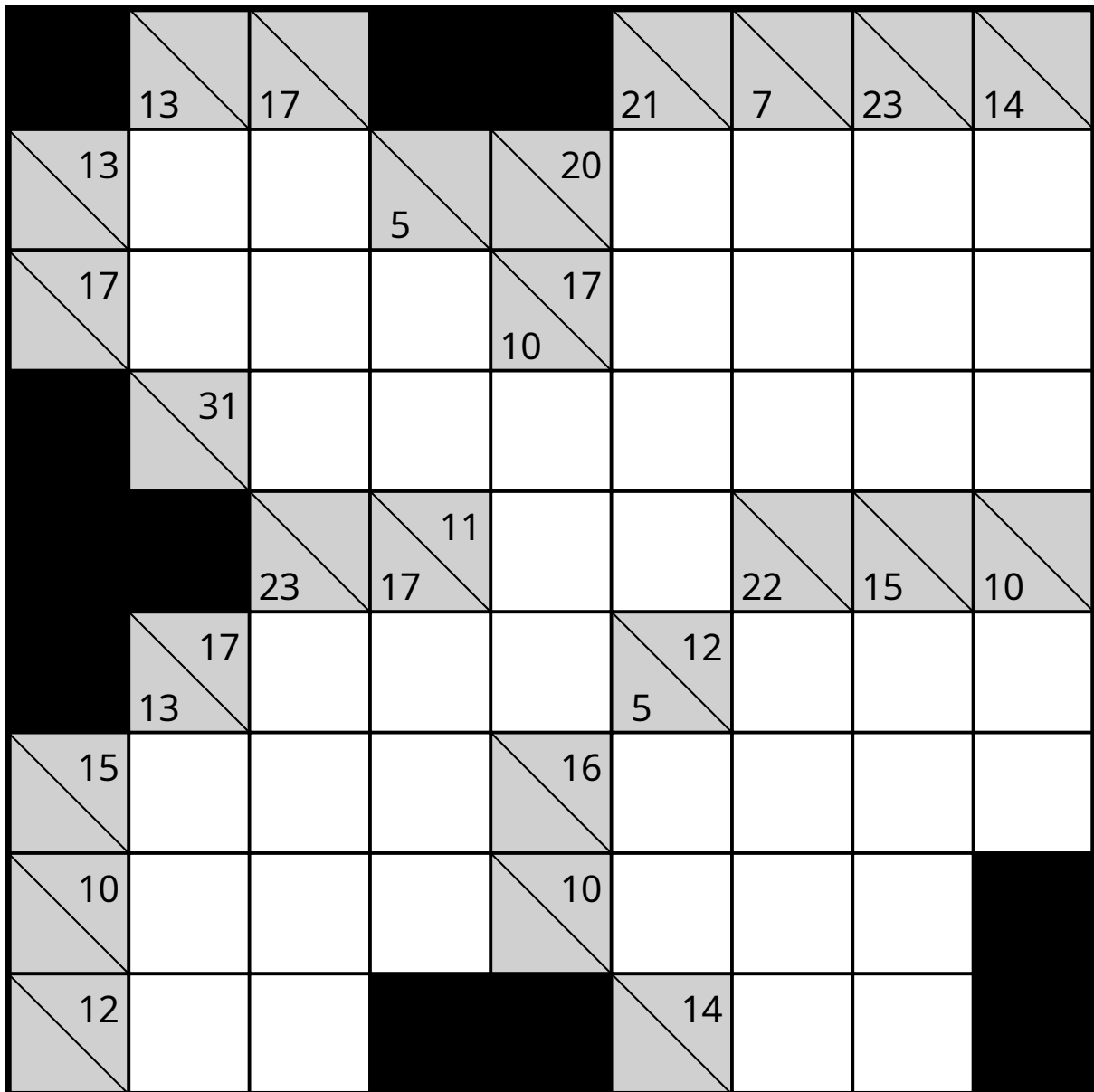
Intermediate – Puzzle 82 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



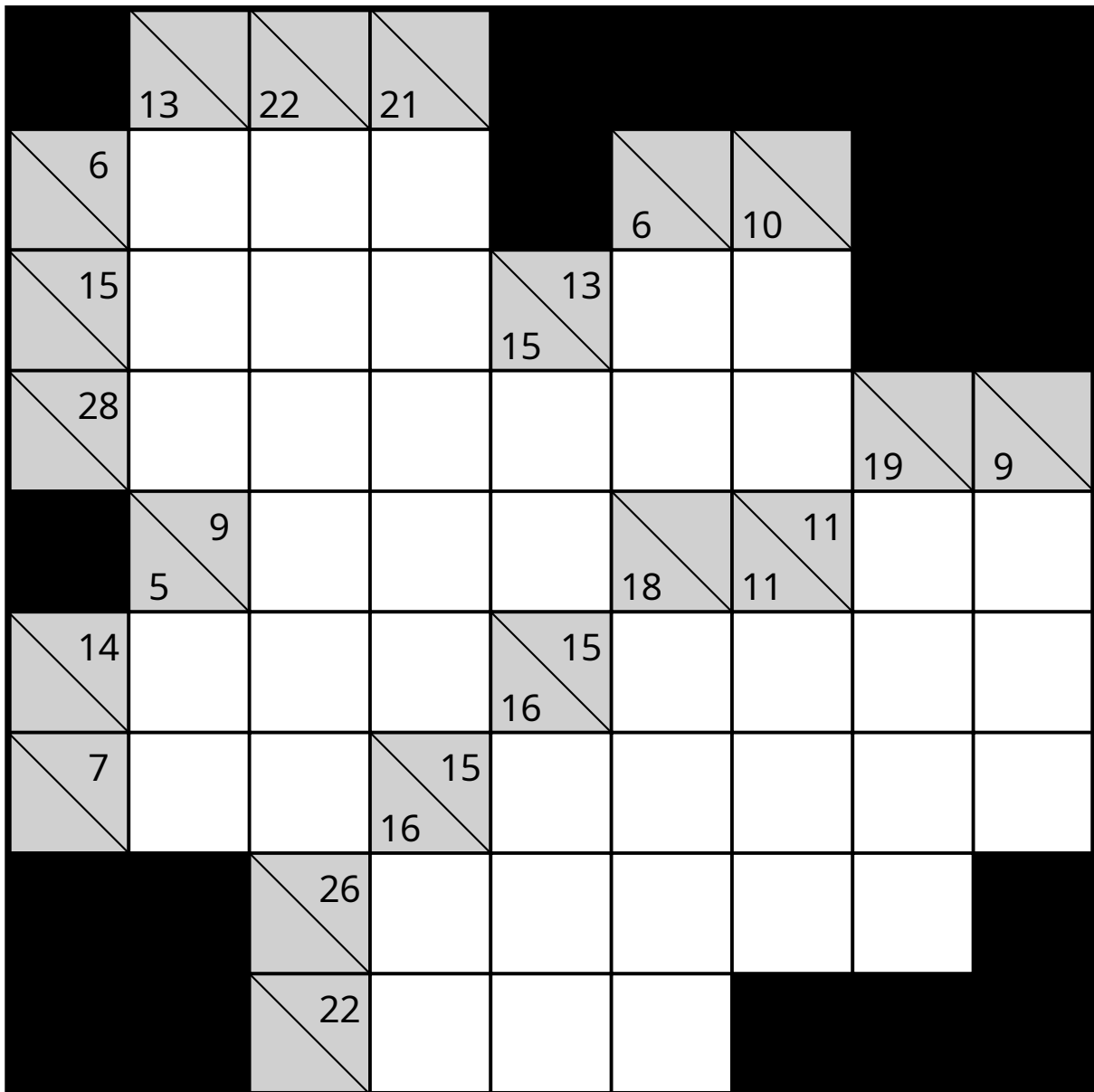
Intermediate – Puzzle 83 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



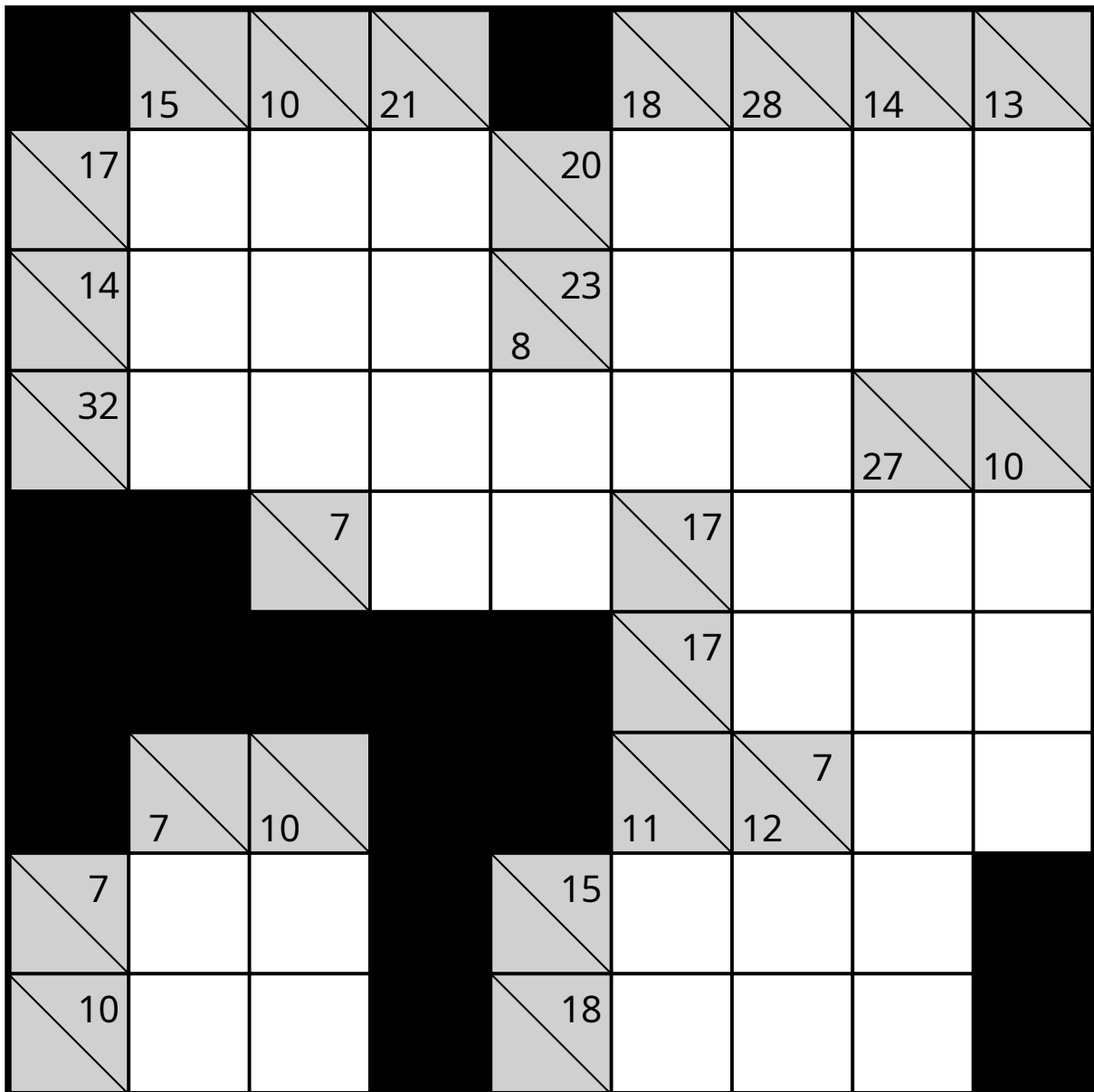
Intermediate – Puzzle 84 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



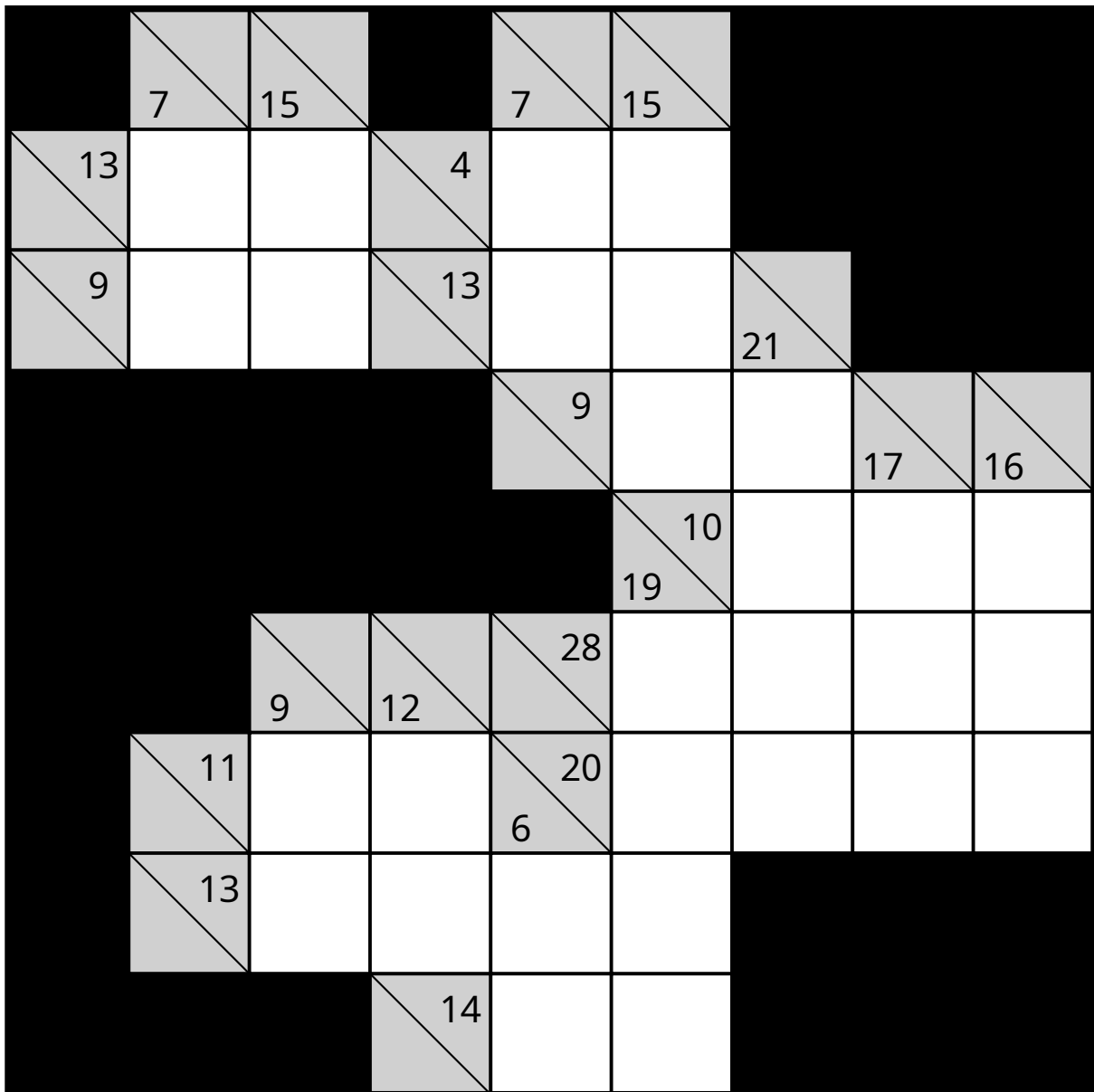
Intermediate – Puzzle 85 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



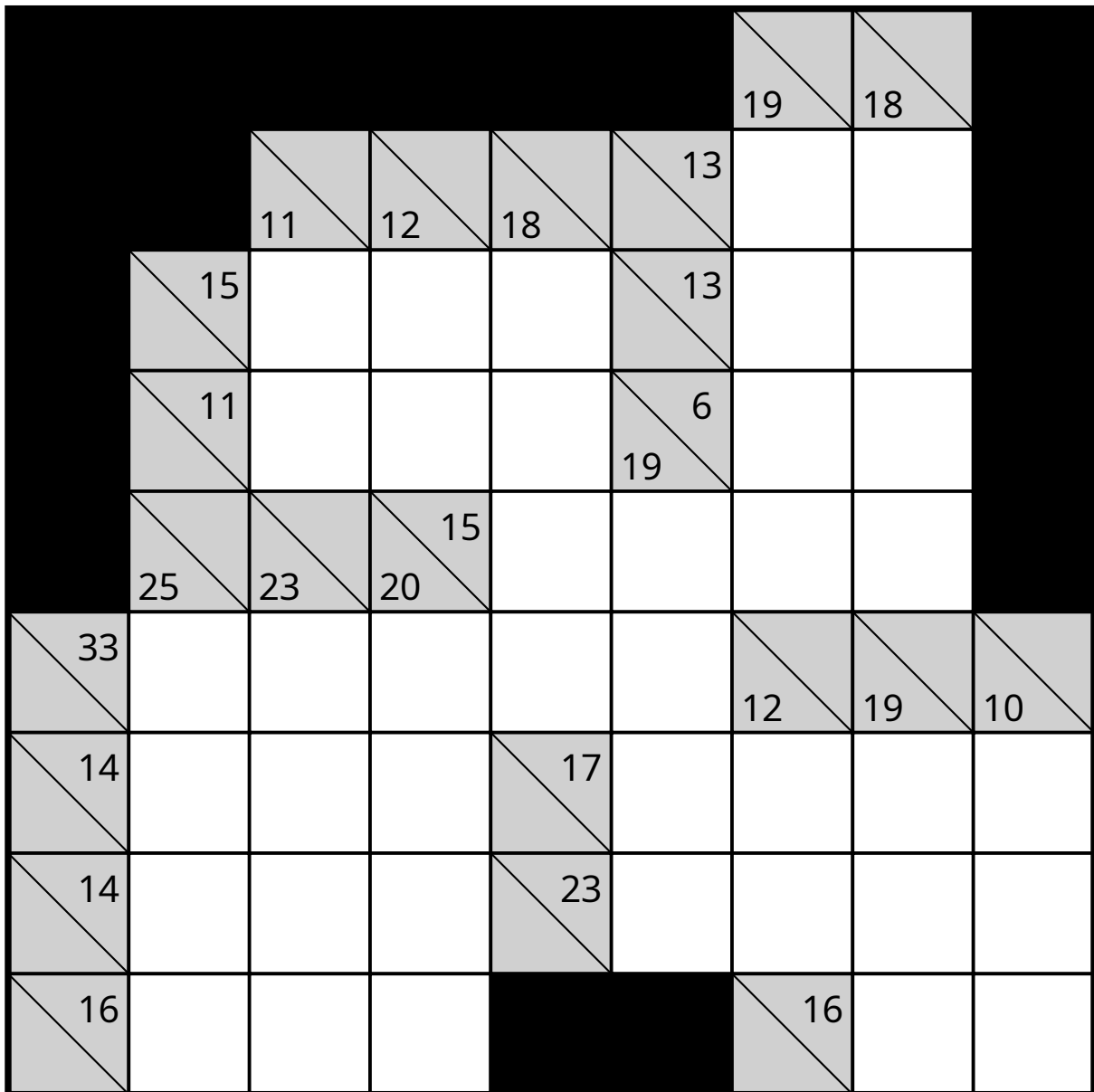
Intermediate – Puzzle 86 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



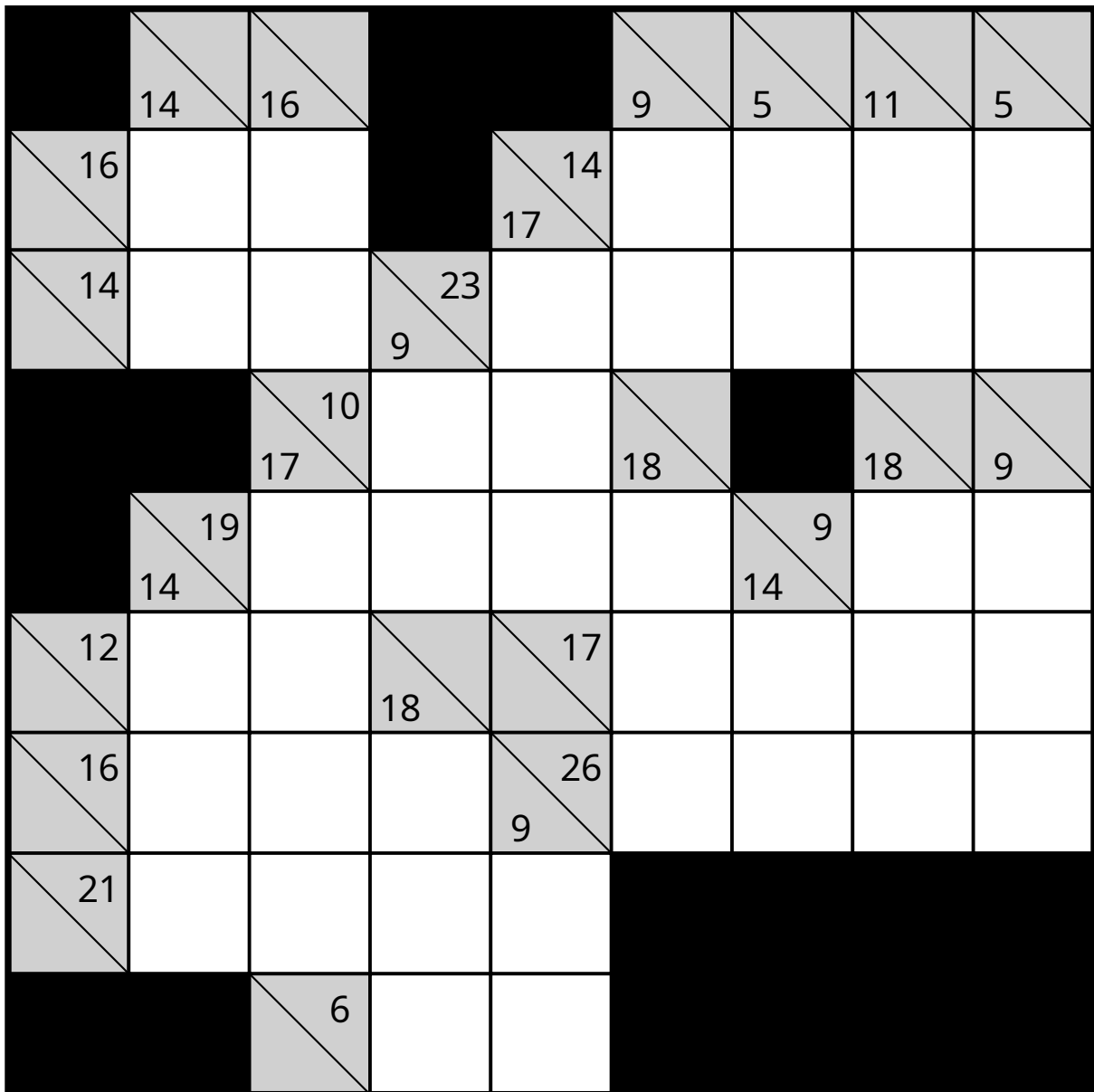
Intermediate – Puzzle 87 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



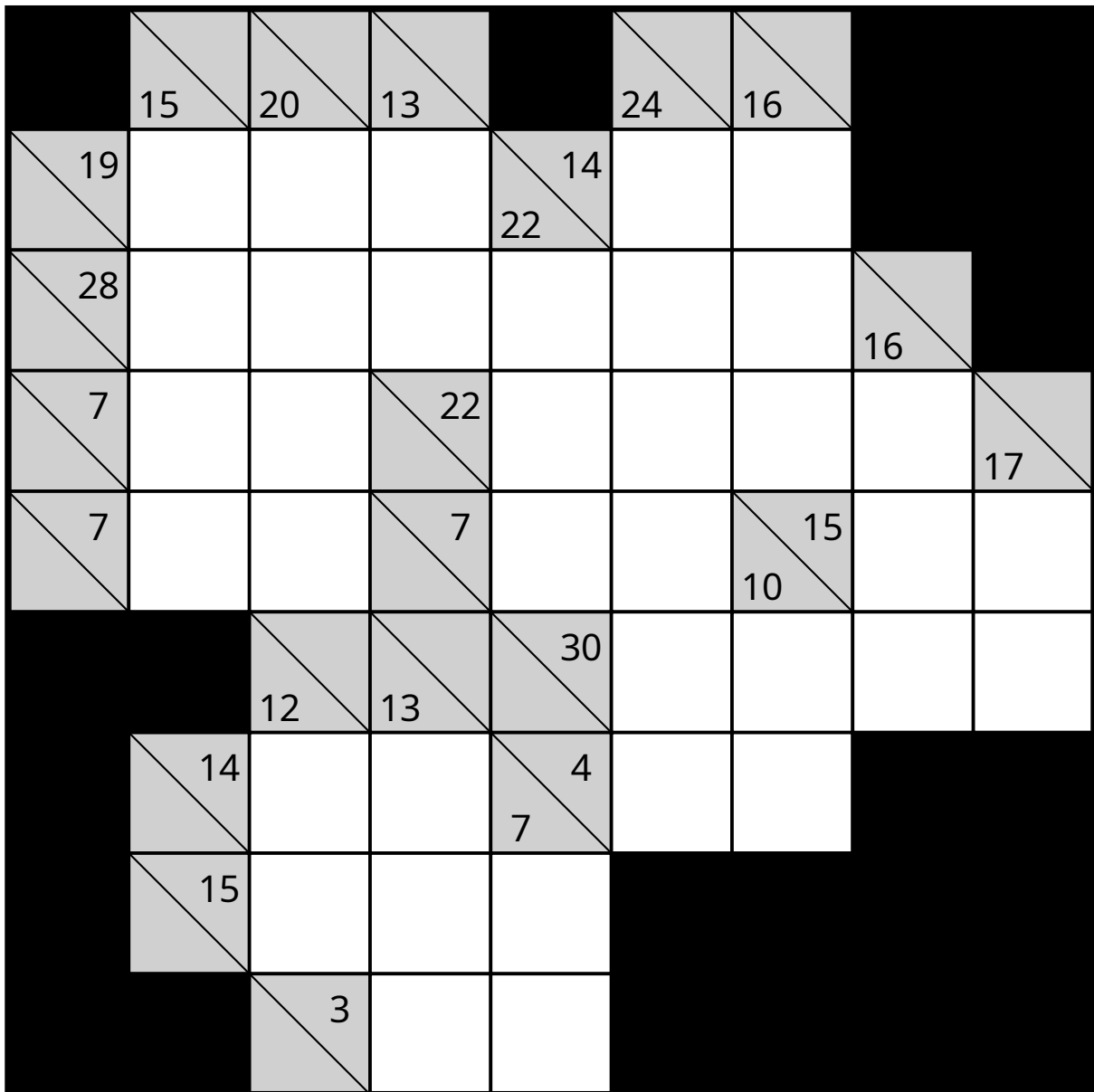
Intermediate – Puzzle 88 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



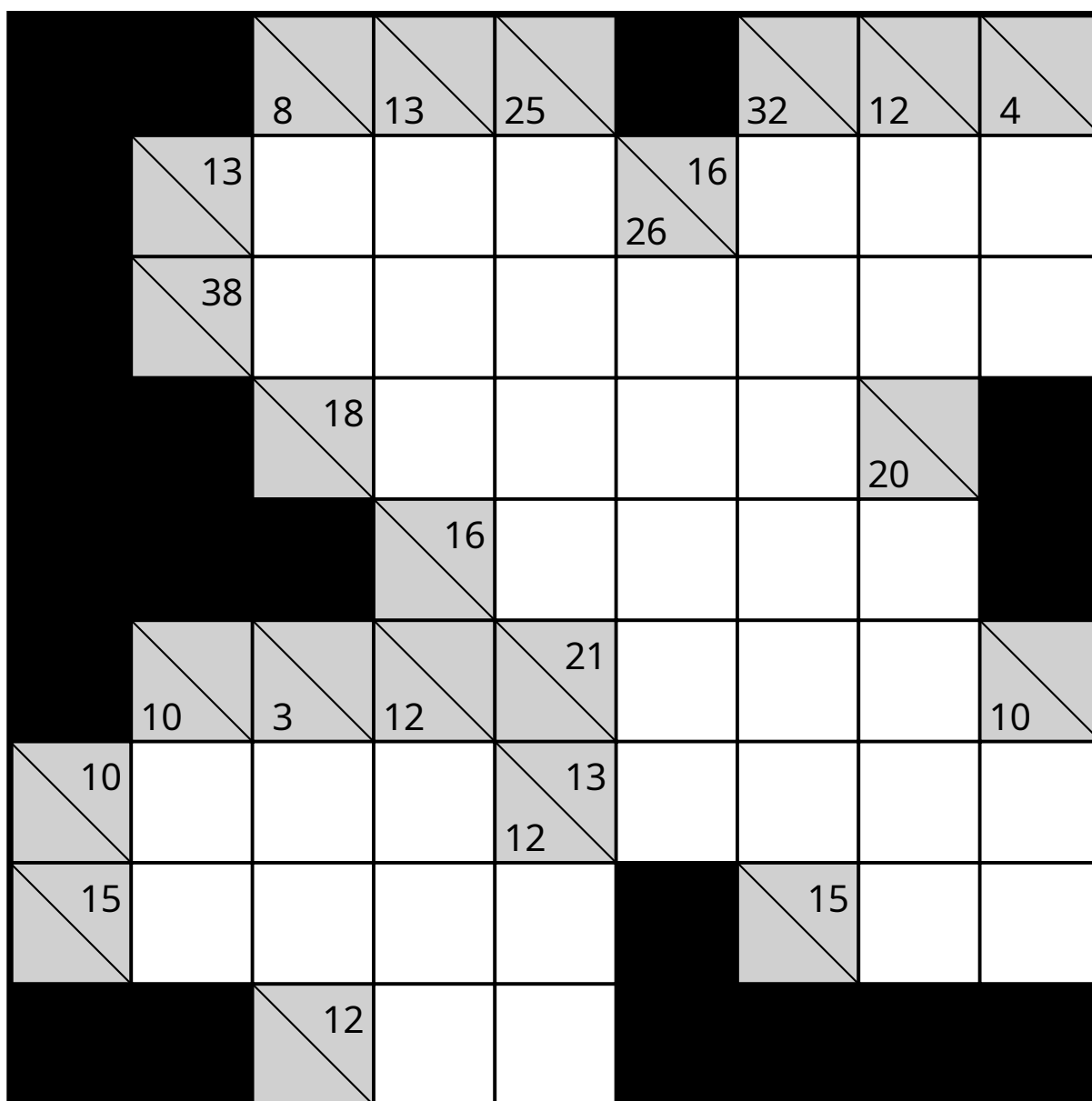
Intermediate – Puzzle 89 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



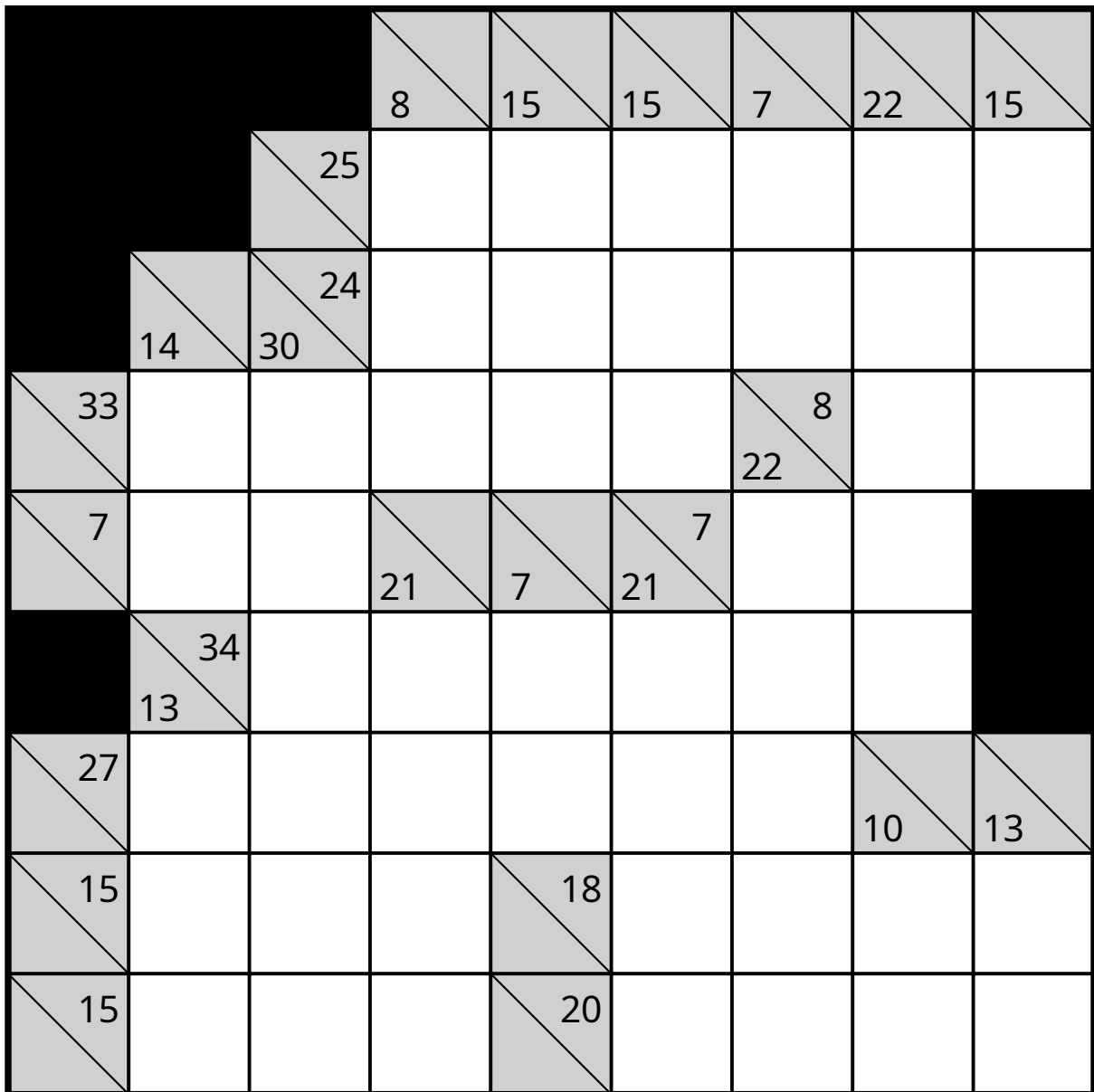
Intermediate – Puzzle 90 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



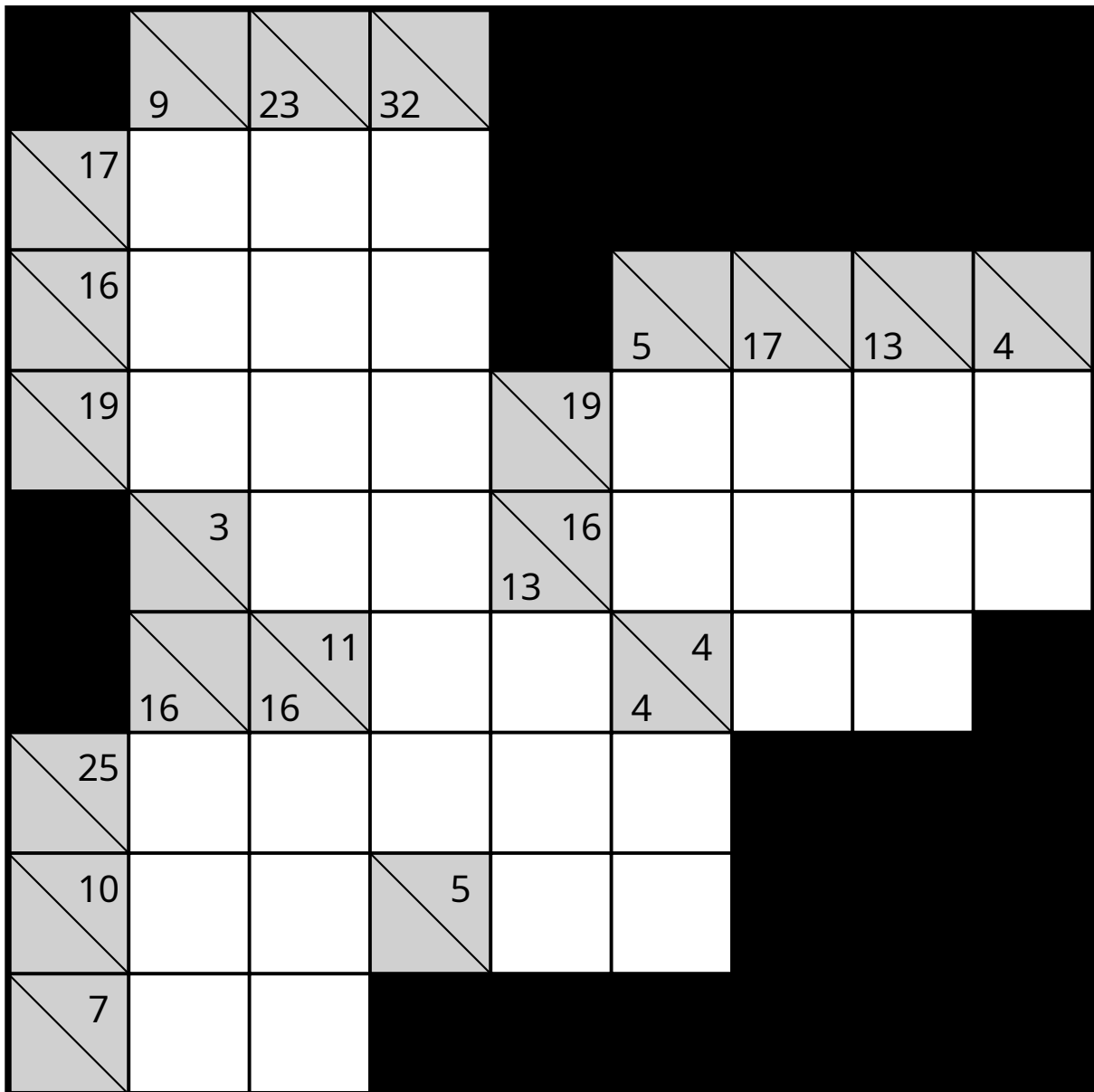
Intermediate – Puzzle 91 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate – Puzzle 92 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



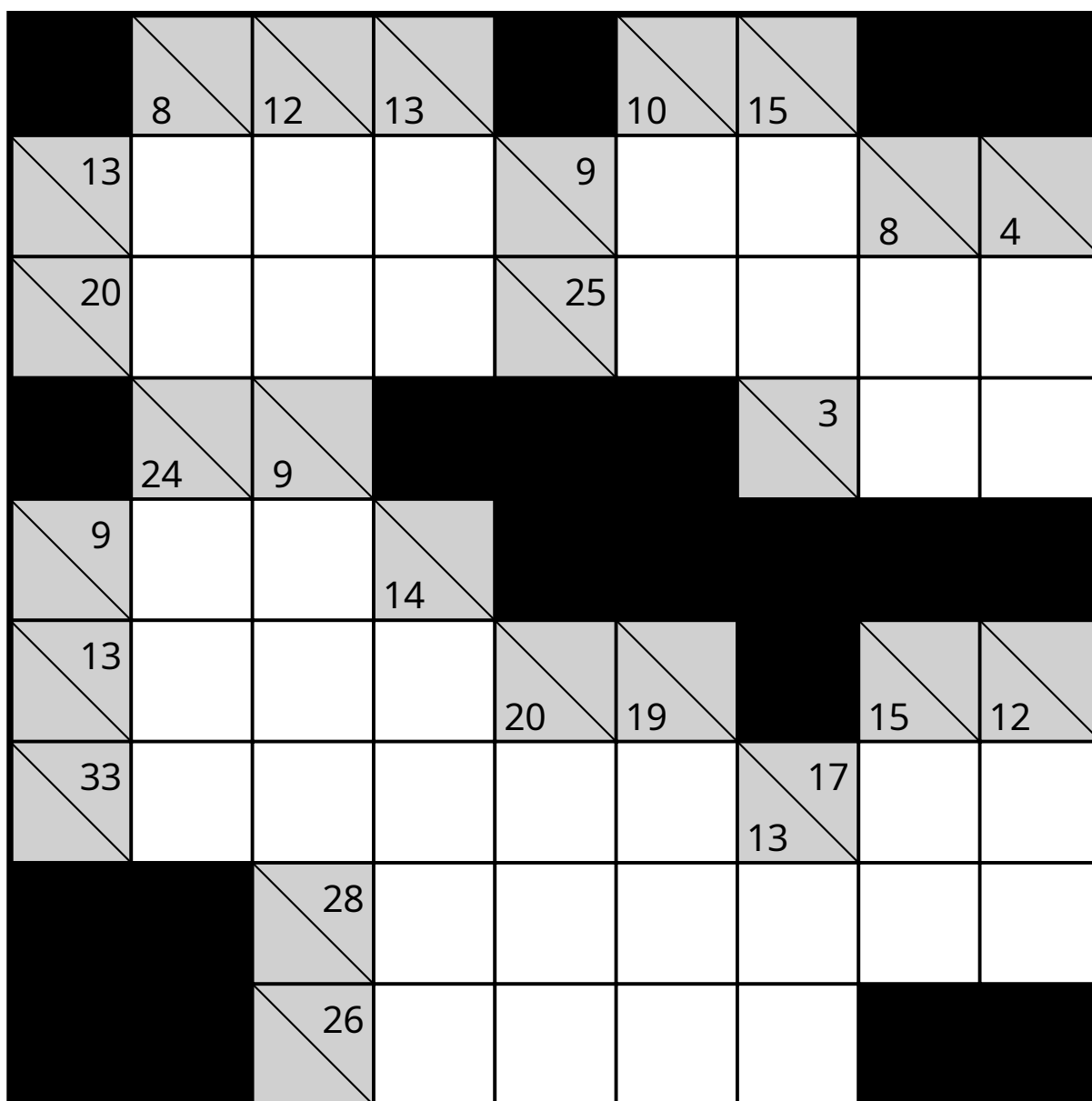
Intermediate – Puzzle 93 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	10	10	12	16		11	21	12
13					7			
13					21			
27					20			
						5		
				16				
	13	16	15	15			22	
16				20				
				11				
18					14			
21					6			

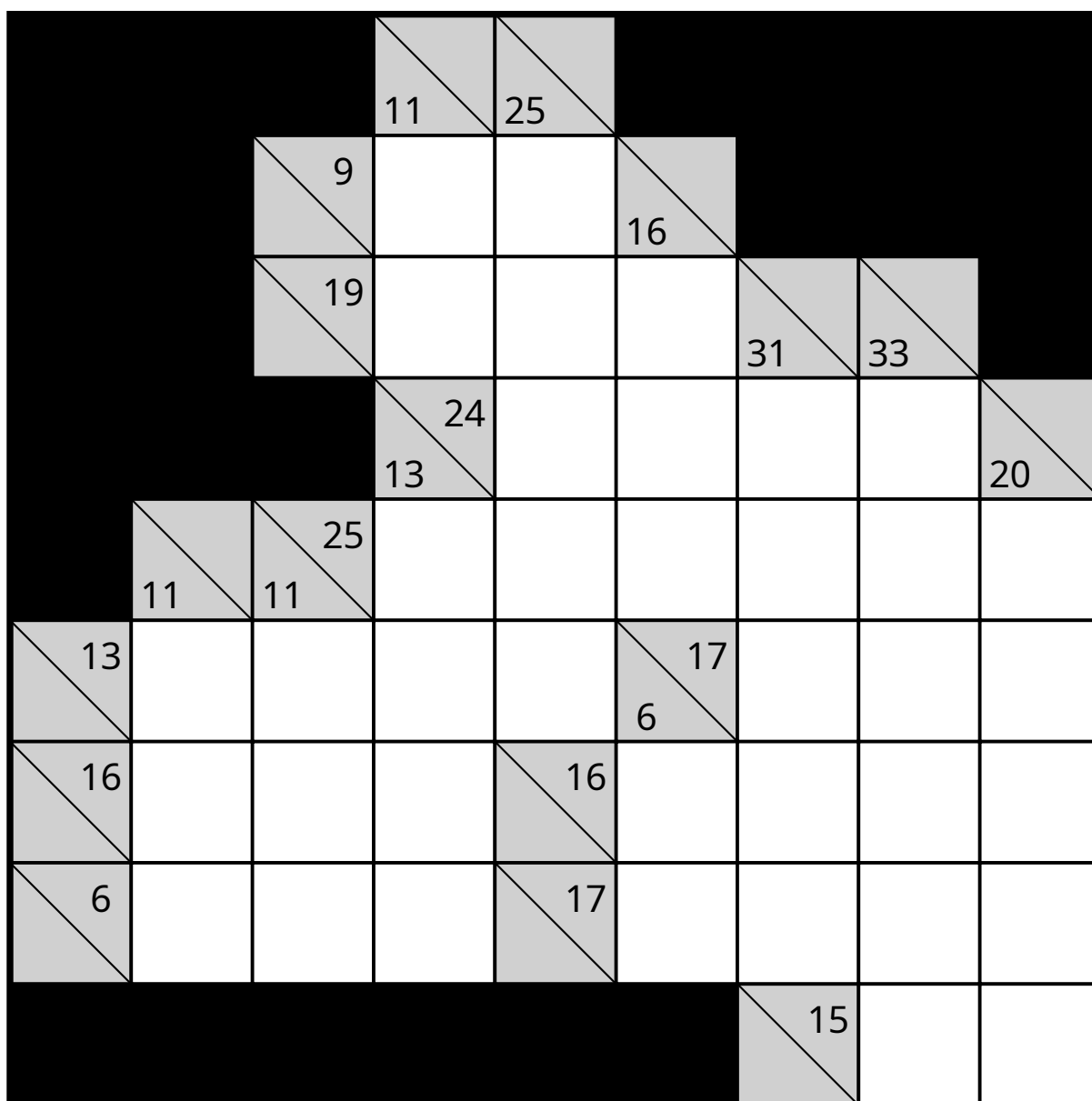
Intermediate – Puzzle 94 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



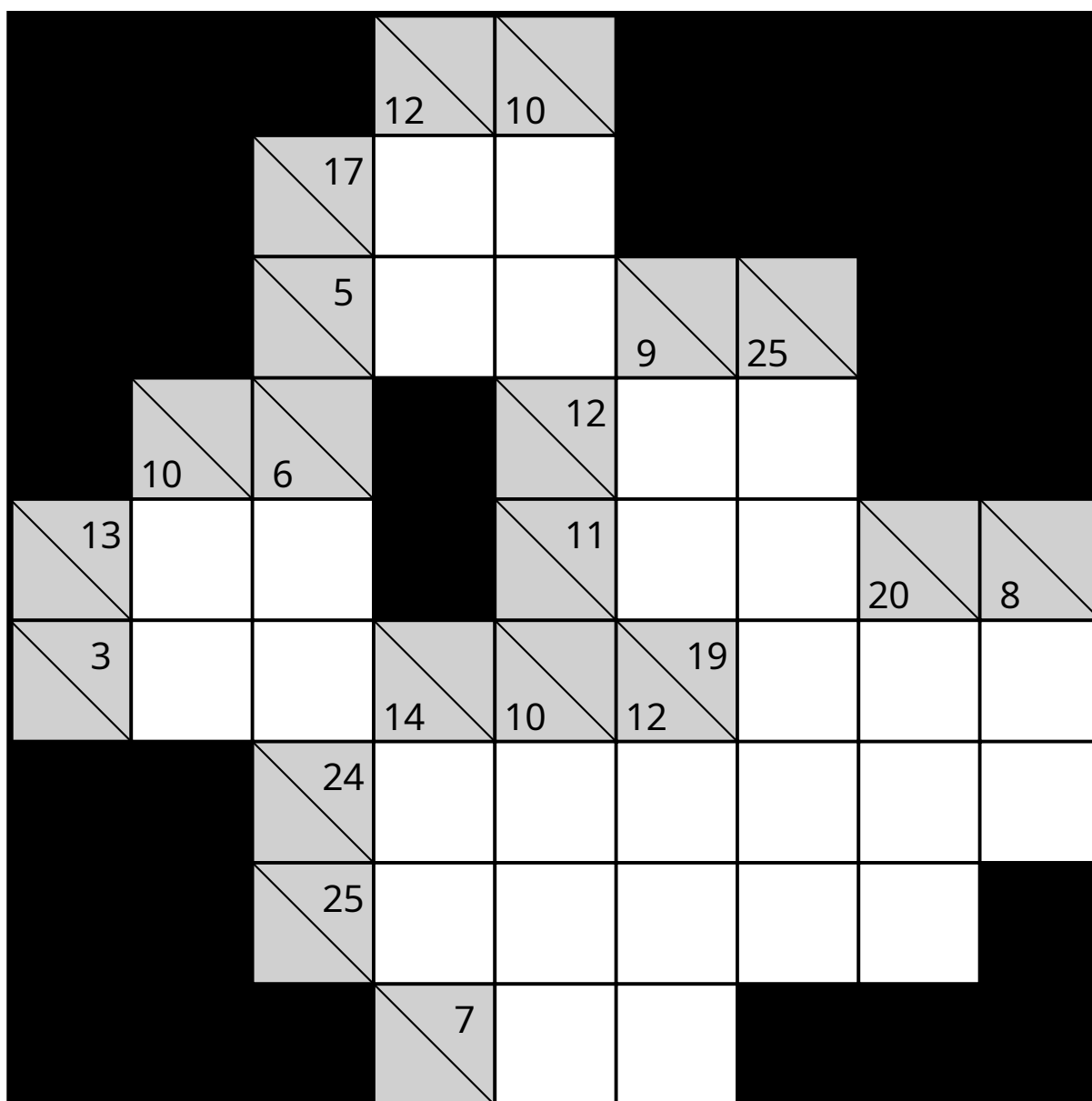
Intermediate – Puzzle 95 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



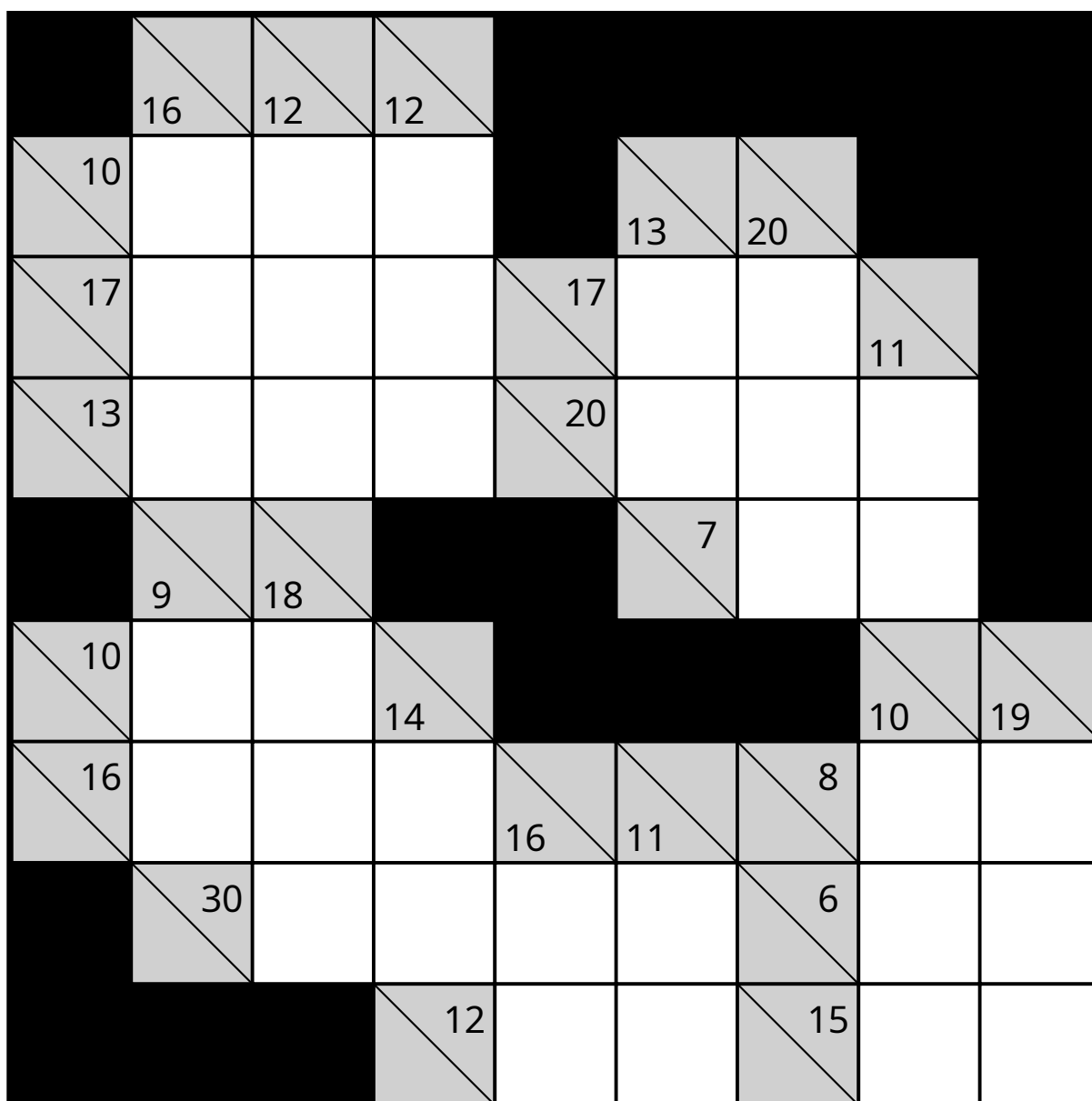
Intermediate – Puzzle 96 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



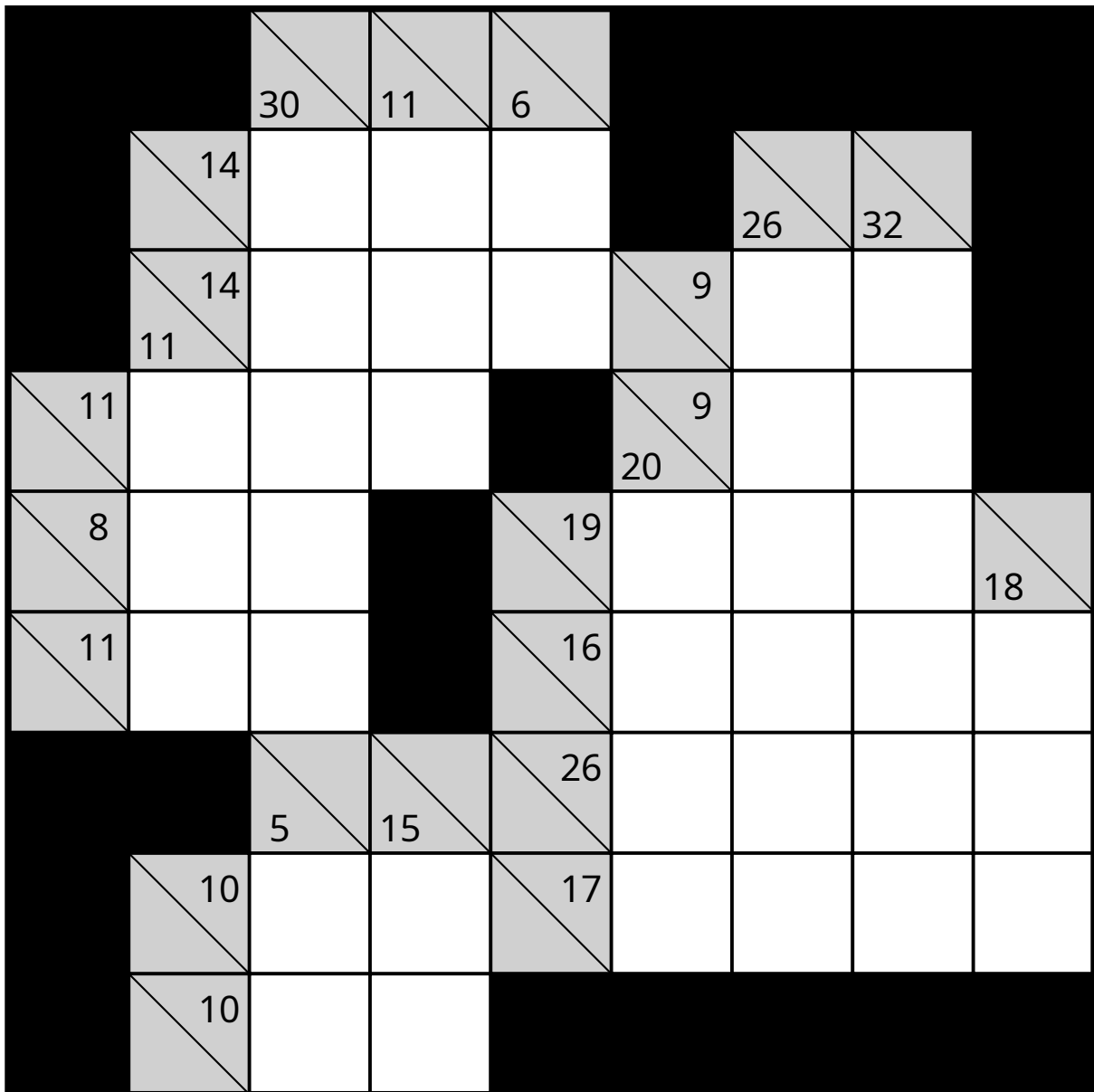
Intermediate – Puzzle 97 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



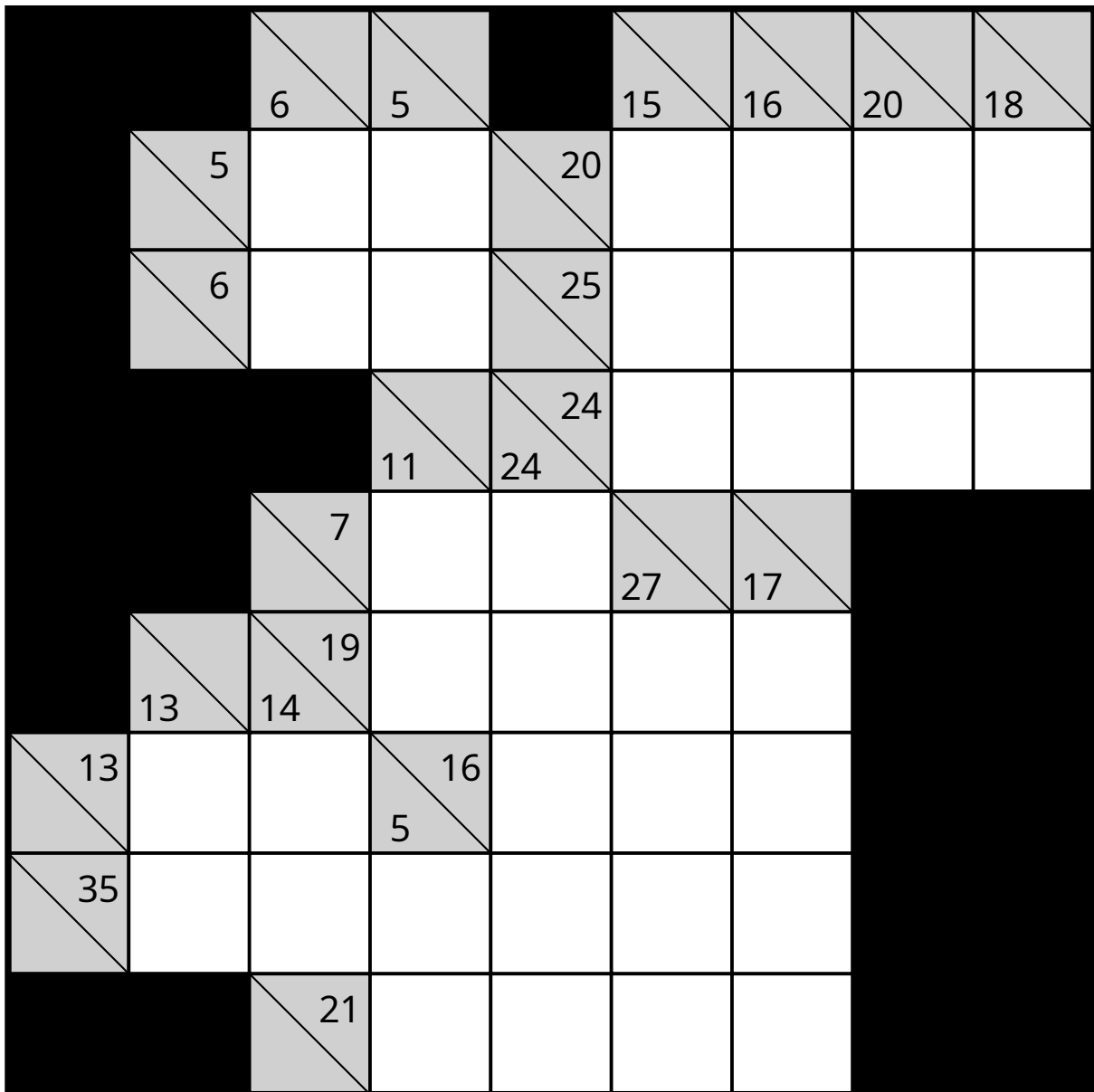
Intermediate – Puzzle 98 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



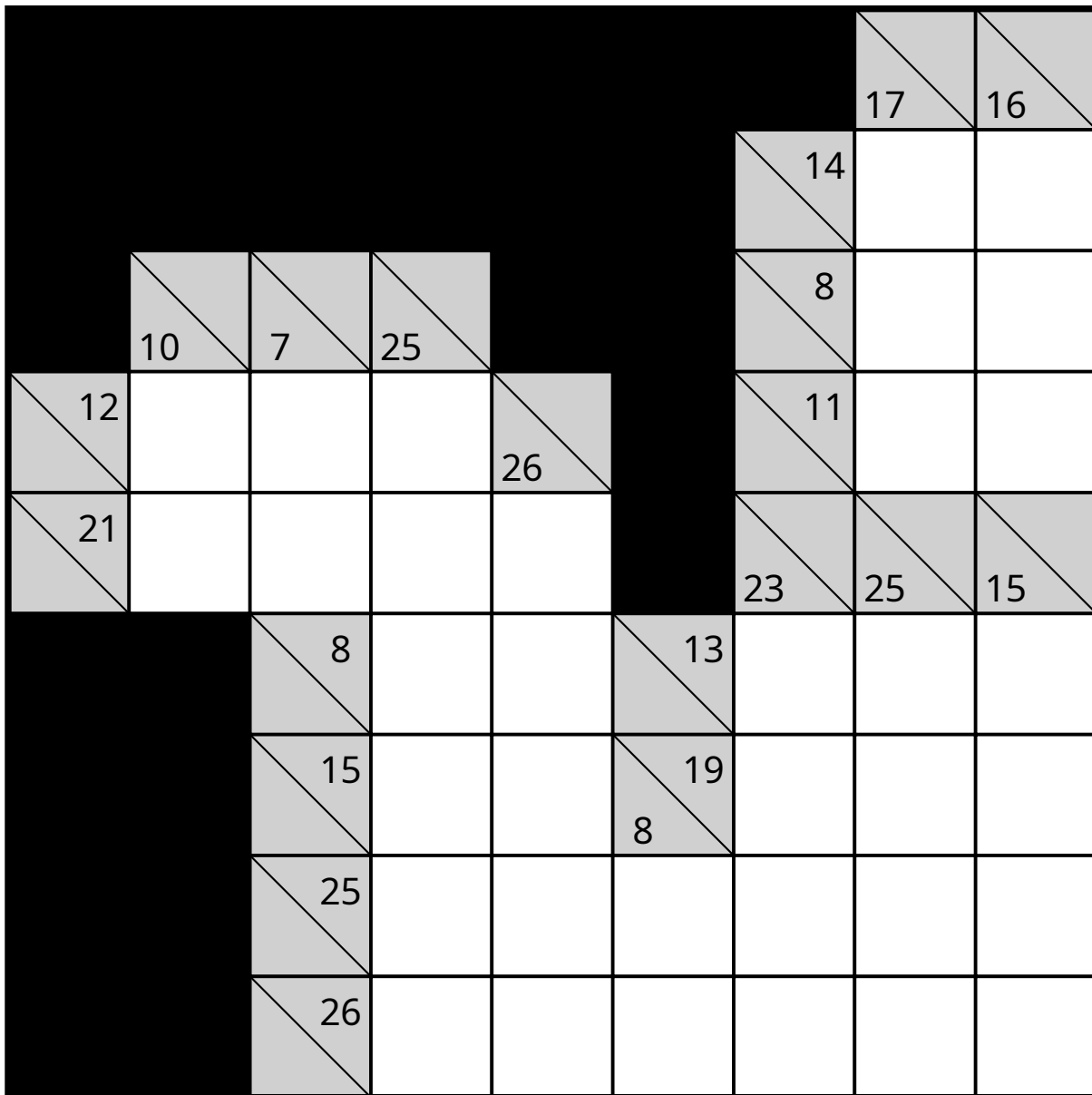
Intermediate – Puzzle 99 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



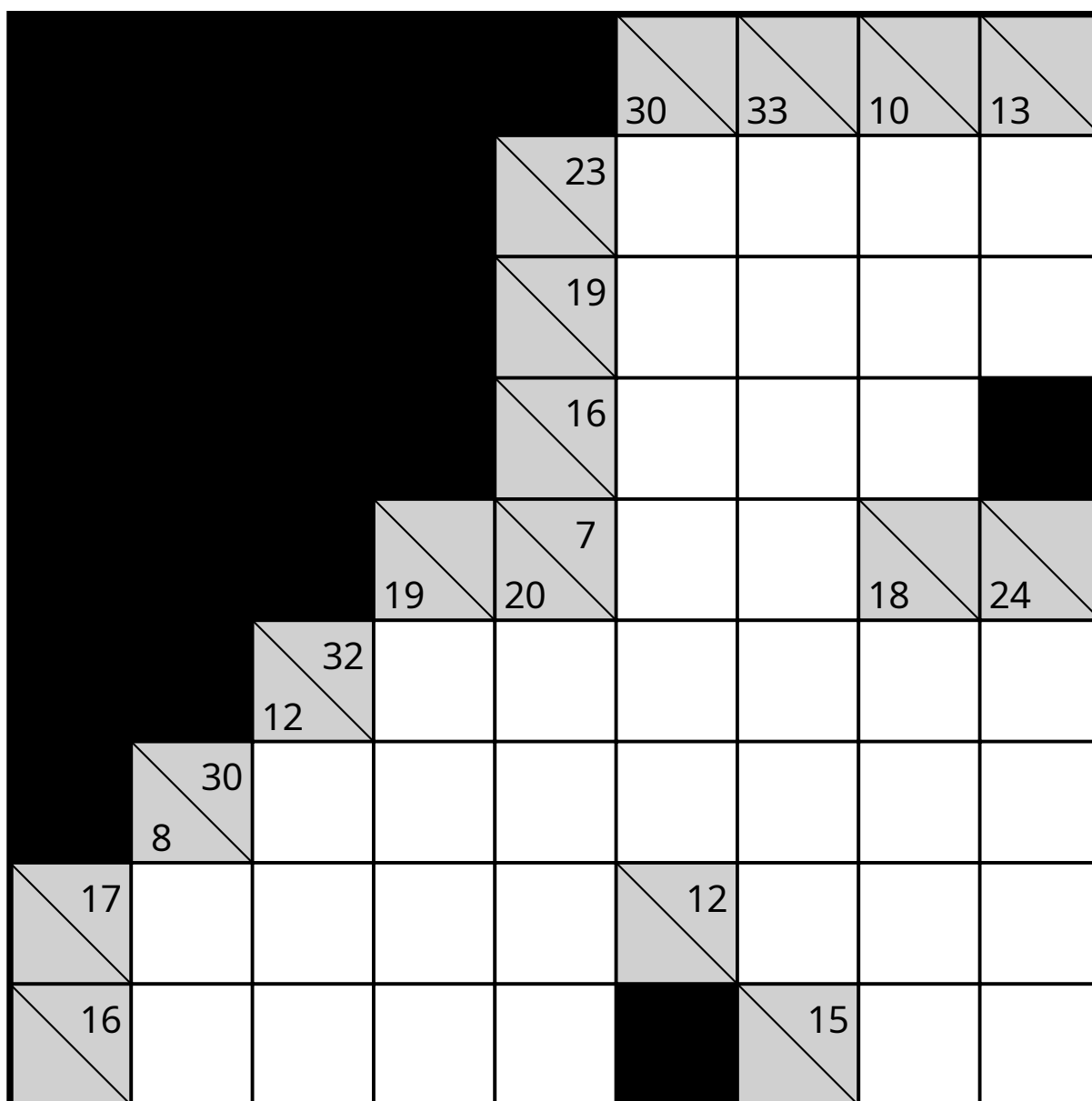
Intermediate – Puzzle 100 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



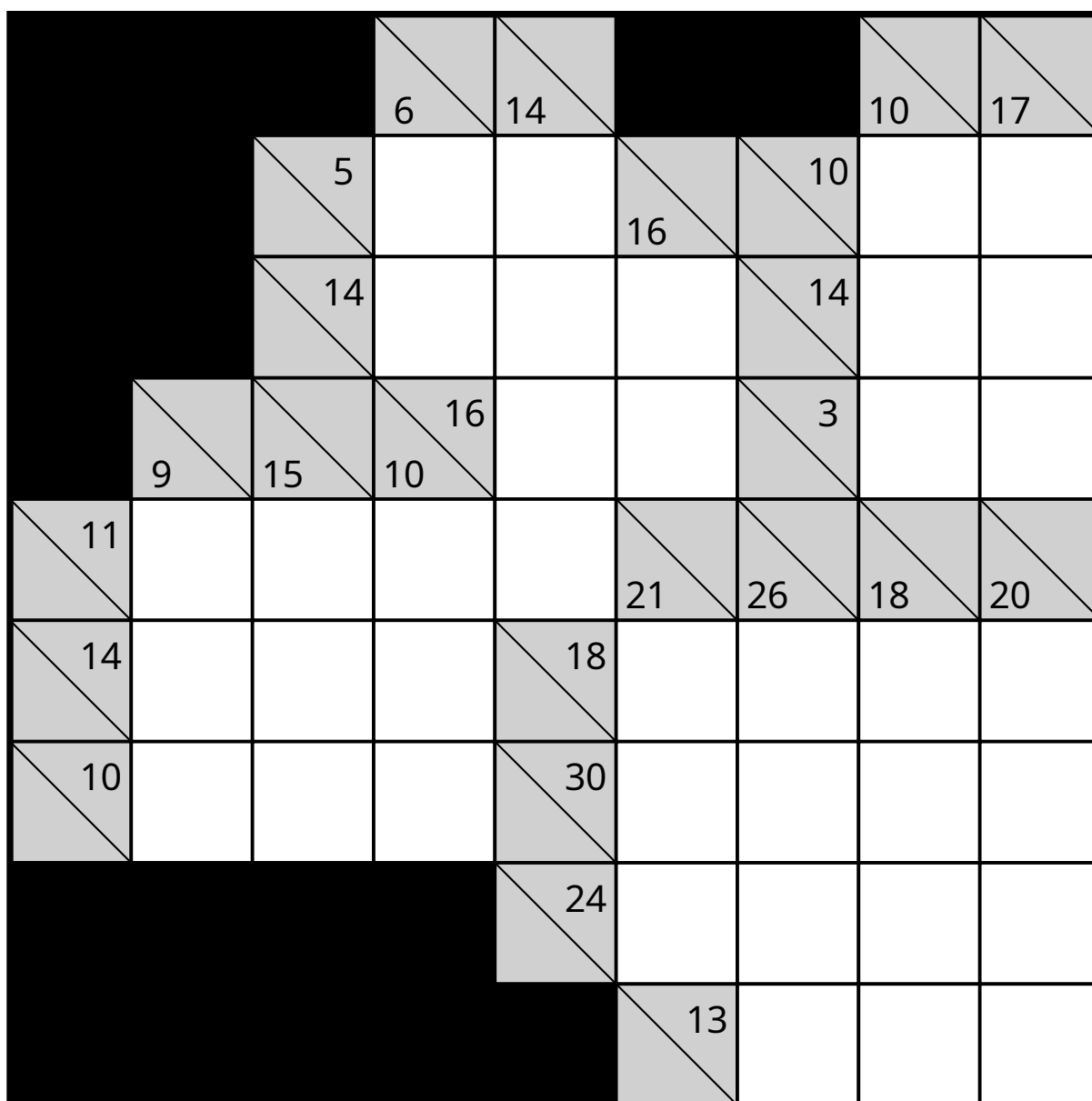
Intermediate – Puzzle 101 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



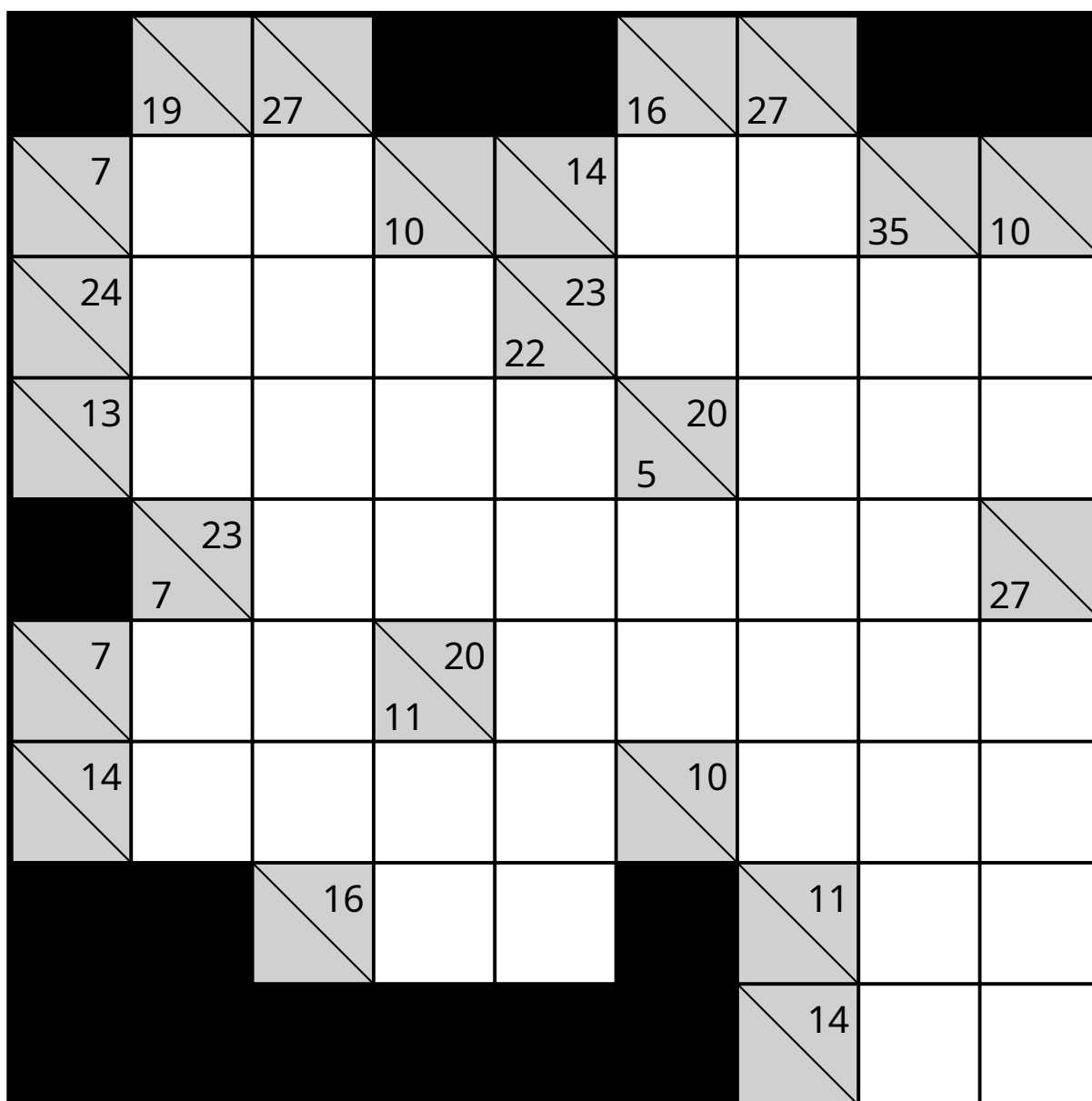
Intermediate – Puzzle 102 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



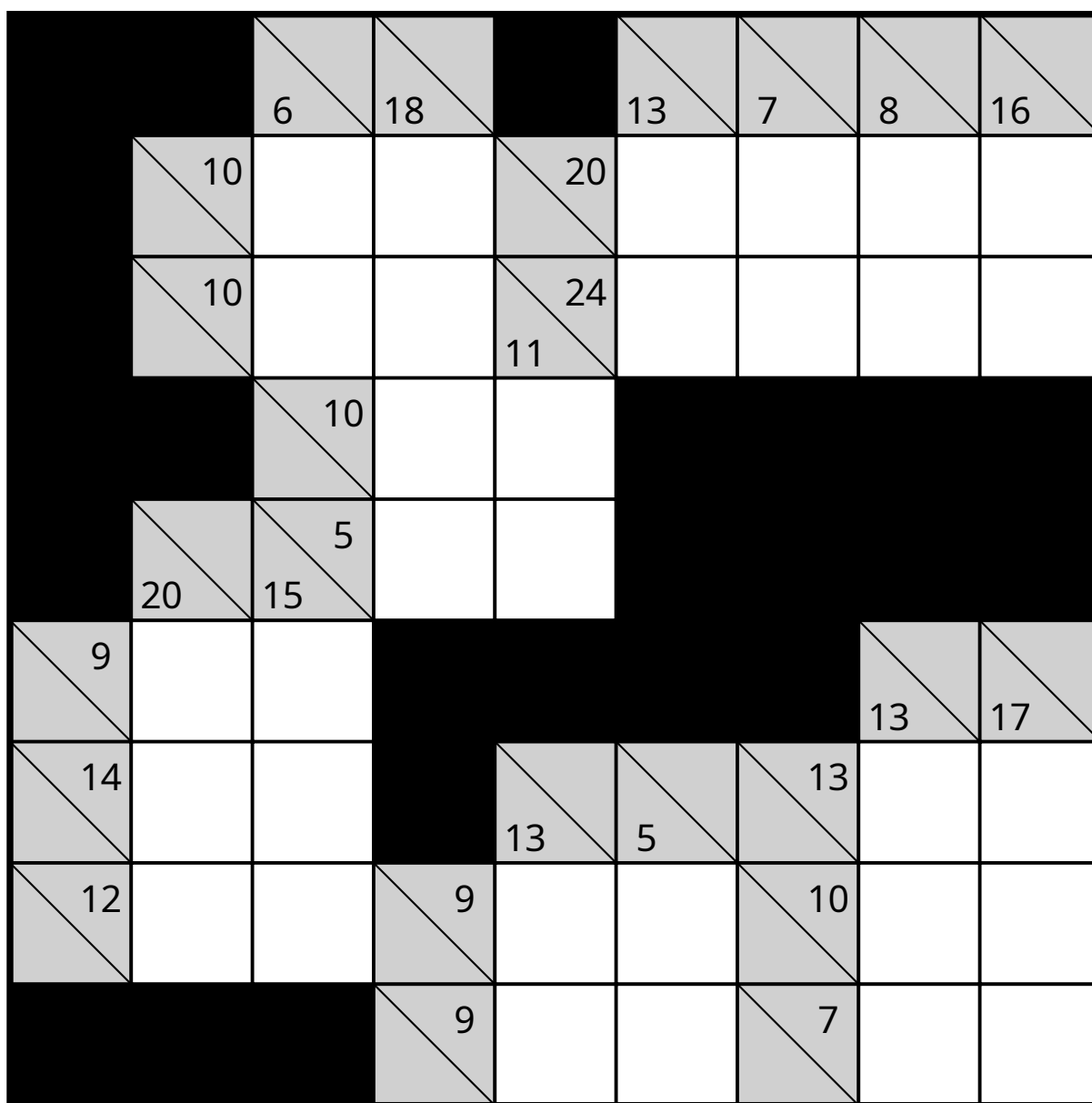
Intermediate – Puzzle 103 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



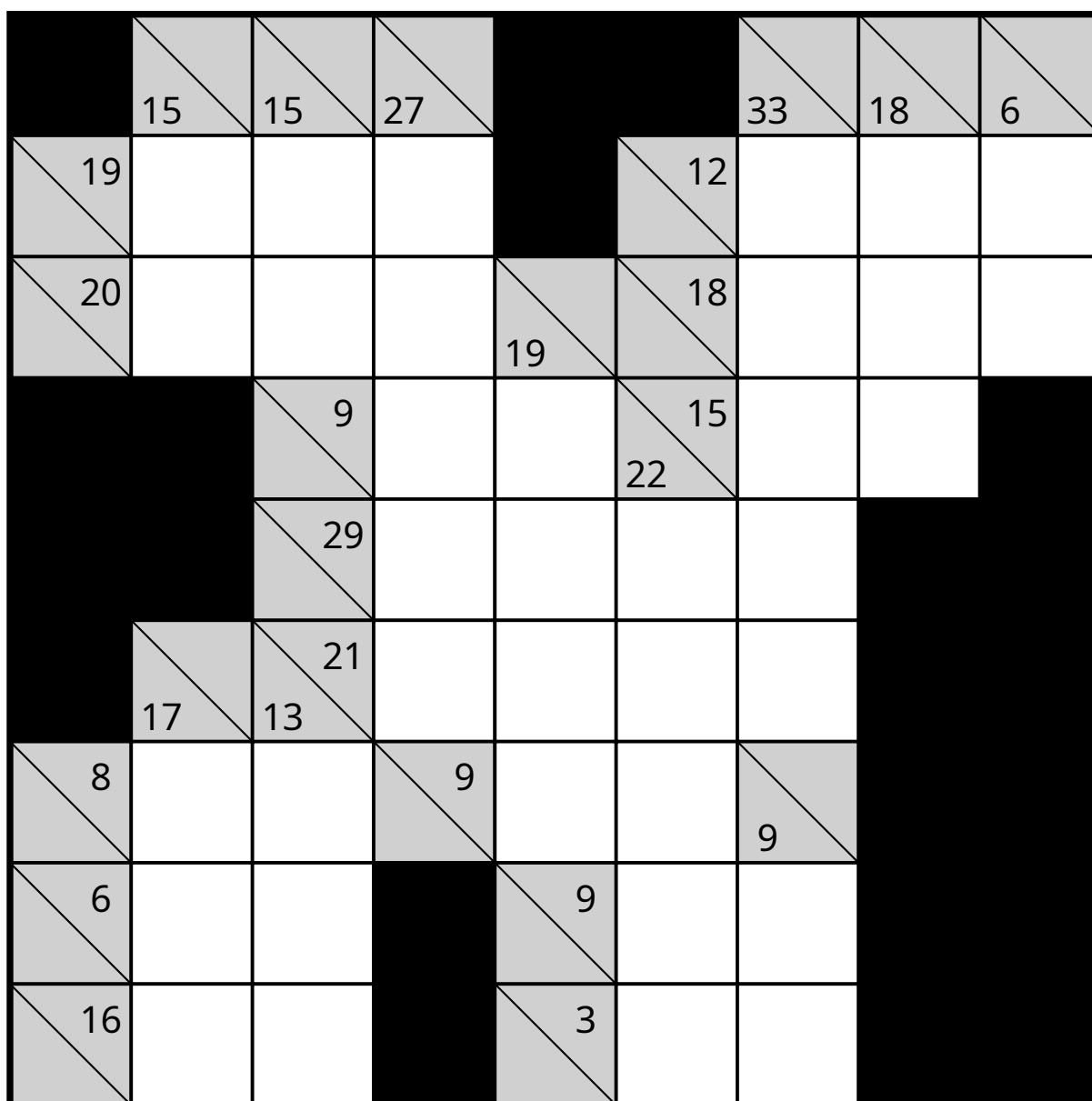
Intermediate – Puzzle 104 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate – Puzzle 105 – 9×9

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Chapter 8: Intermediate Challenges

10x10 Grids - Strategic Planning

As we expand to 10x10 grids, simple scanning is no longer enough. You need strategic planning.

New Challenges:

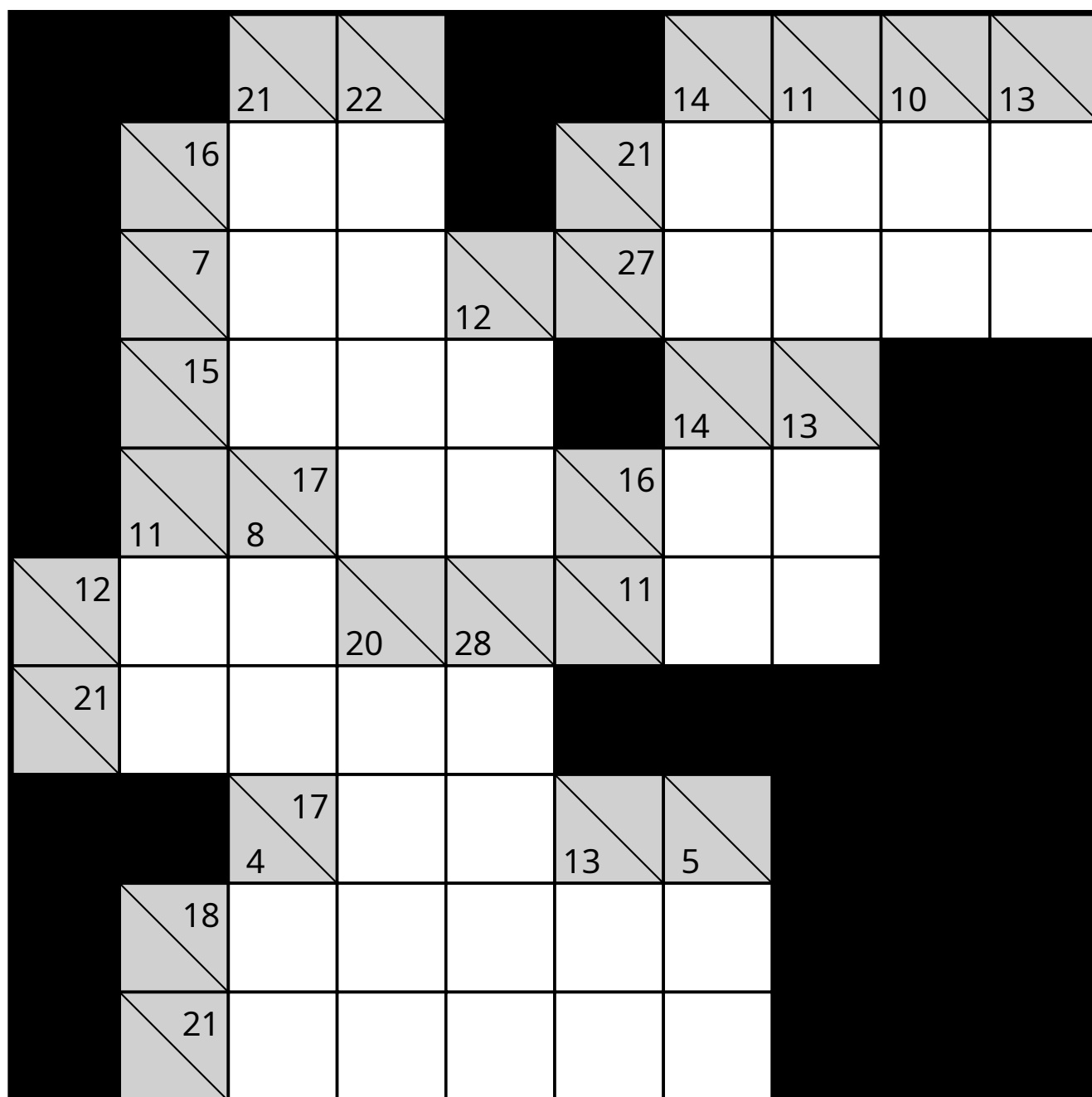
- **Isolated Sub-regions:** Sometimes a corner is connected by only one run. Solve these first to break into the center.
- **False Leads:** A run of "10 in 2" (1+9, 2+8, 3+7, 4+6) has many options. Don't commit until you have cross-clues.

Tip:

Mark candidates in pencil (or small numbers). At this level, tracking "what could go here" is as important as "what goes here."

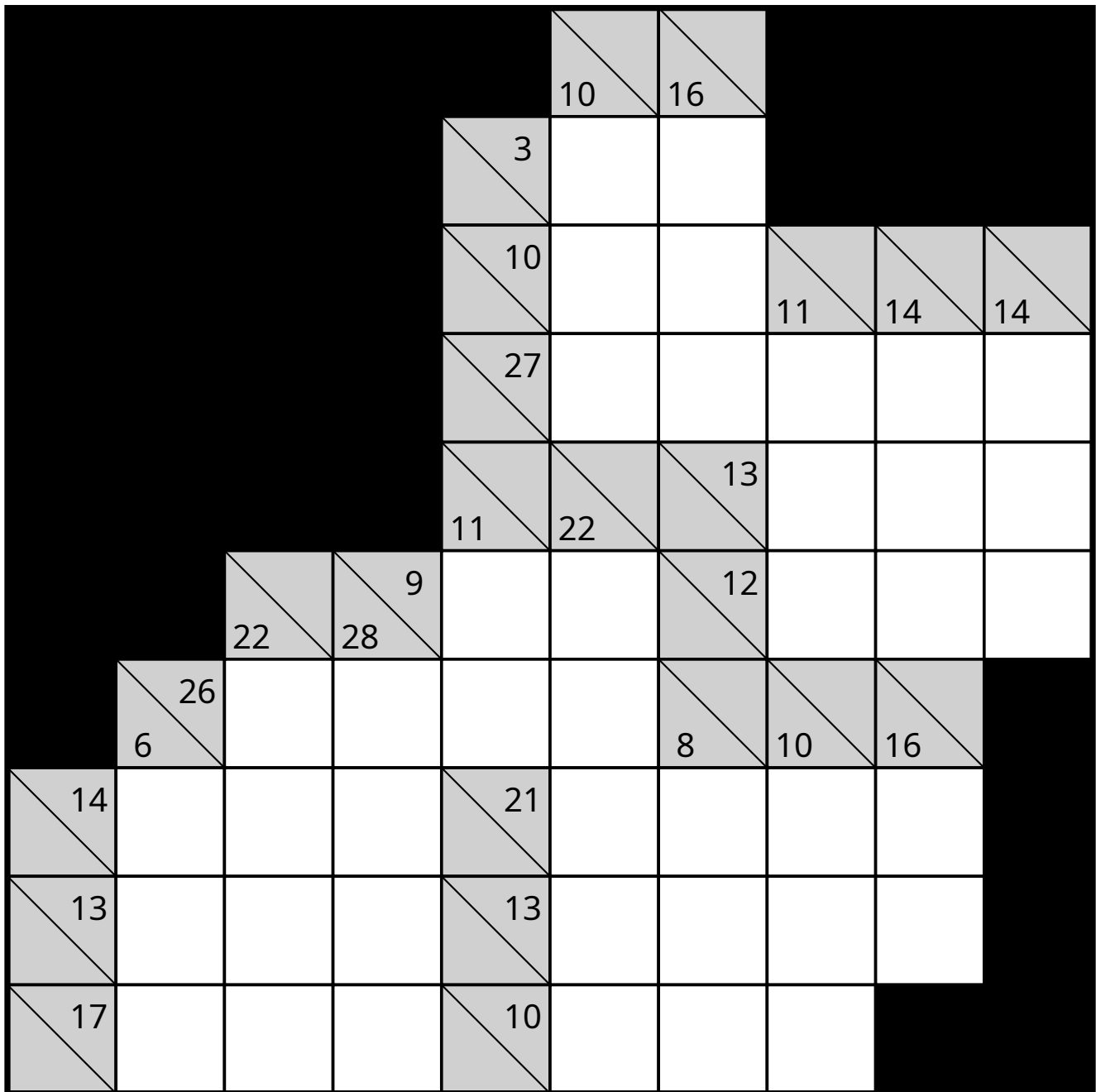
Intermediate - Puzzle 106 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



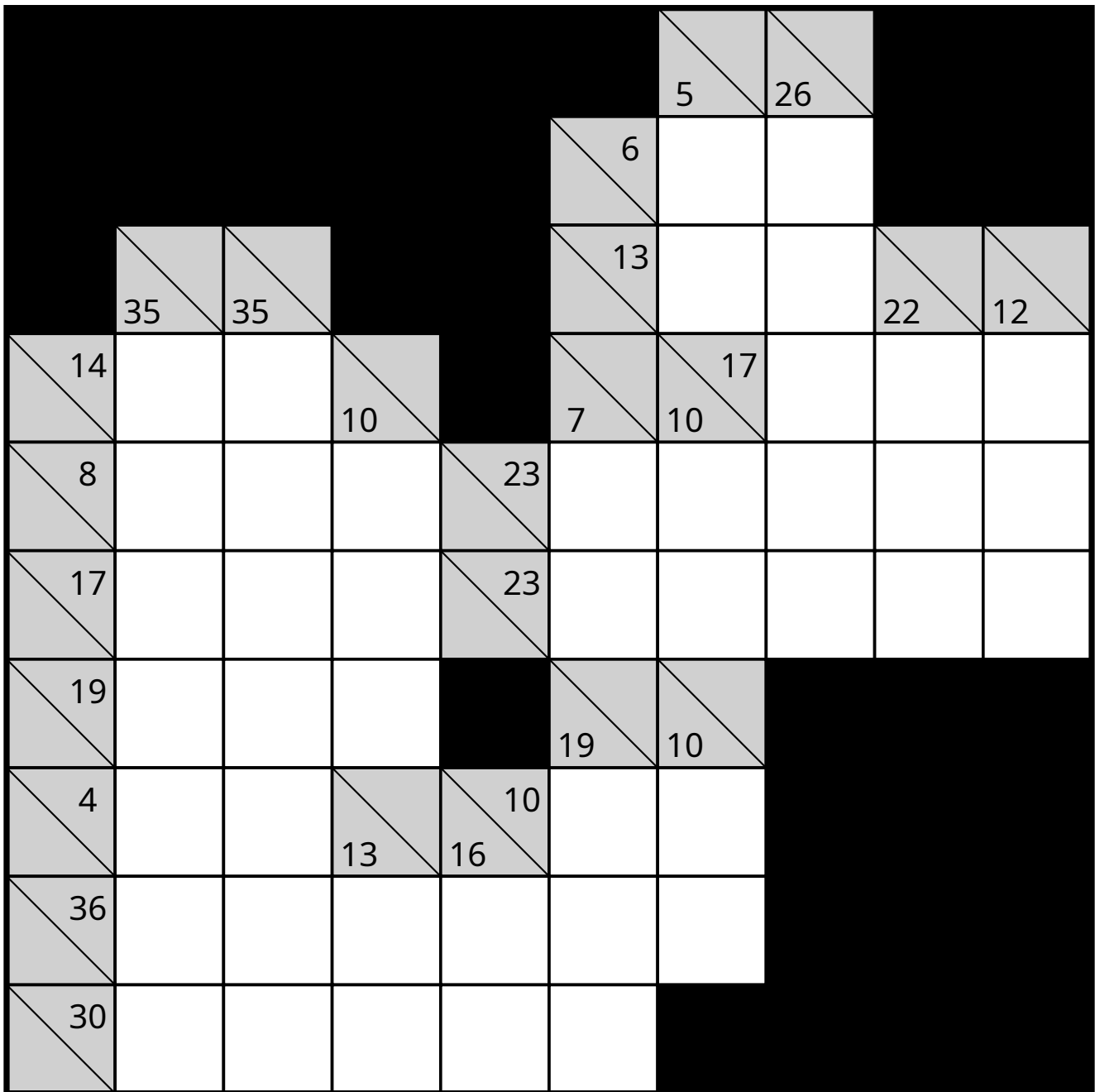
Intermediate - Puzzle 107 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



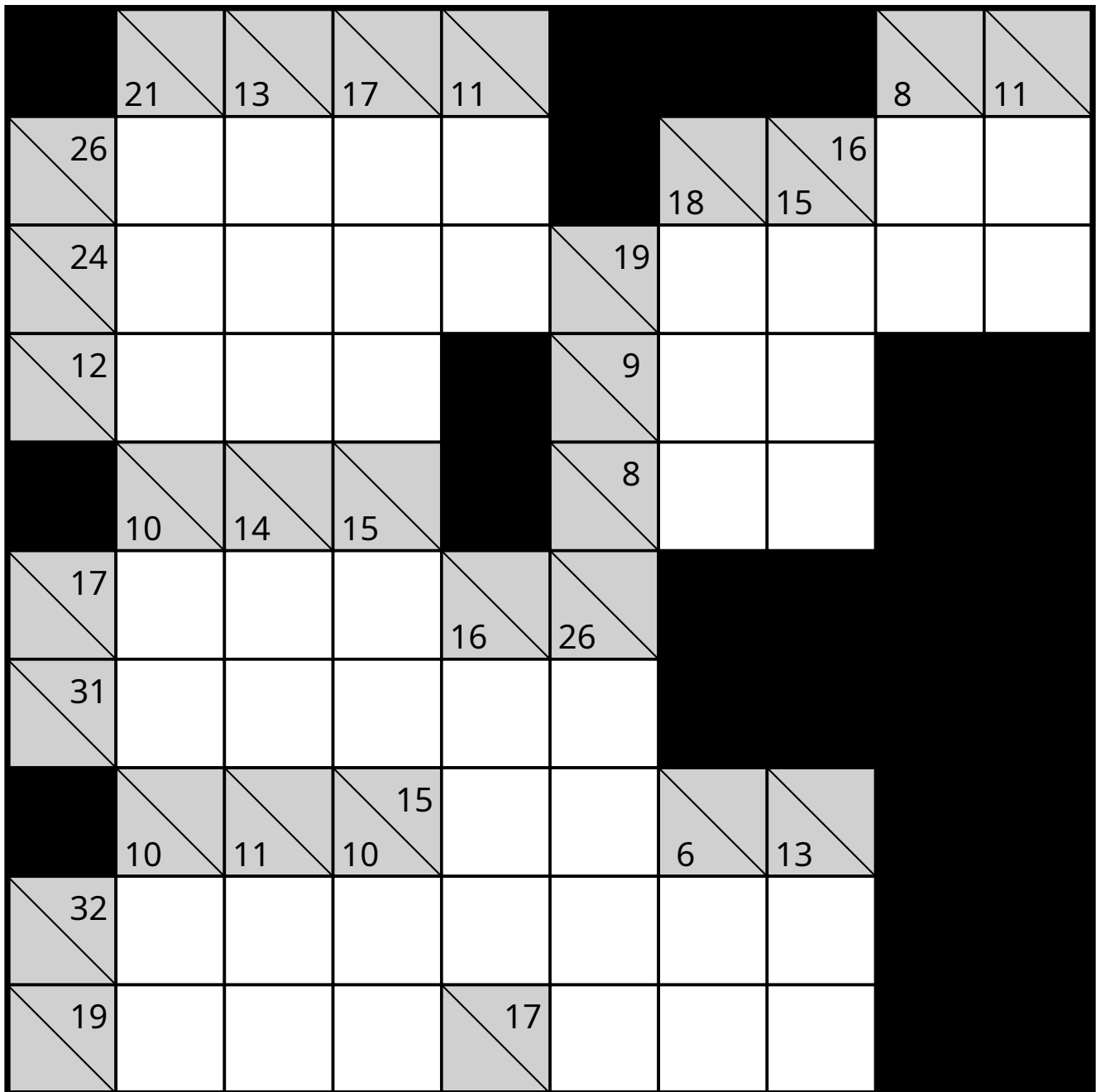
Intermediate - Puzzle 108 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



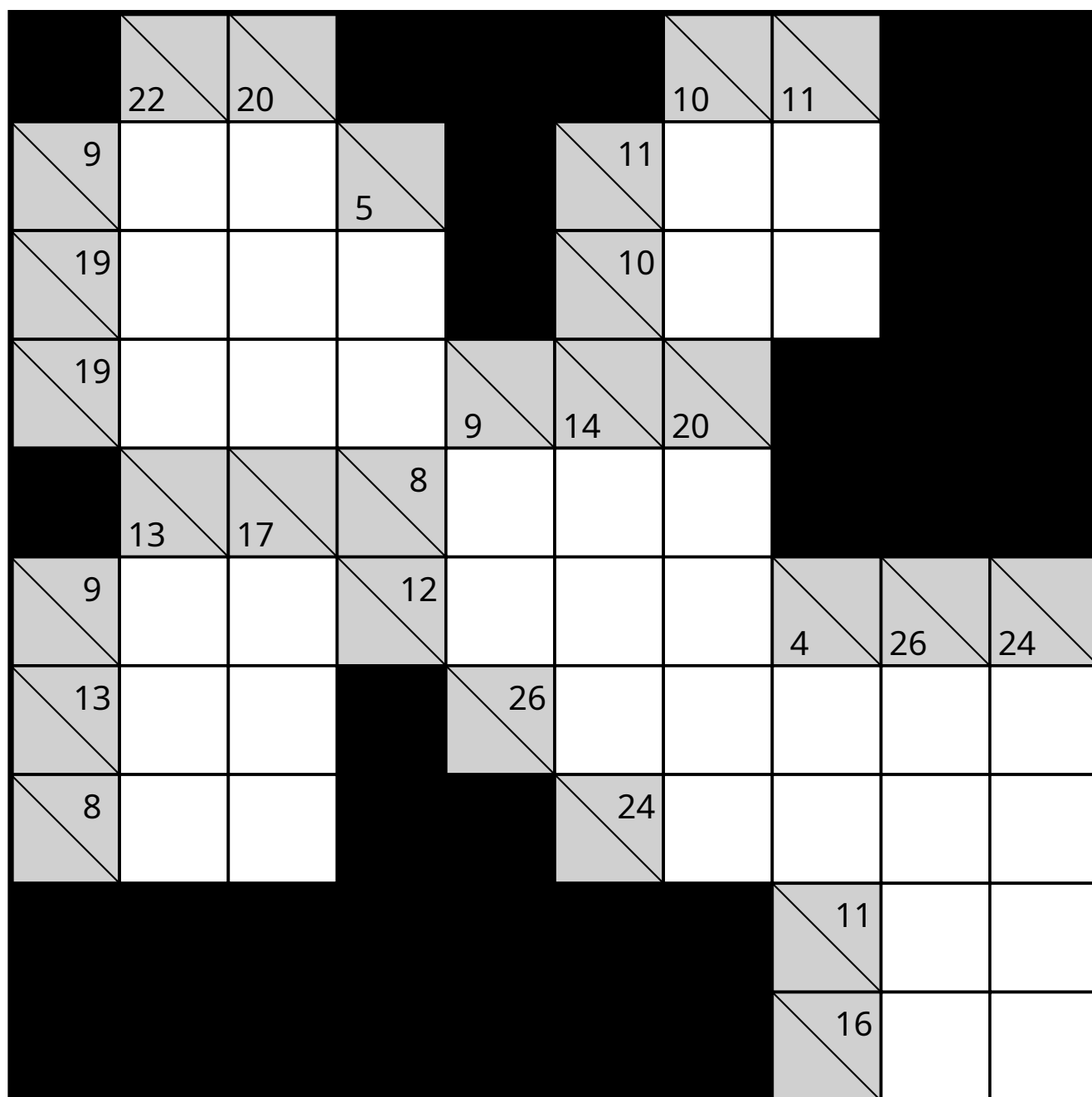
Intermediate - Puzzle 109 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



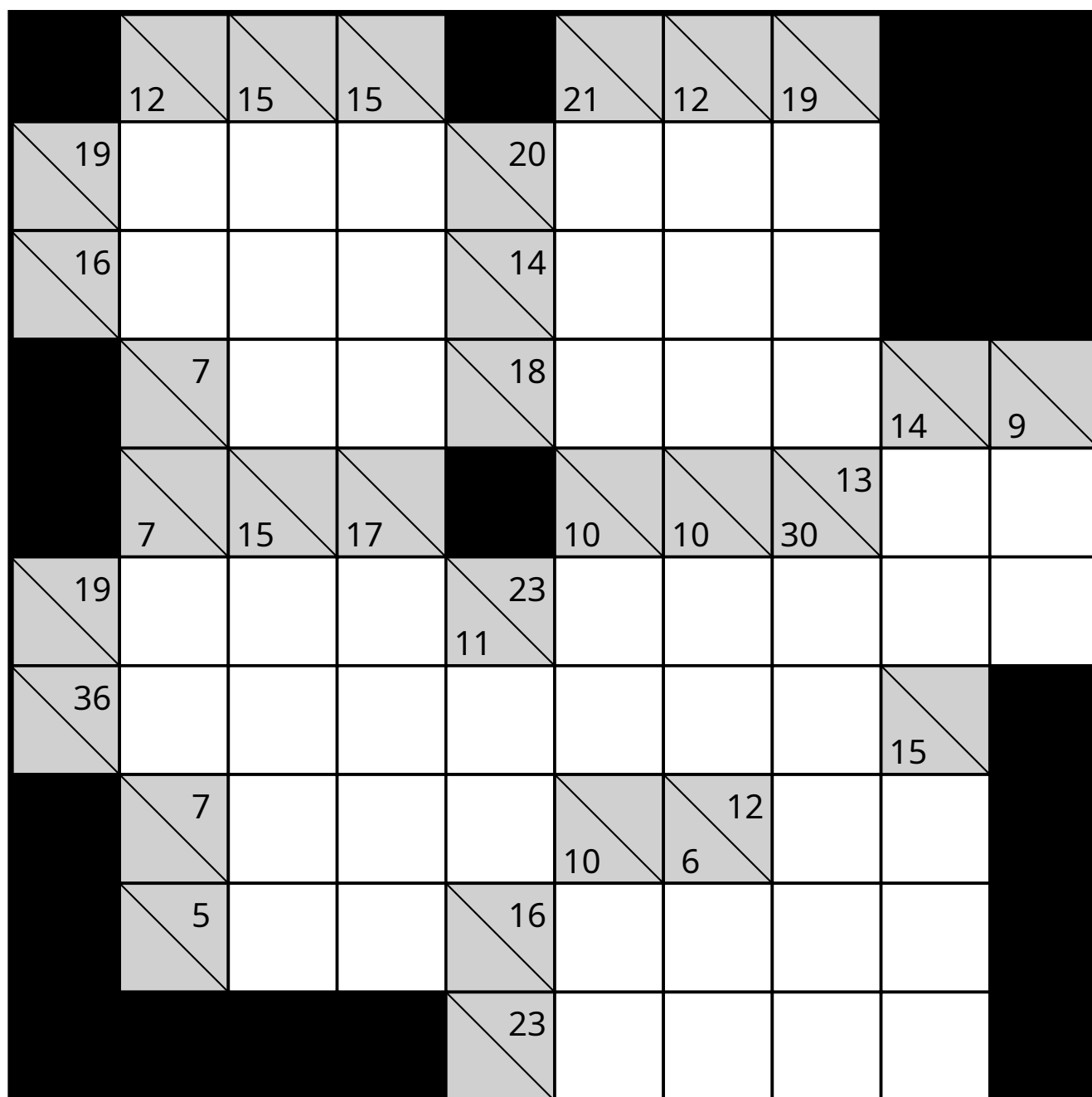
Intermediate - Puzzle 110 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



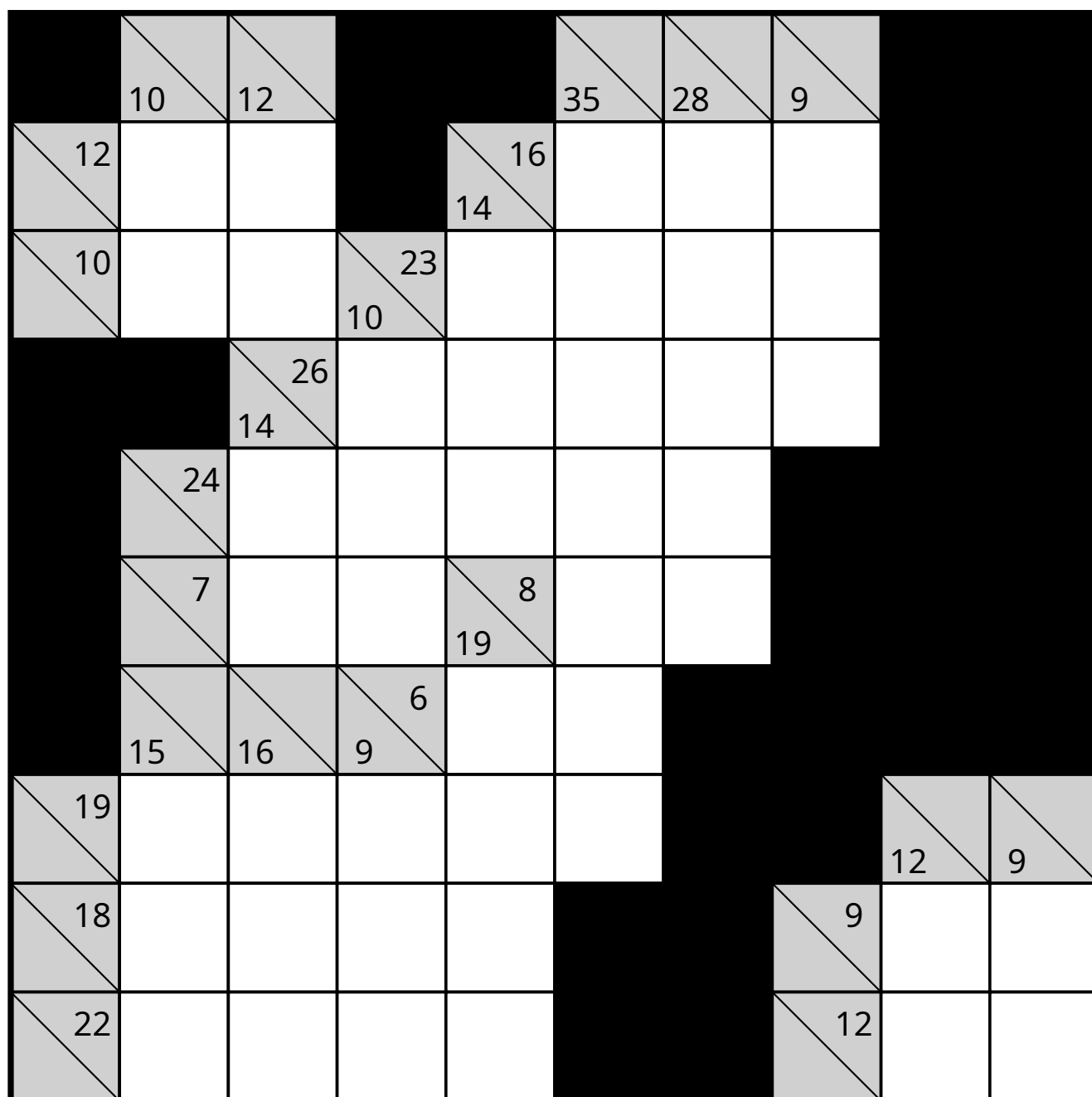
Intermediate - Puzzle 111 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



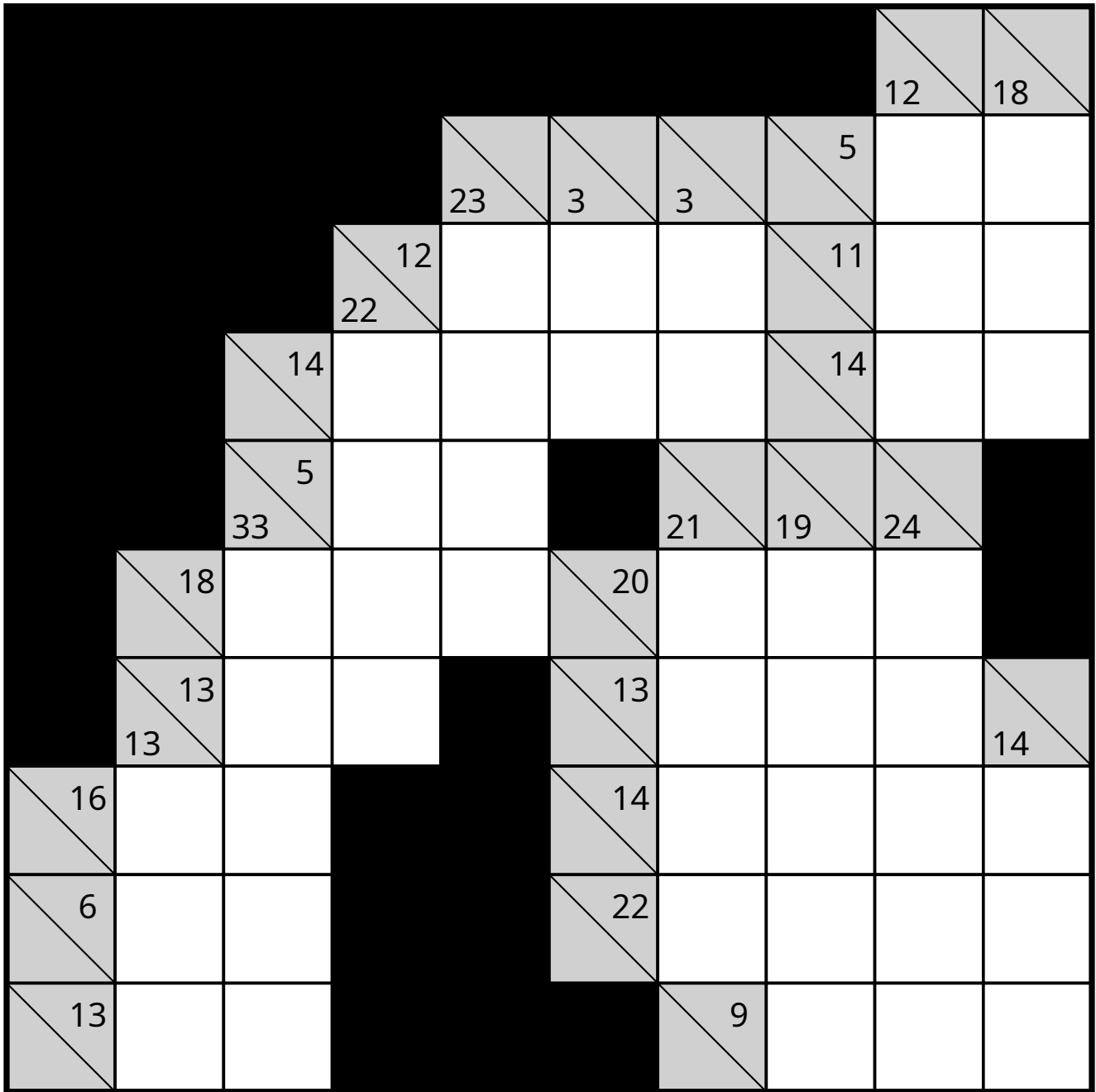
Intermediate - Puzzle 112 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



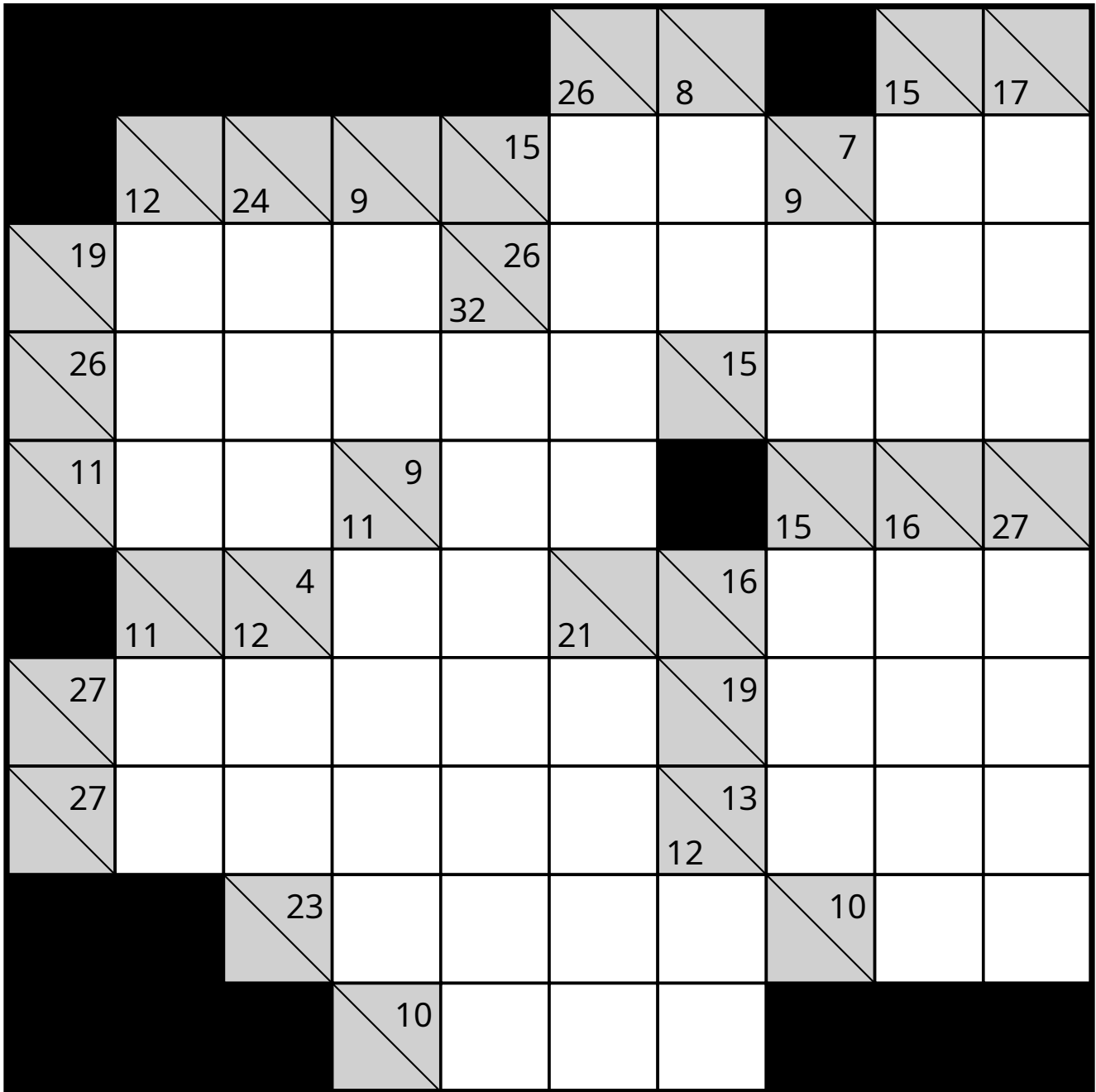
Intermediate - Puzzle 113 - 10x10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



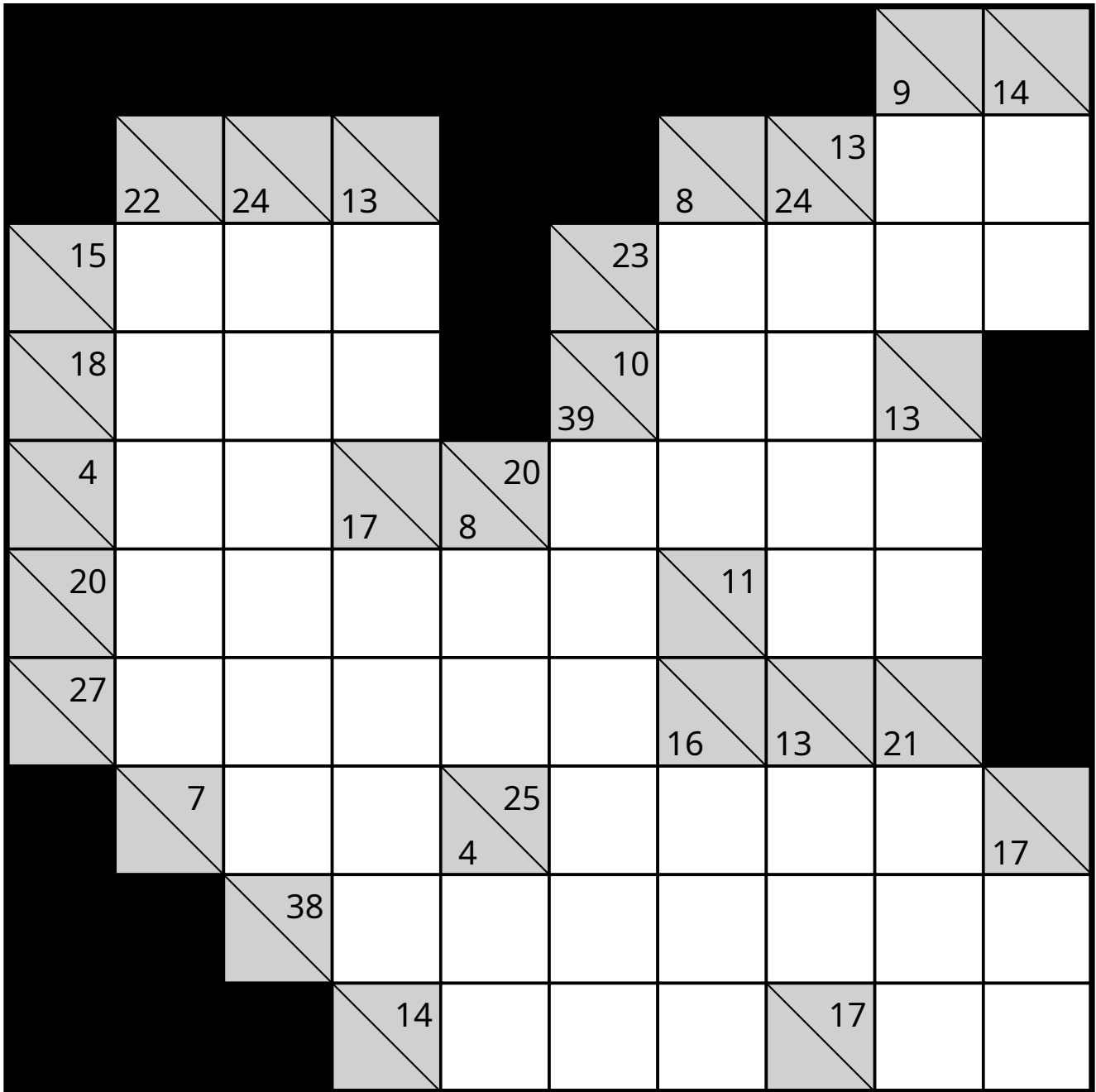
Intermediate - Puzzle 114 - 10x10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



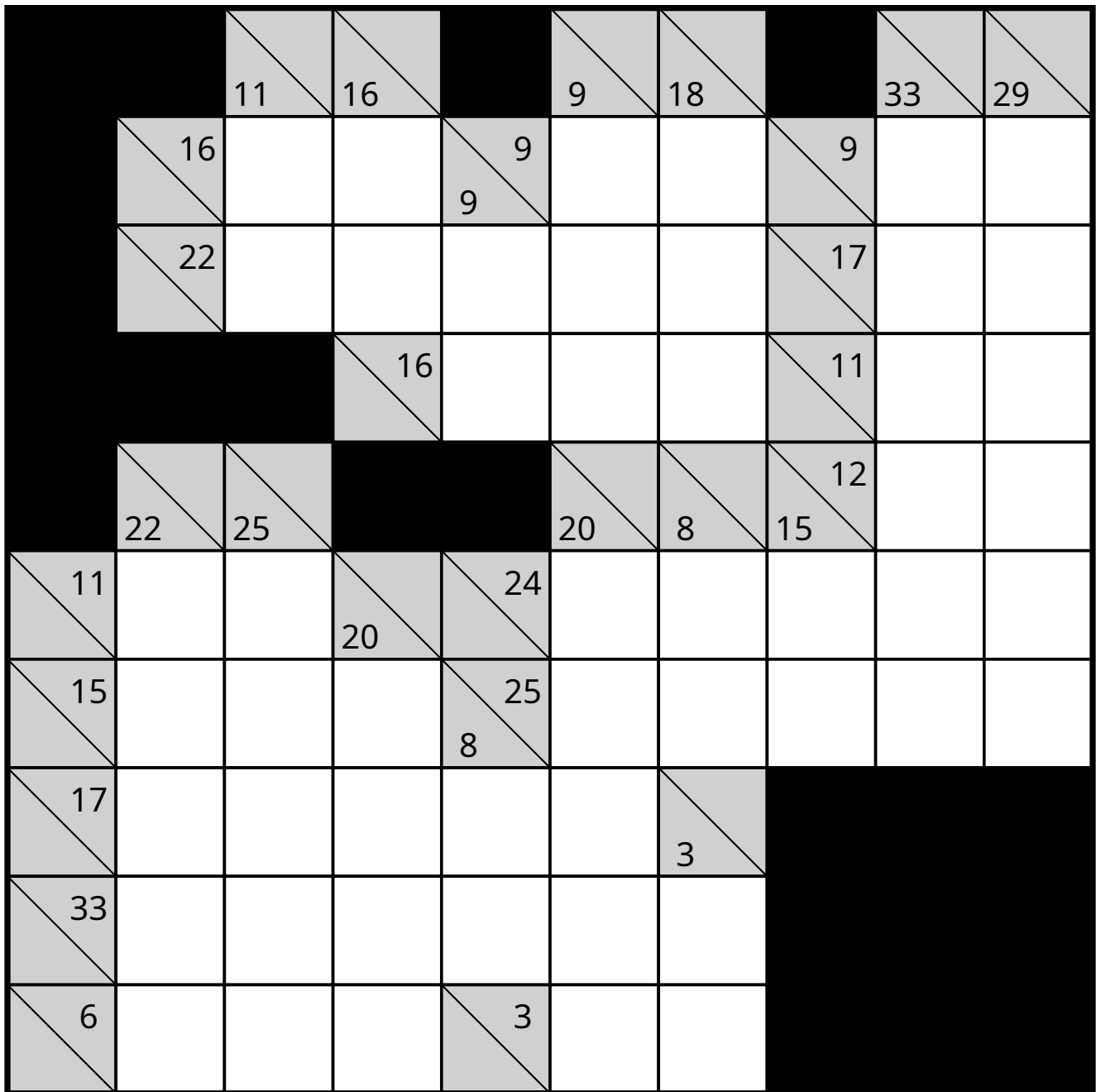
Intermediate - Puzzle 115 - 10x10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



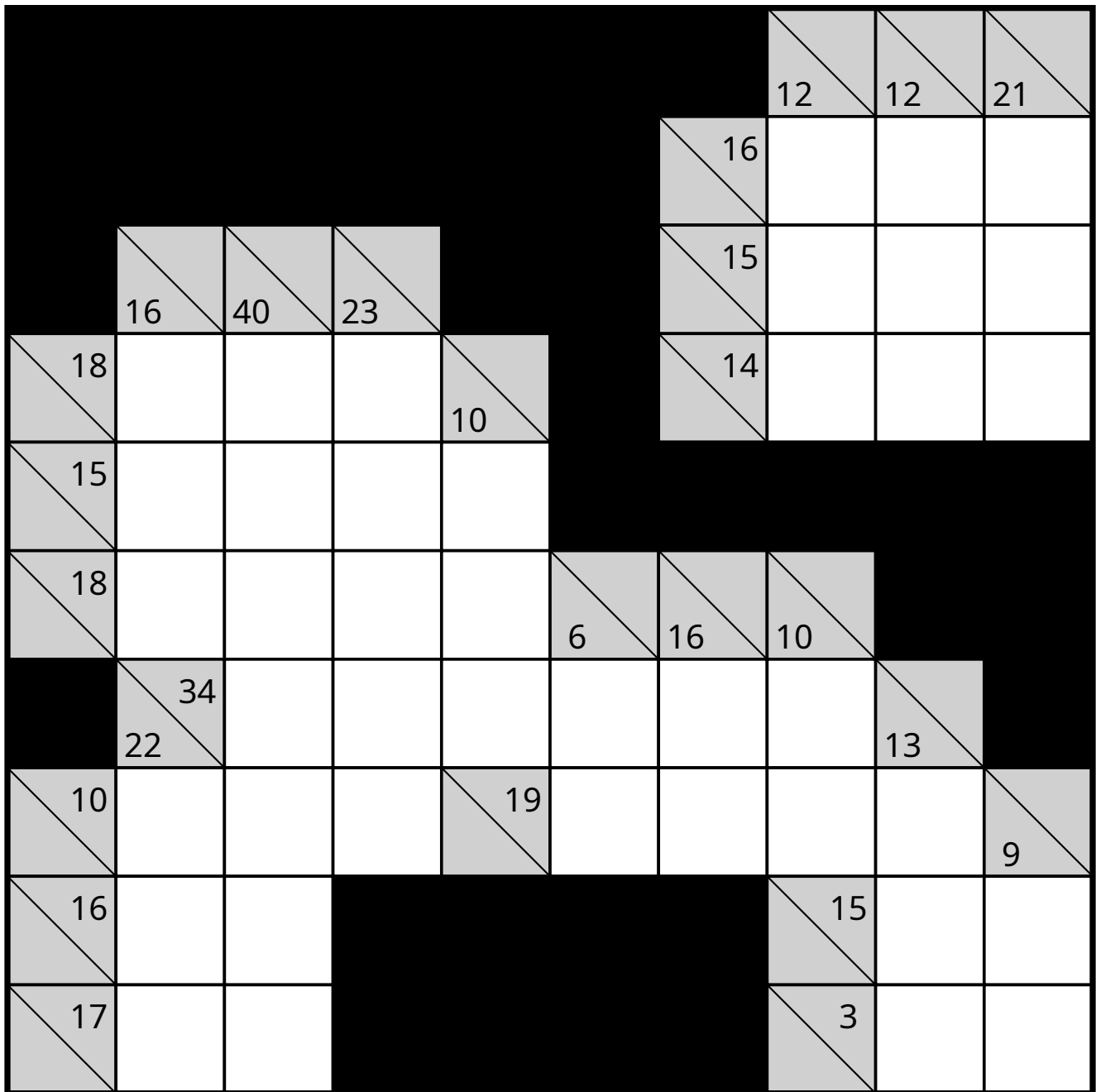
Intermediate - Puzzle 116 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



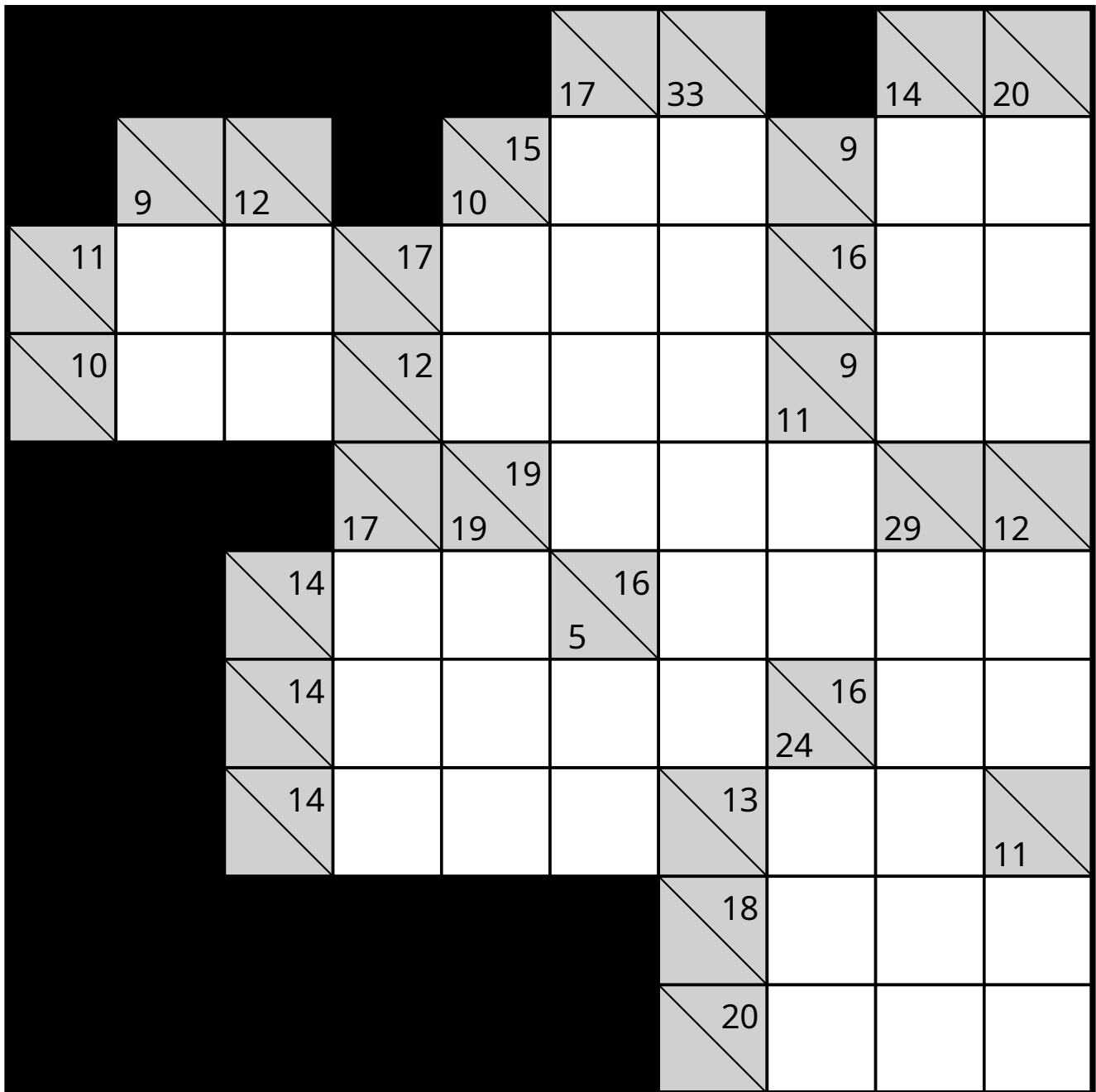
Intermediate - Puzzle 117 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



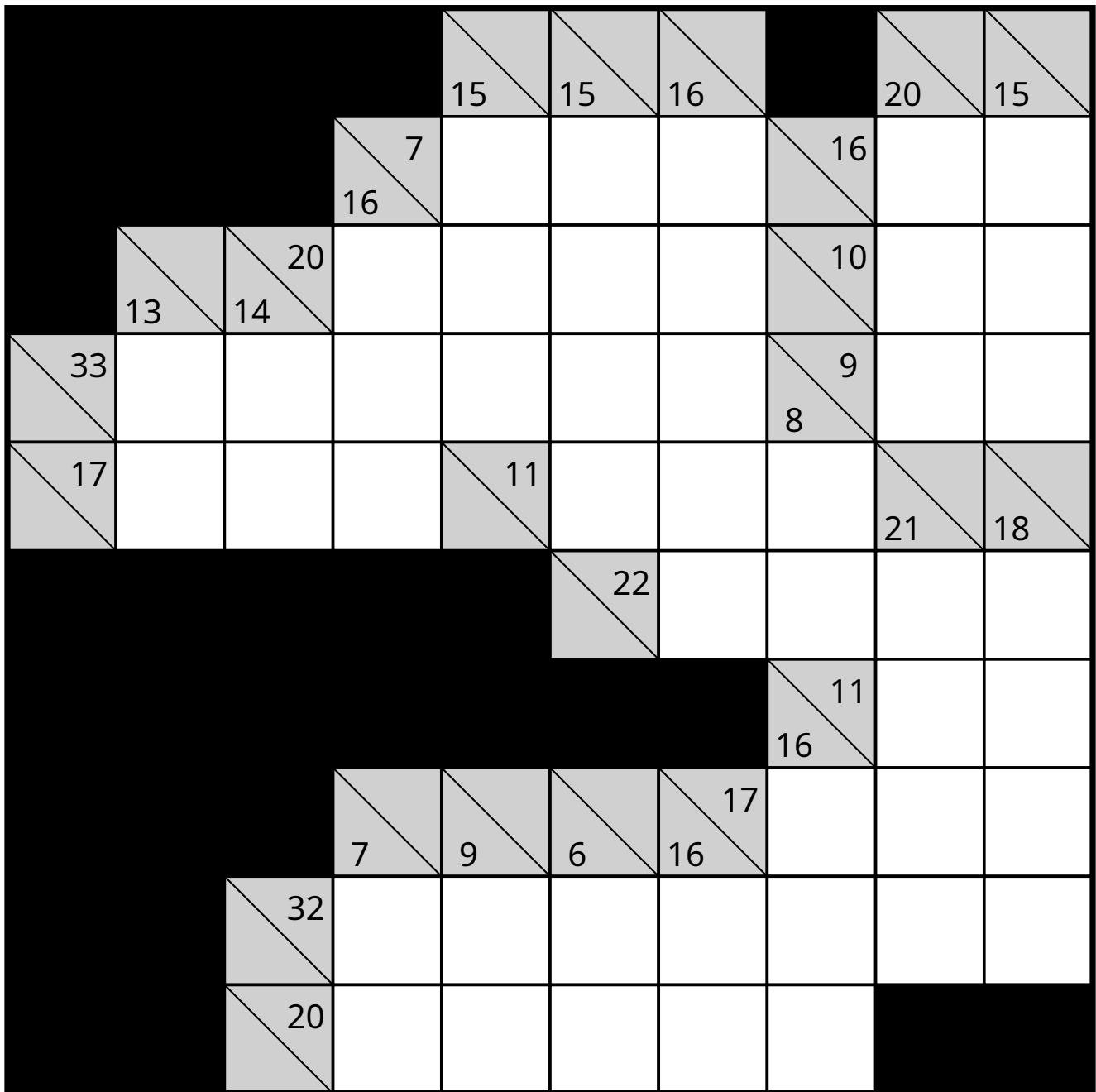
Intermediate - Puzzle 118 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



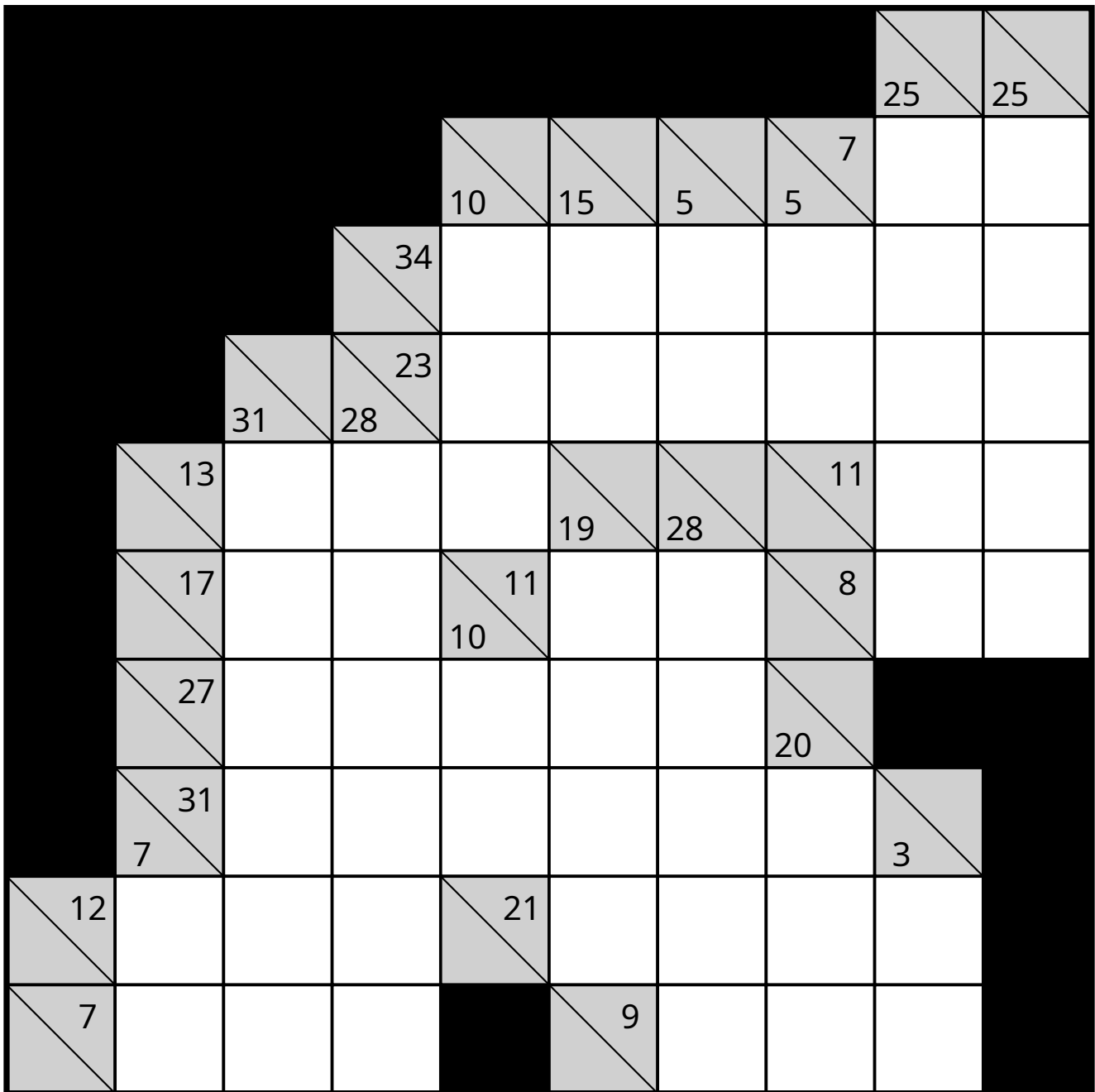
Intermediate - Puzzle 119 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



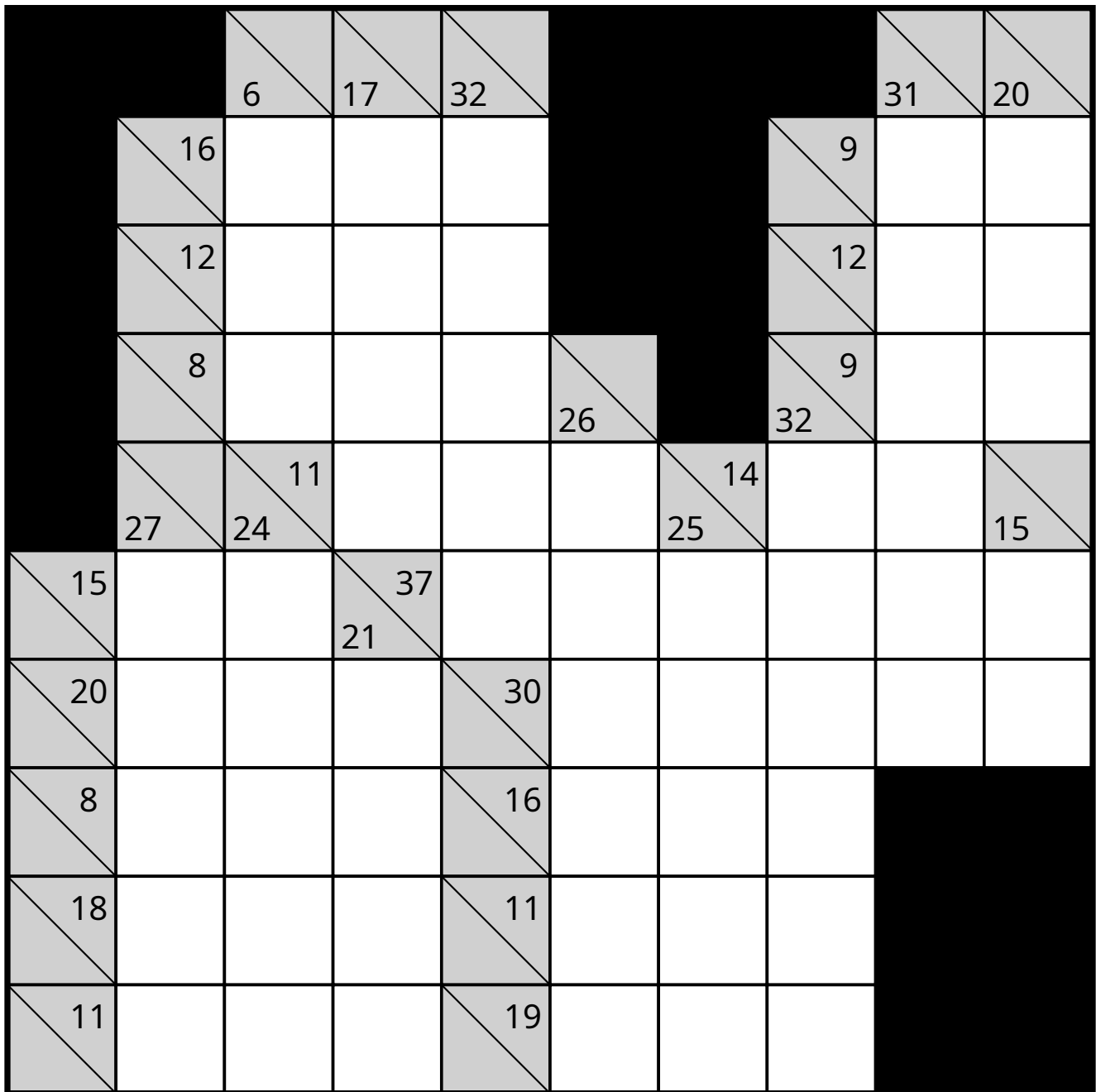
Intermediate - Puzzle 120 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



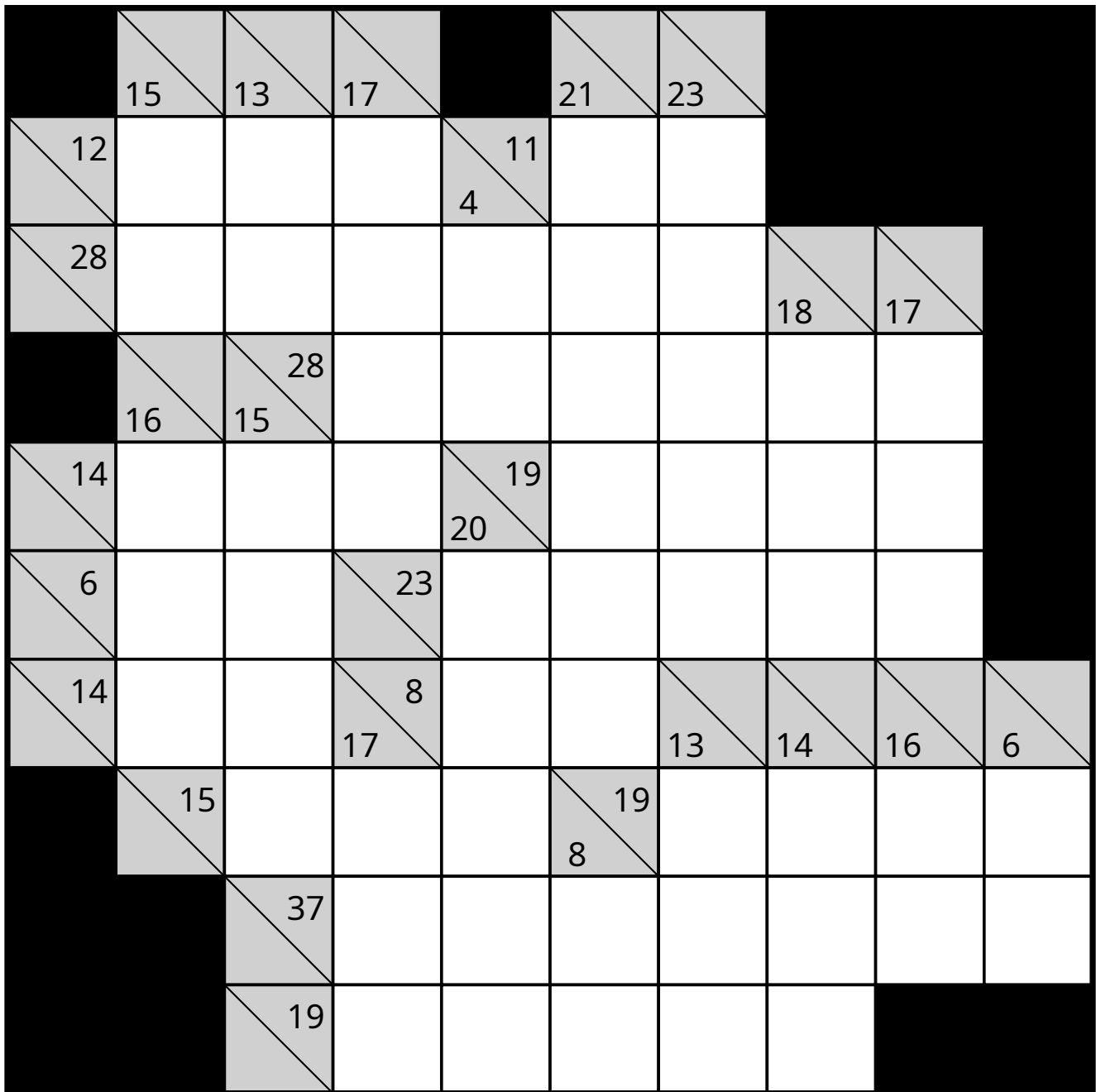
Intermediate - Puzzle 121 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



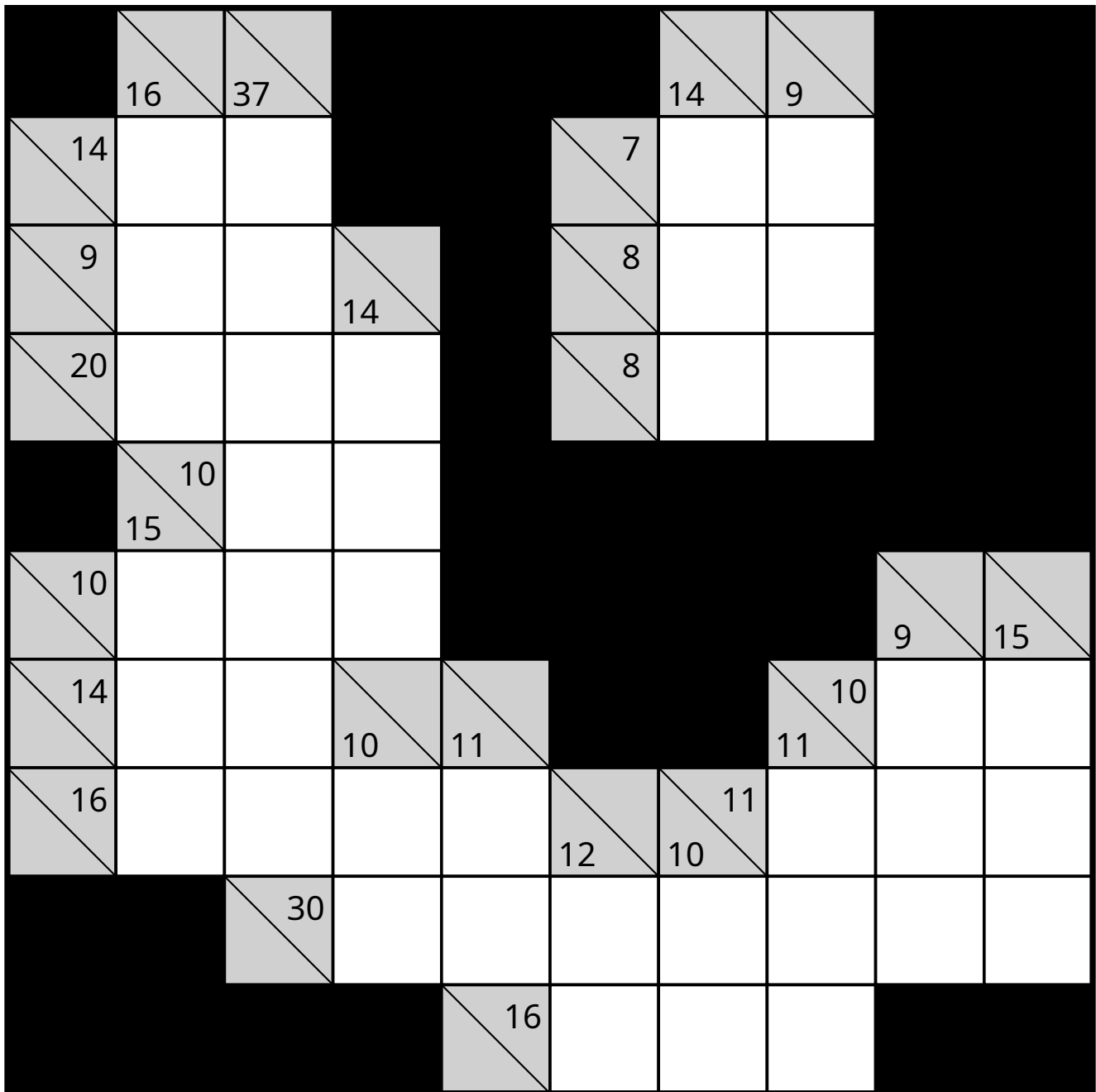
Intermediate - Puzzle 122 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



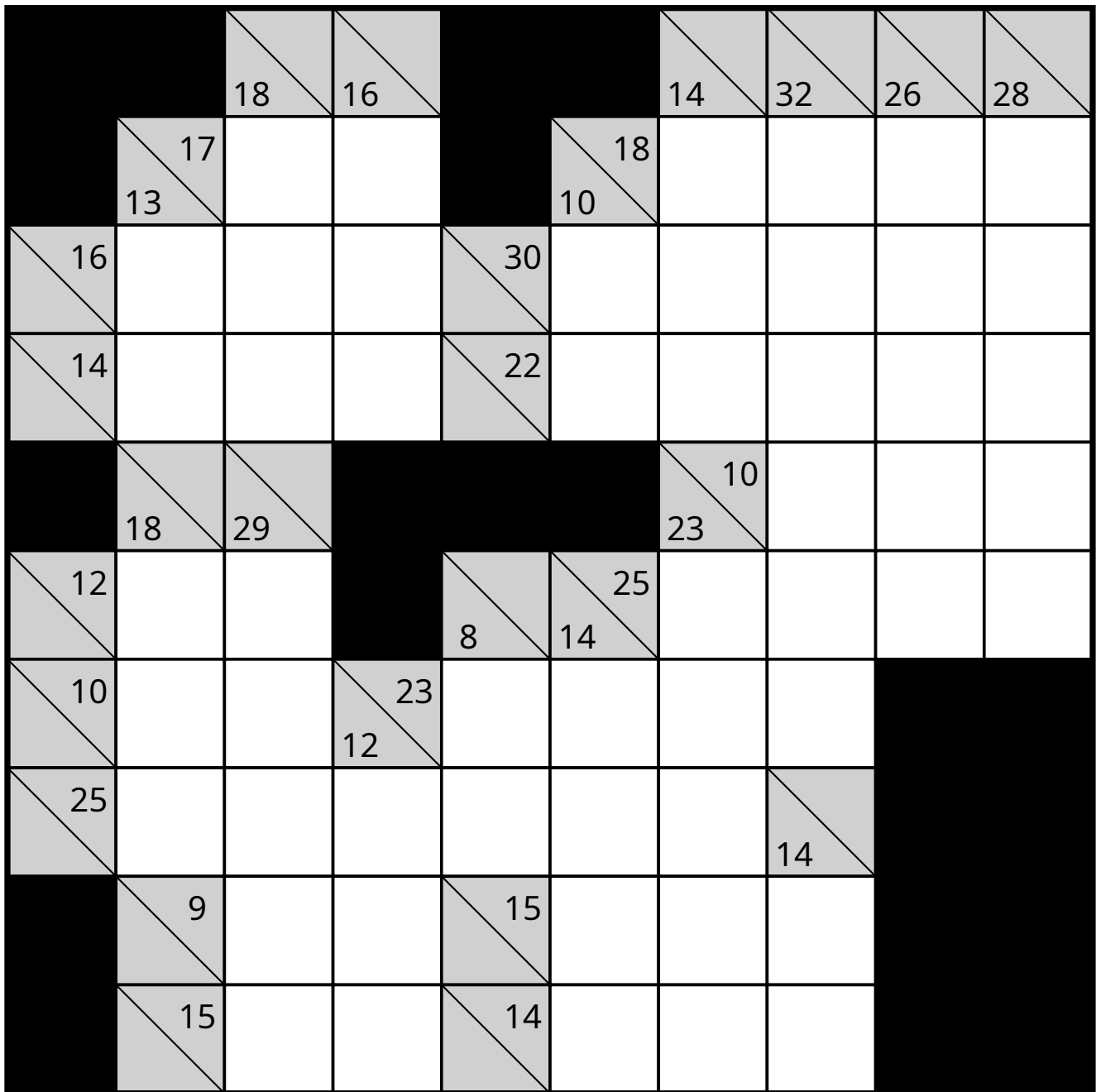
Intermediate - Puzzle 123 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



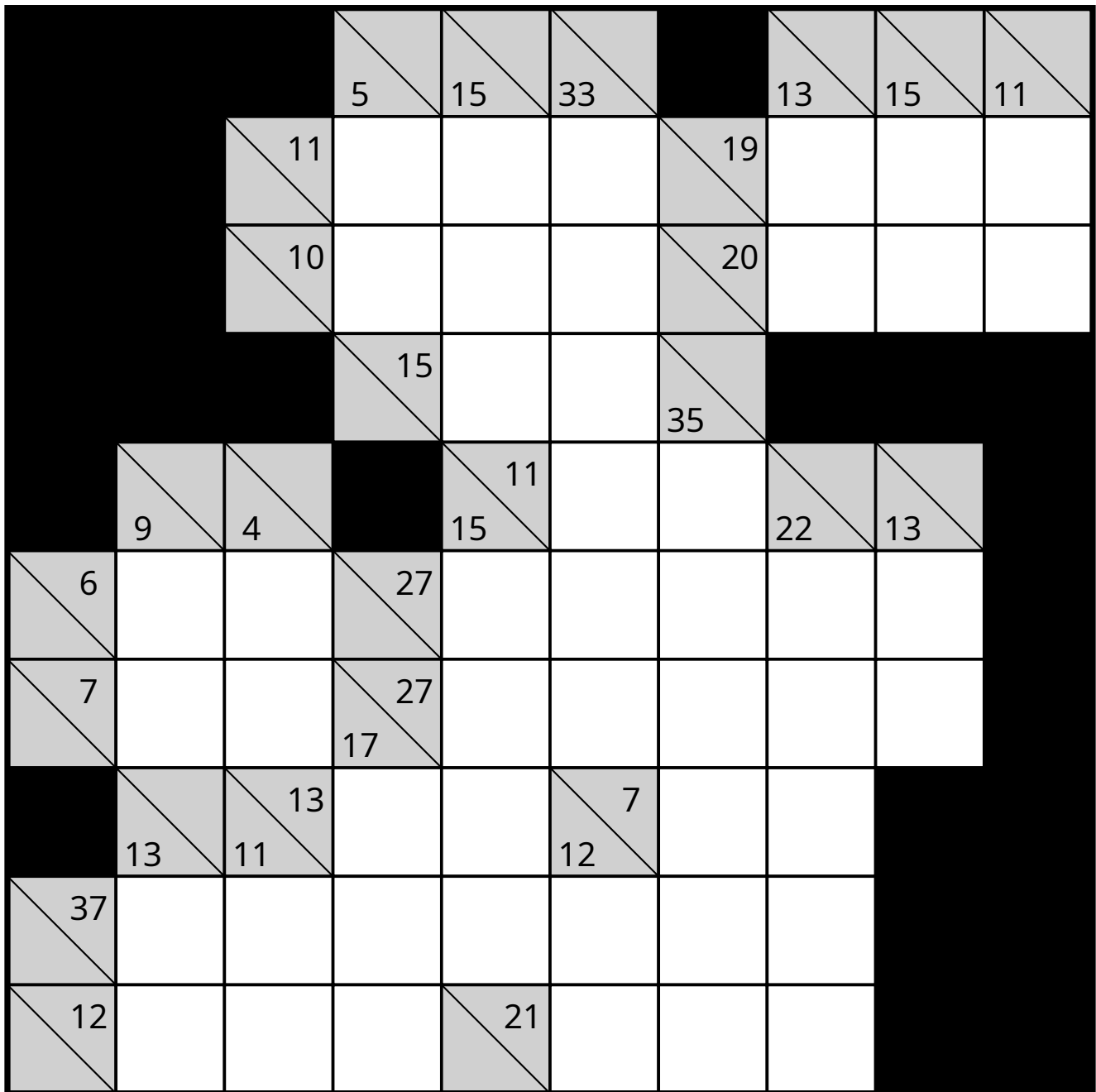
Intermediate - Puzzle 124 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



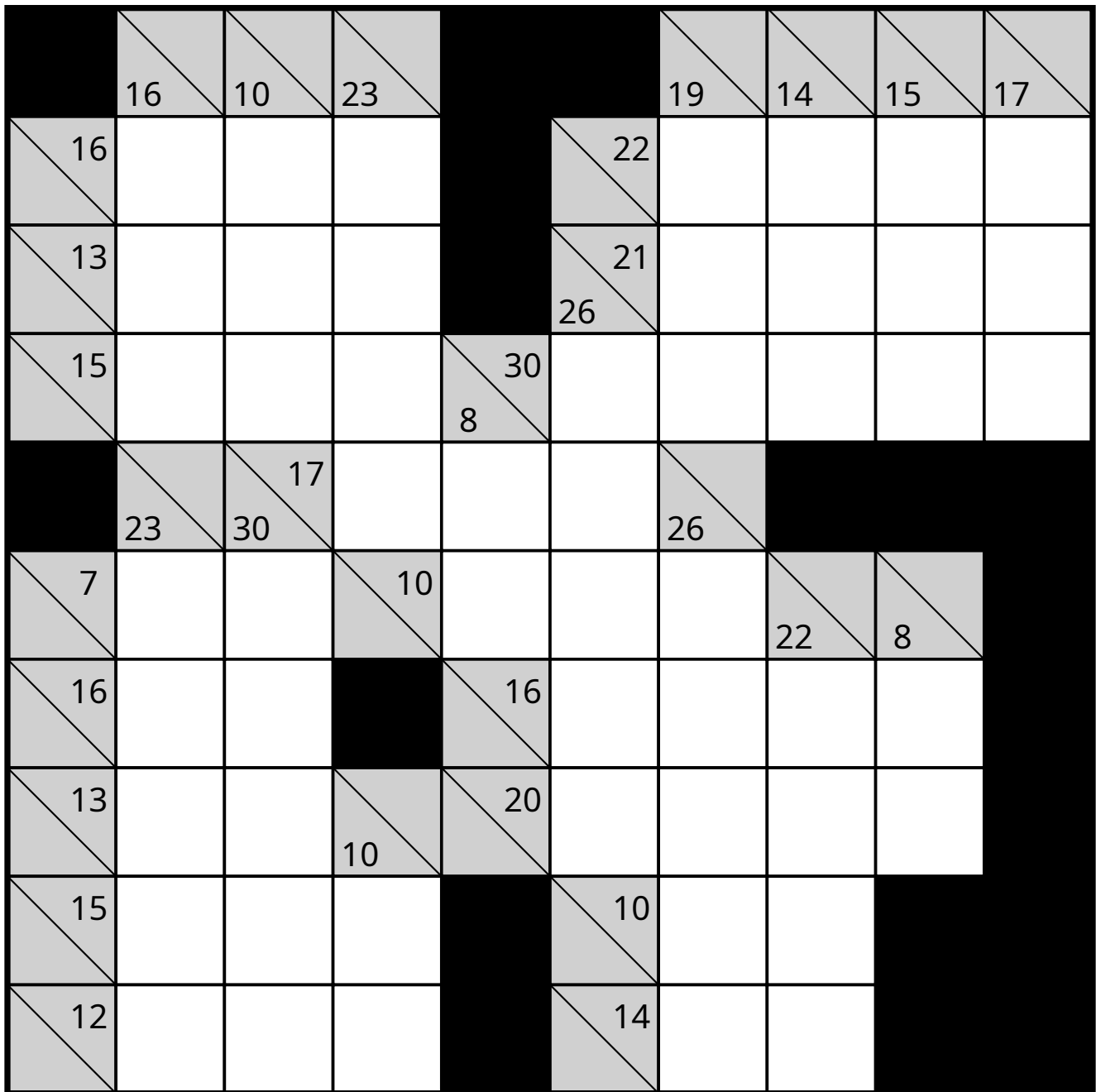
Intermediate - Puzzle 125 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



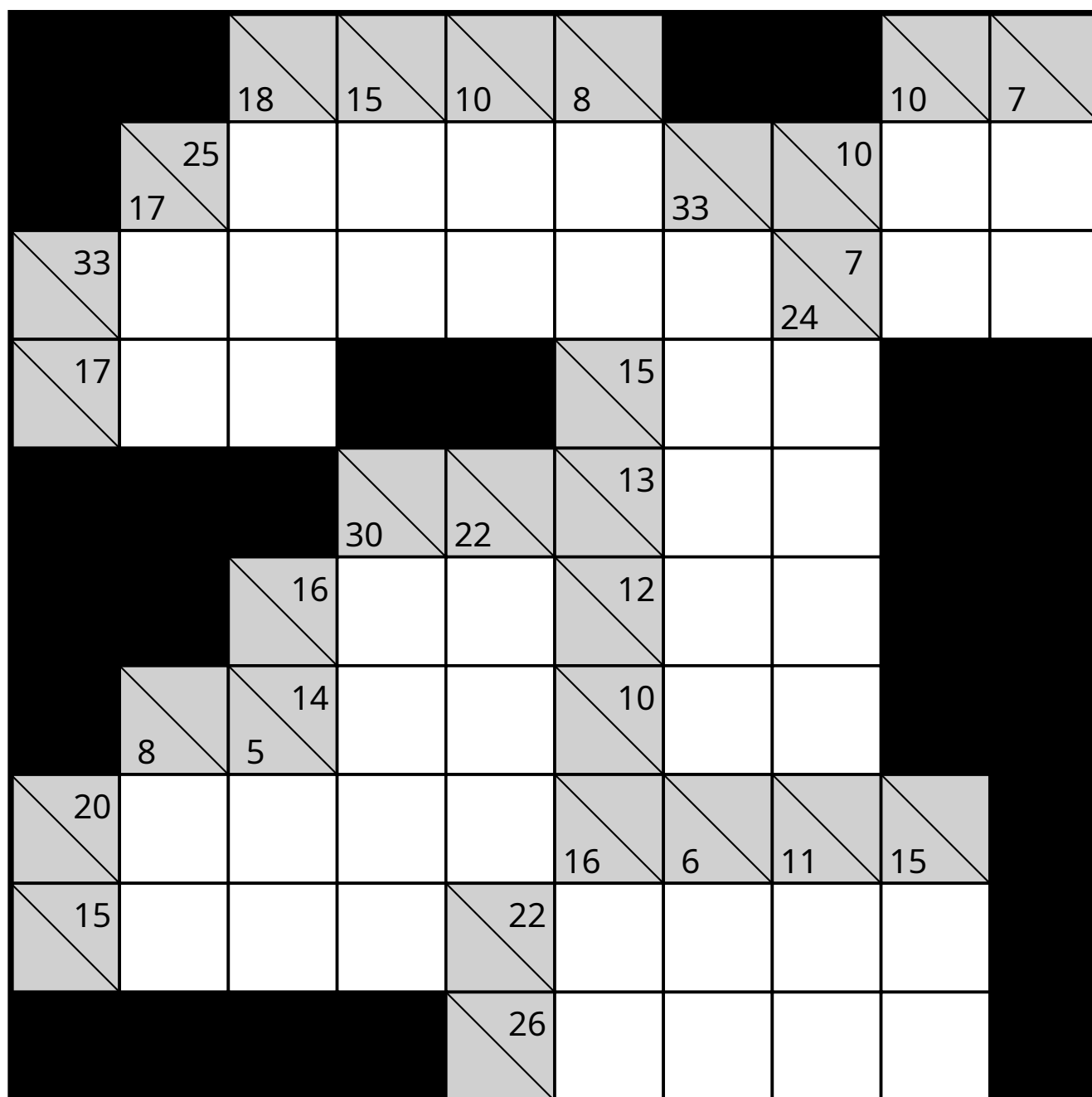
Intermediate - Puzzle 126 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



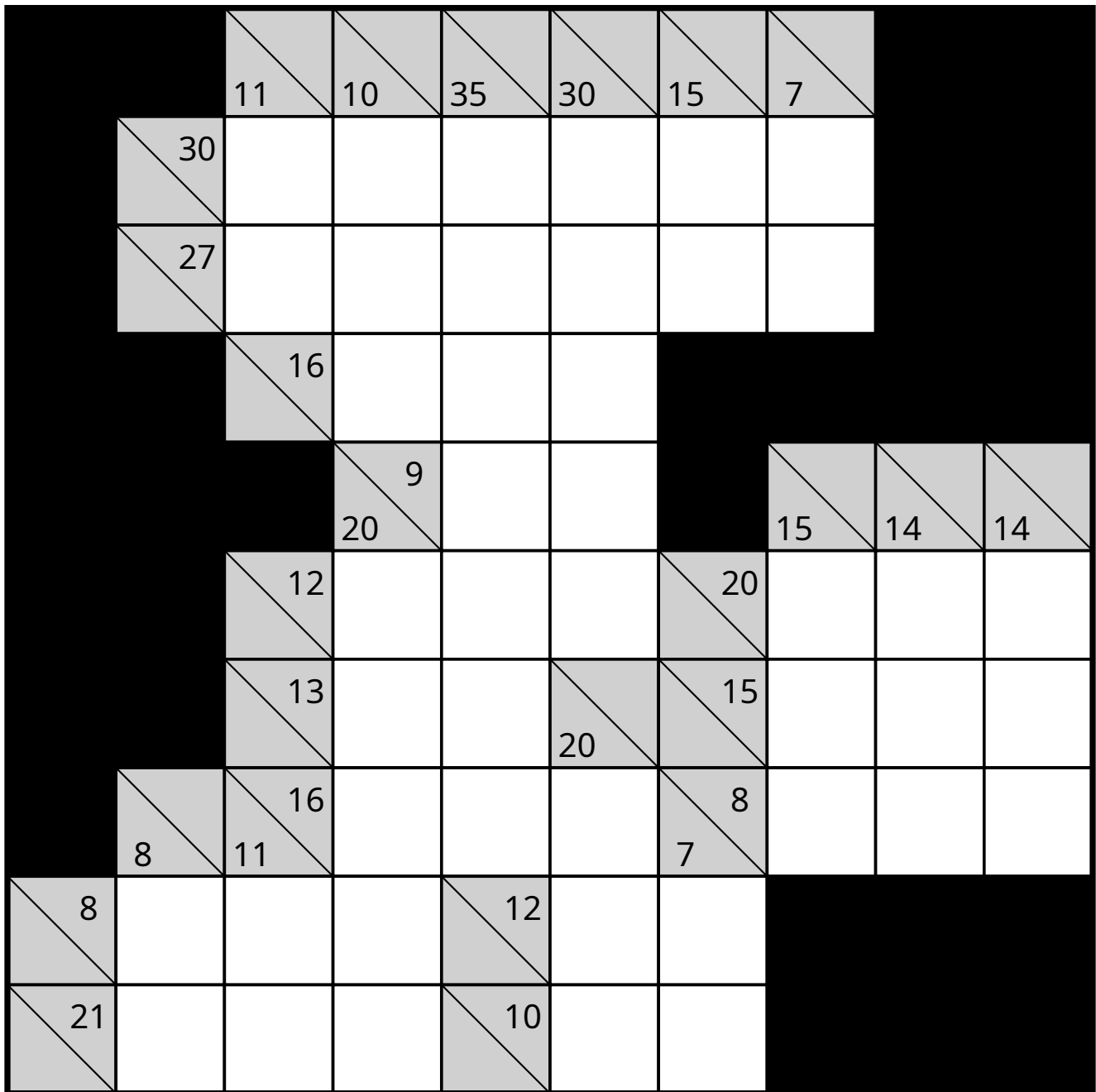
Intermediate - Puzzle 127 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



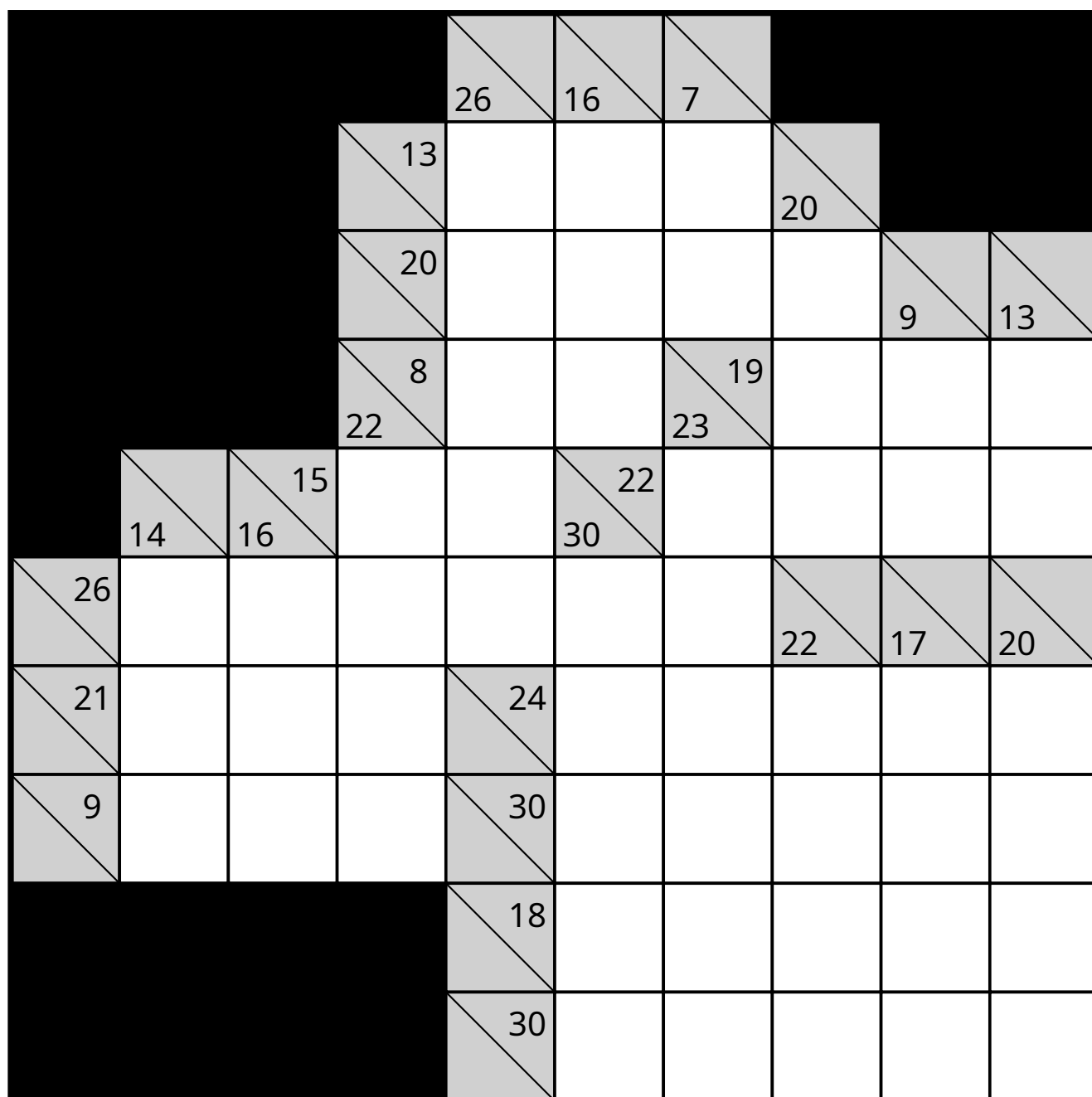
Intermediate - Puzzle 128 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



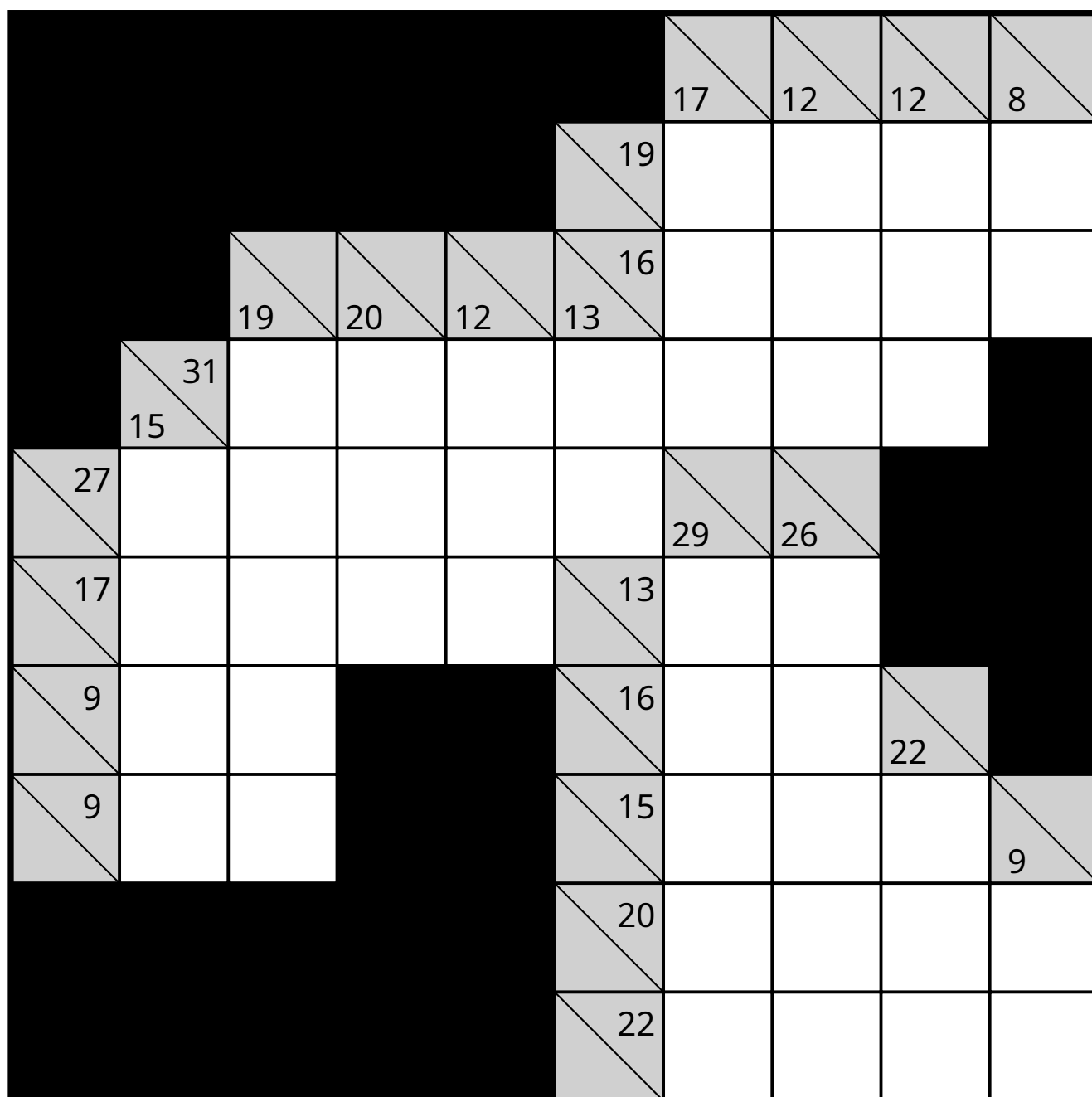
Intermediate - Puzzle 129 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



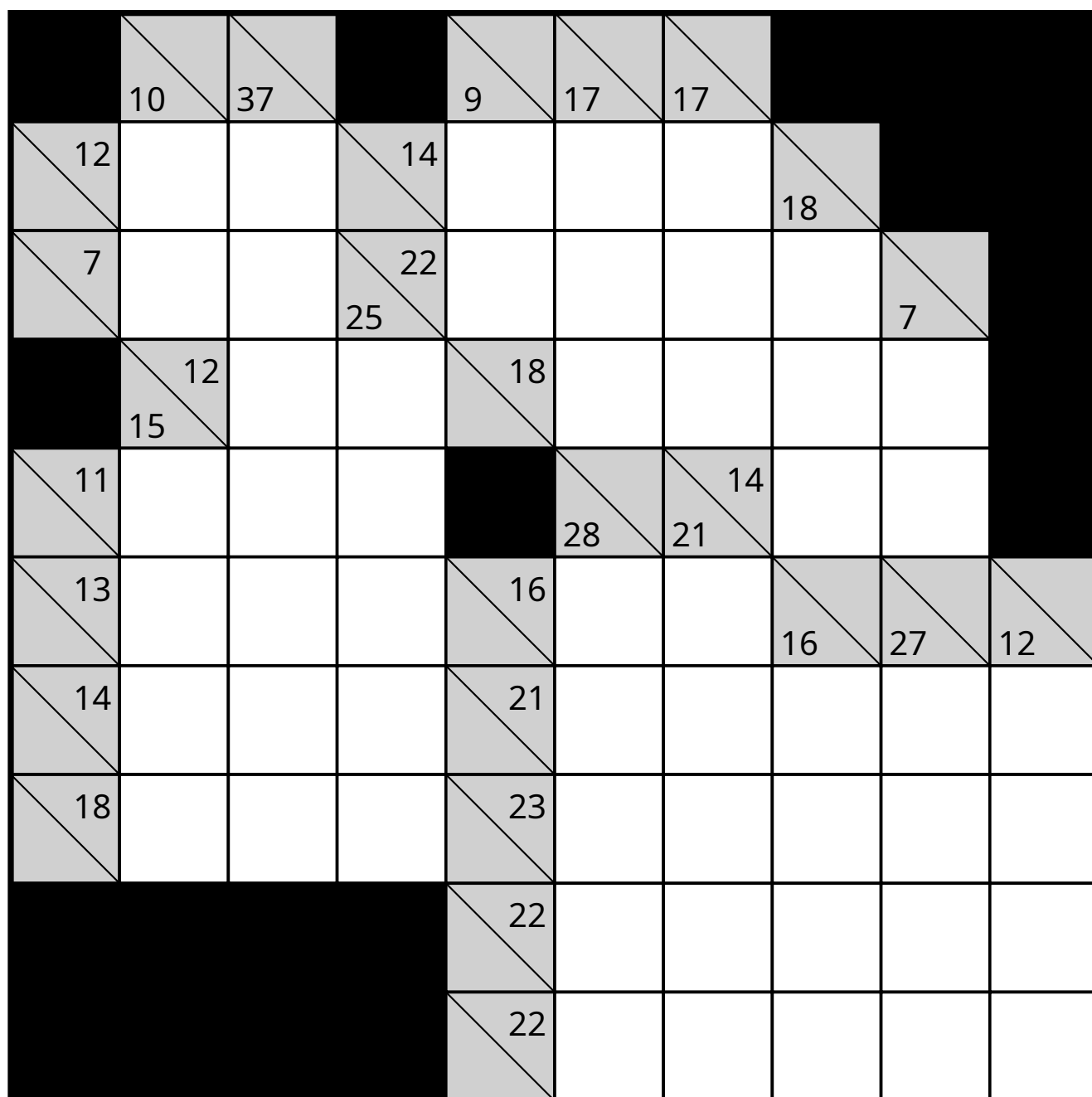
Intermediate - Puzzle 130 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



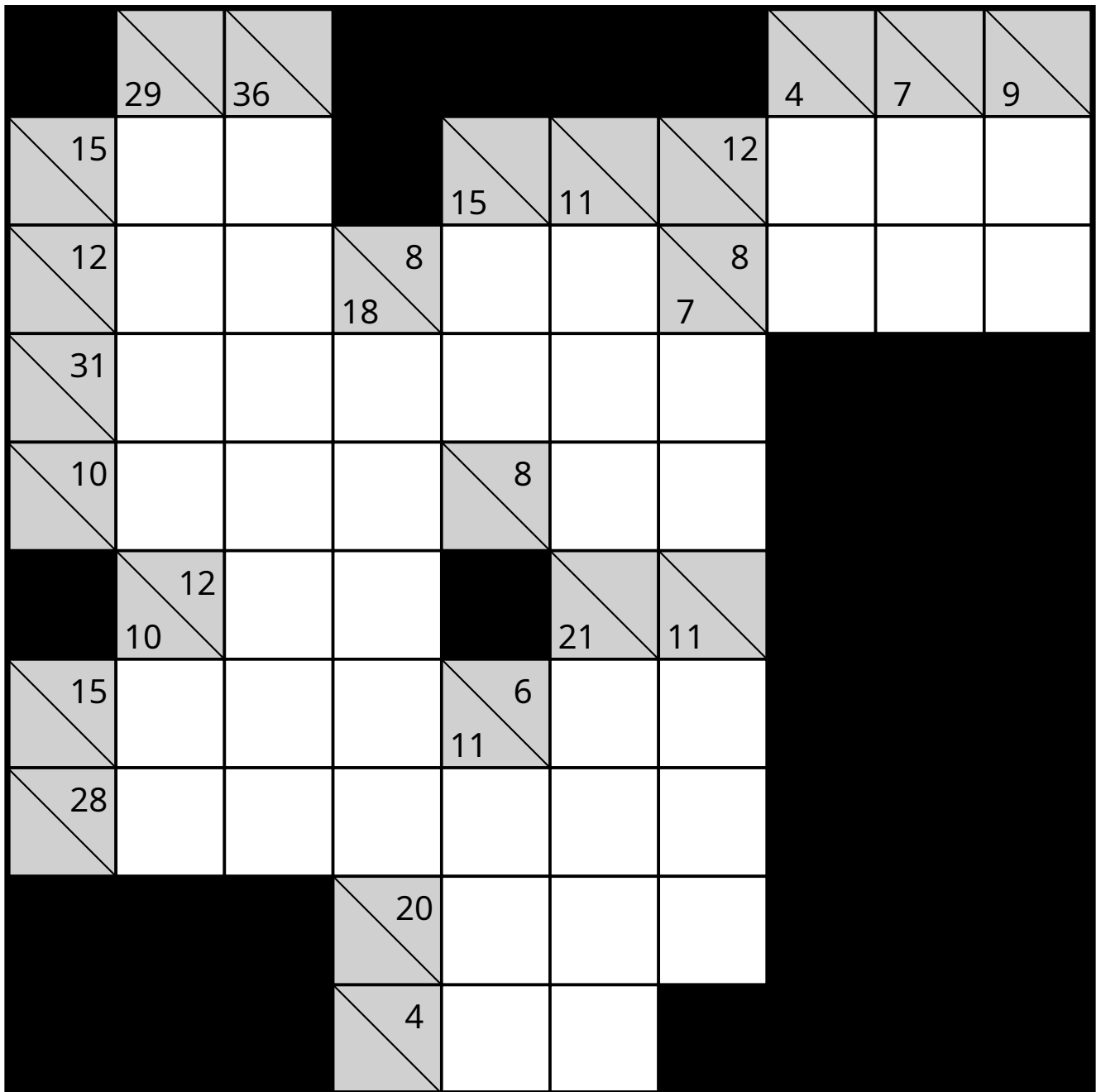
Intermediate - Puzzle 131 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



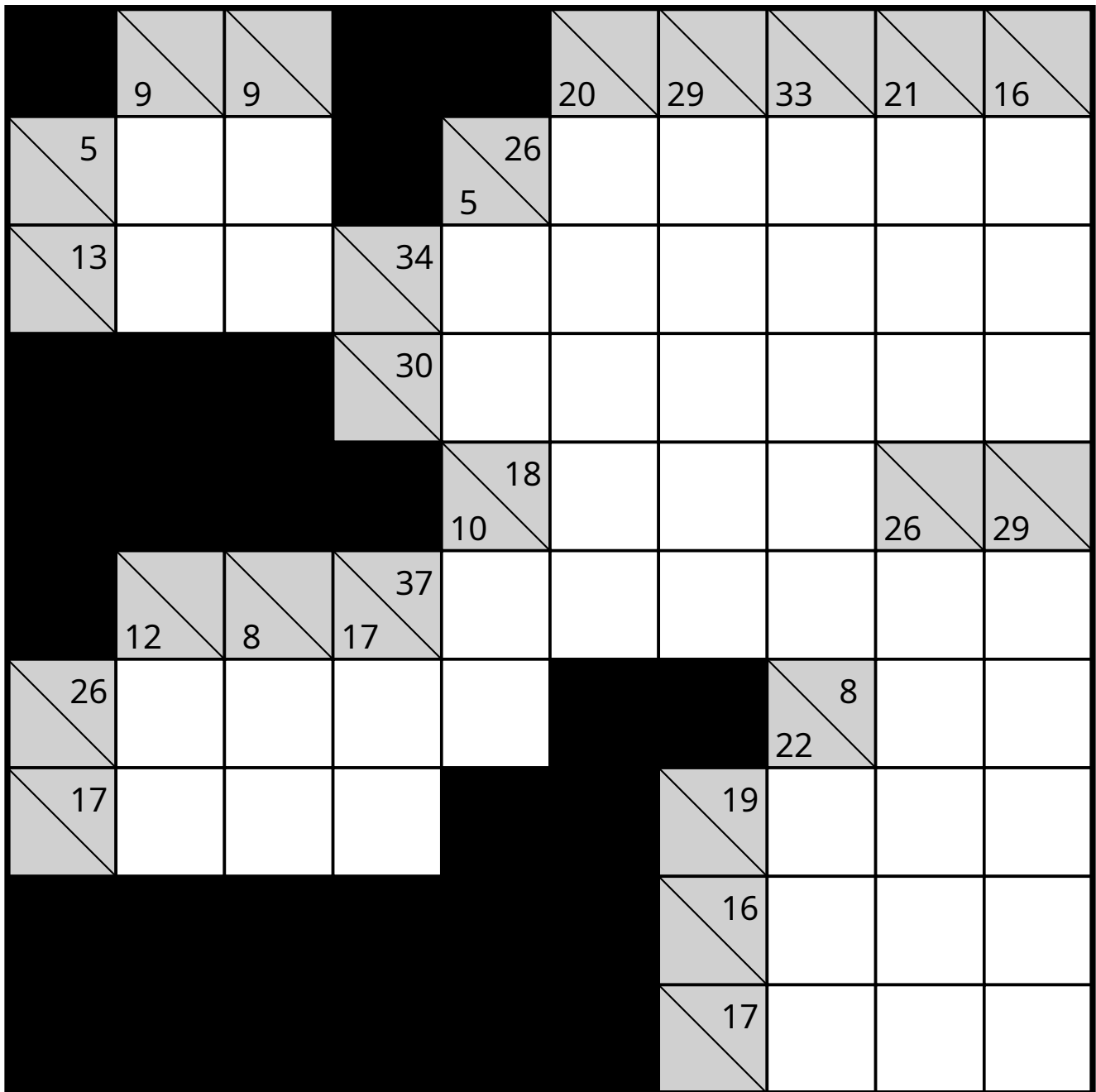
Intermediate - Puzzle 132 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



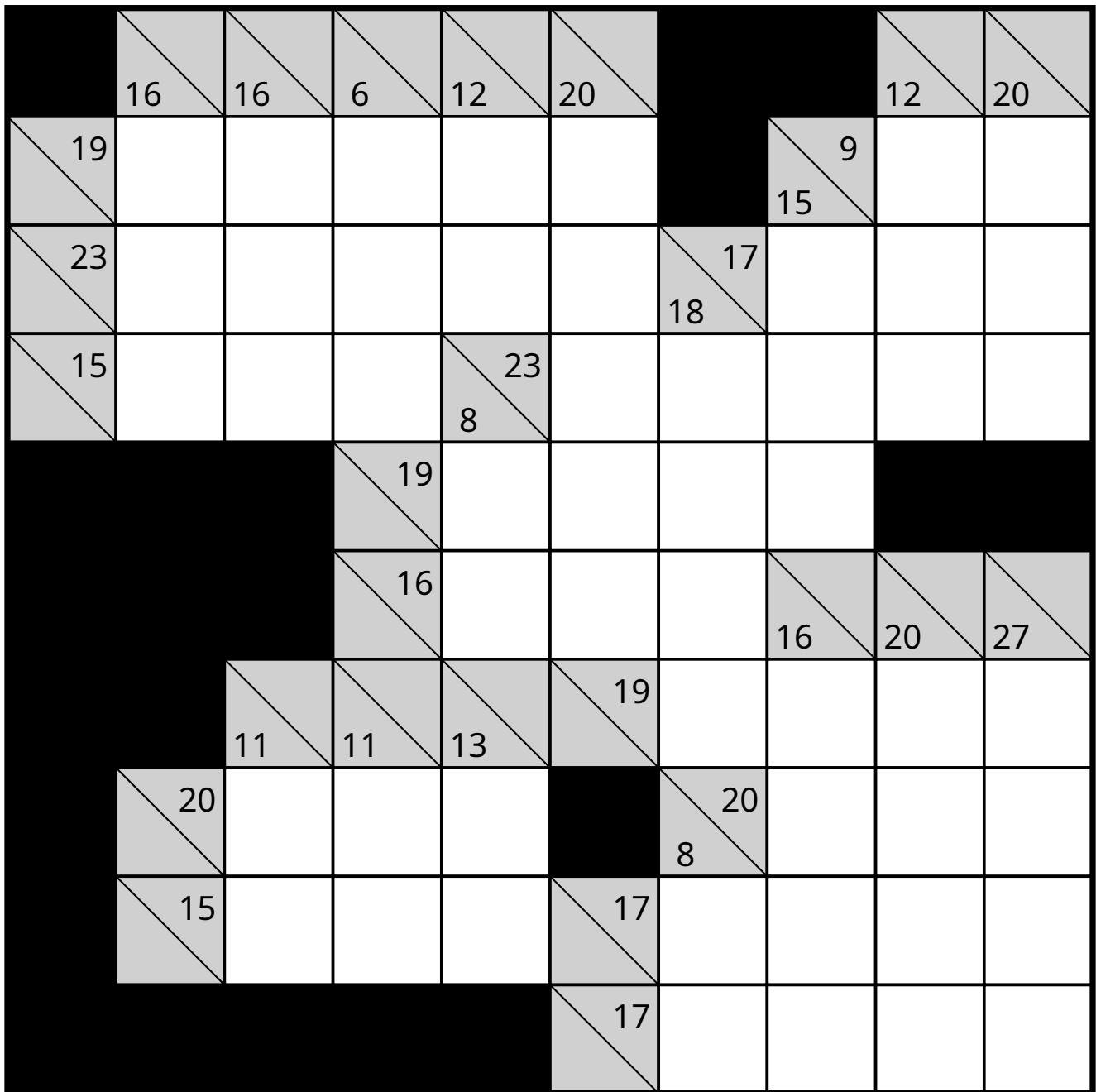
Intermediate - Puzzle 133 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



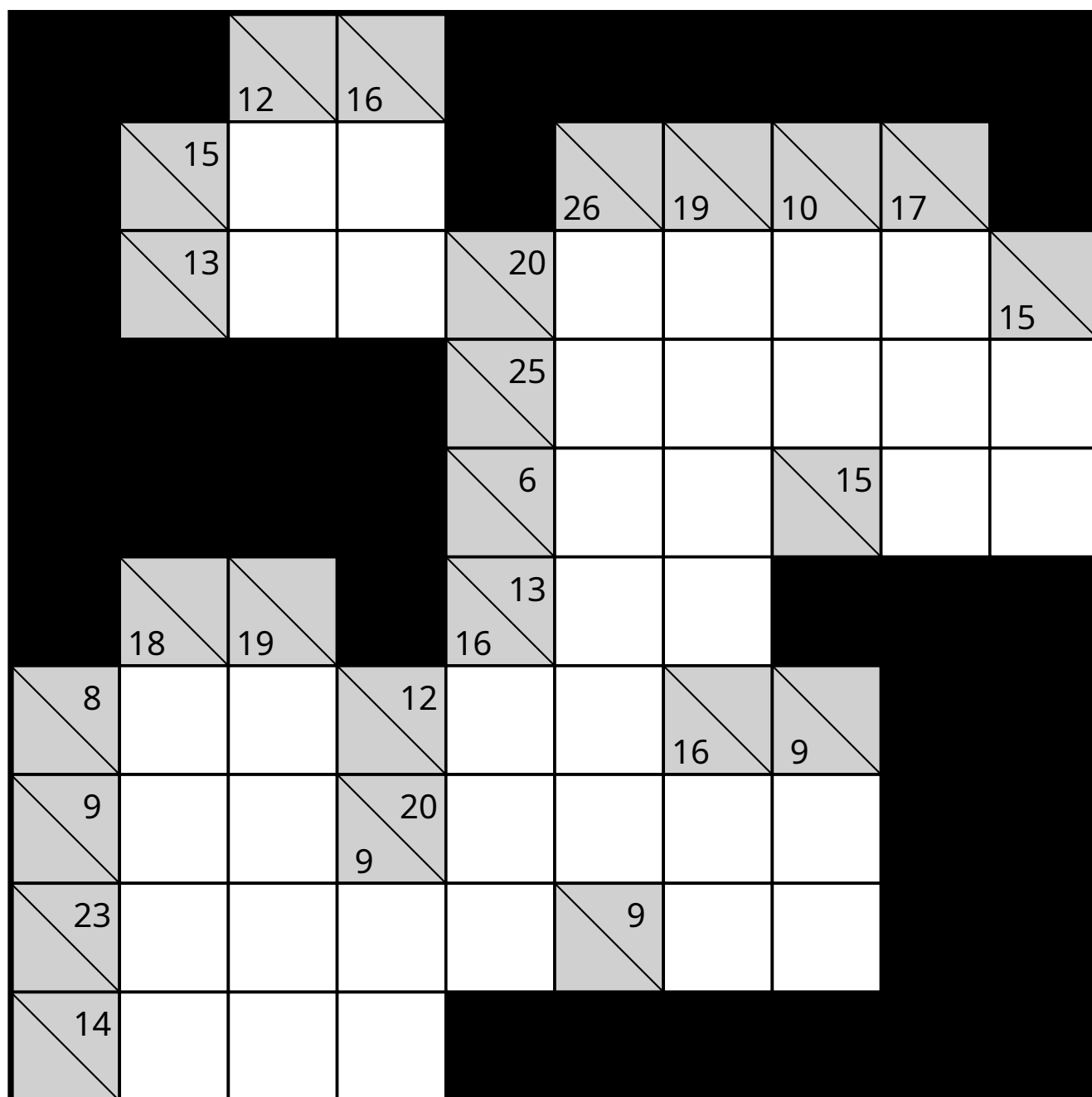
Intermediate - Puzzle 134 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



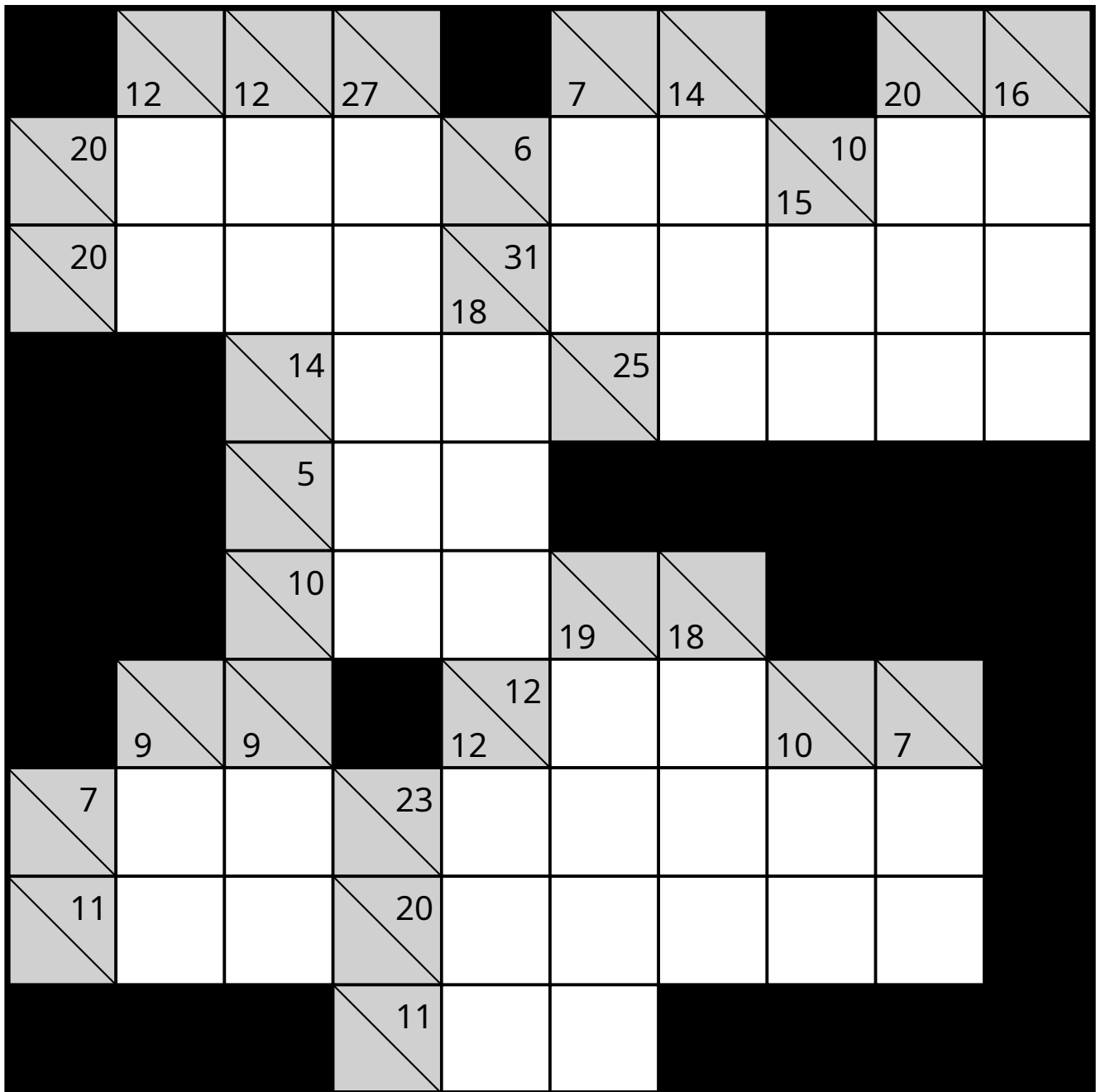
Intermediate - Puzzle 135 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



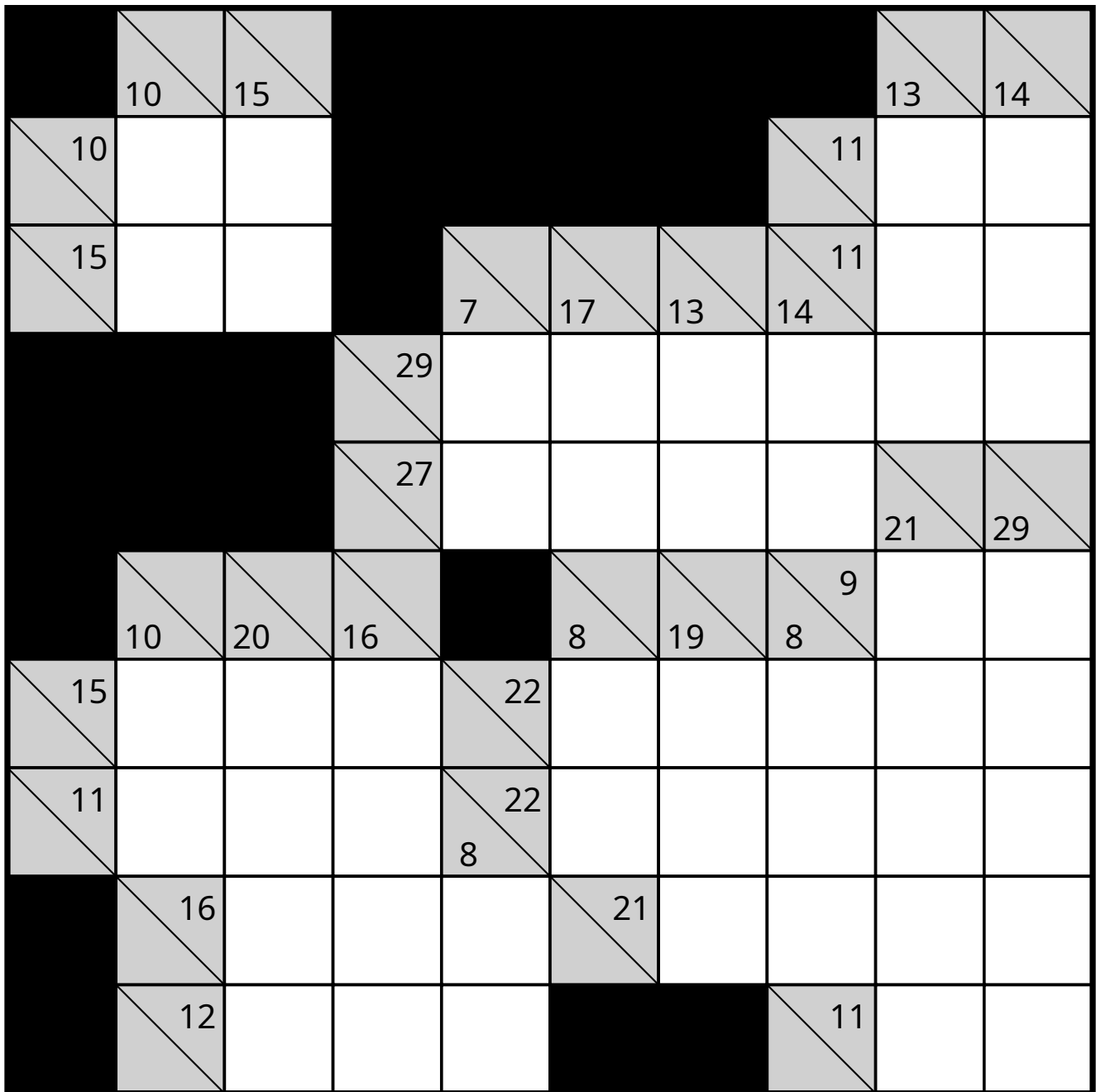
Intermediate - Puzzle 136 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate - Puzzle 137 - 10×10

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Chapter 9: Advanced Intermediate

11x11 Grids - Multi-Step Reasoning

This is the final stage before Expert level. 11x11 grids approach full-page complexity.

Mastering the Flow:

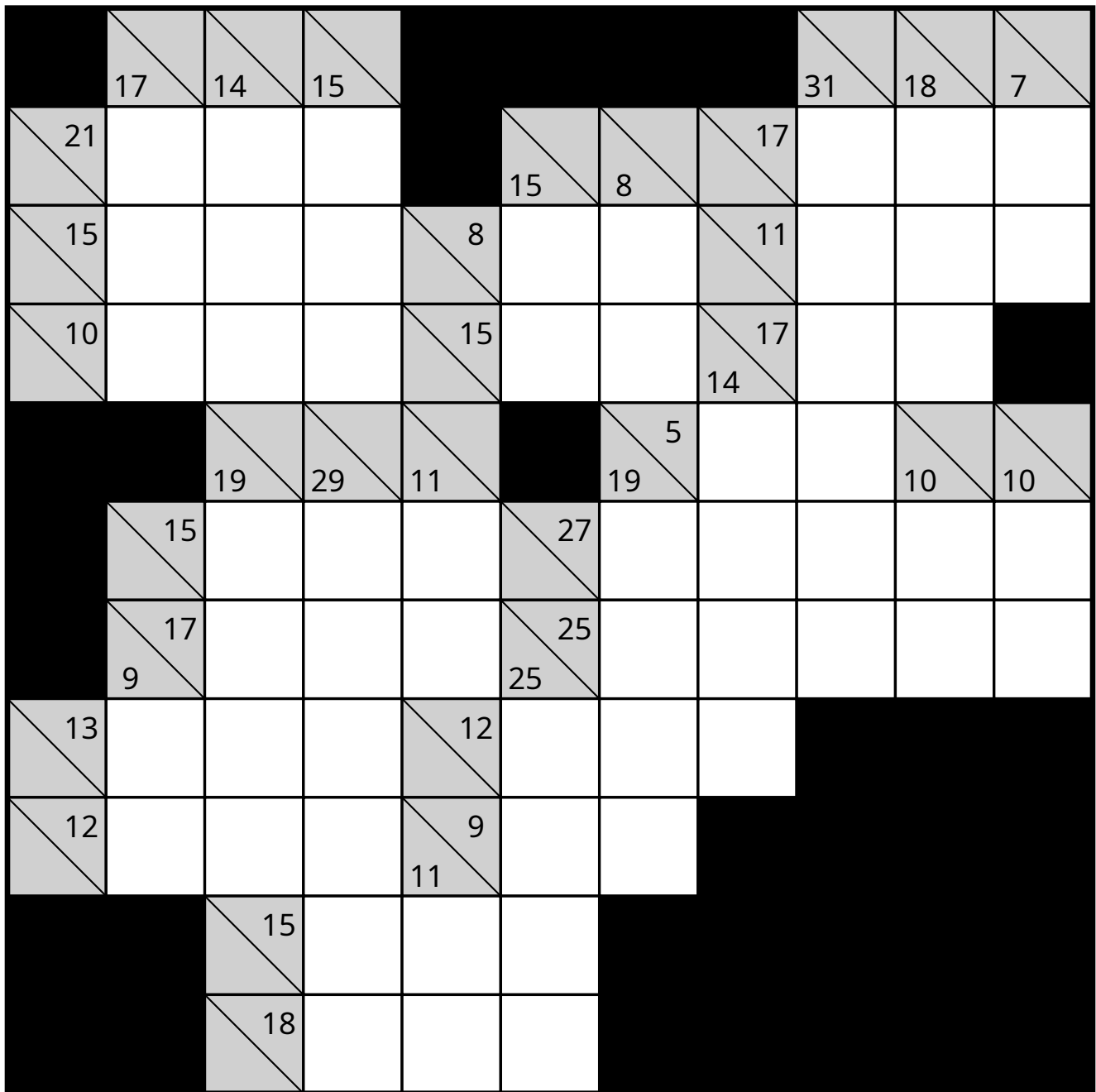
- **Constraint Propagation:** If Cell A is 1 or 2, and Cell B depends on A, what does that mean for Cell C?
- **The "Hollow" Runs:** Long runs with missing middles require you to solve the ends first.

Goal:

Complete these puzzles in under 20 minutes to be ready for the huge 12x12+ expert grids.

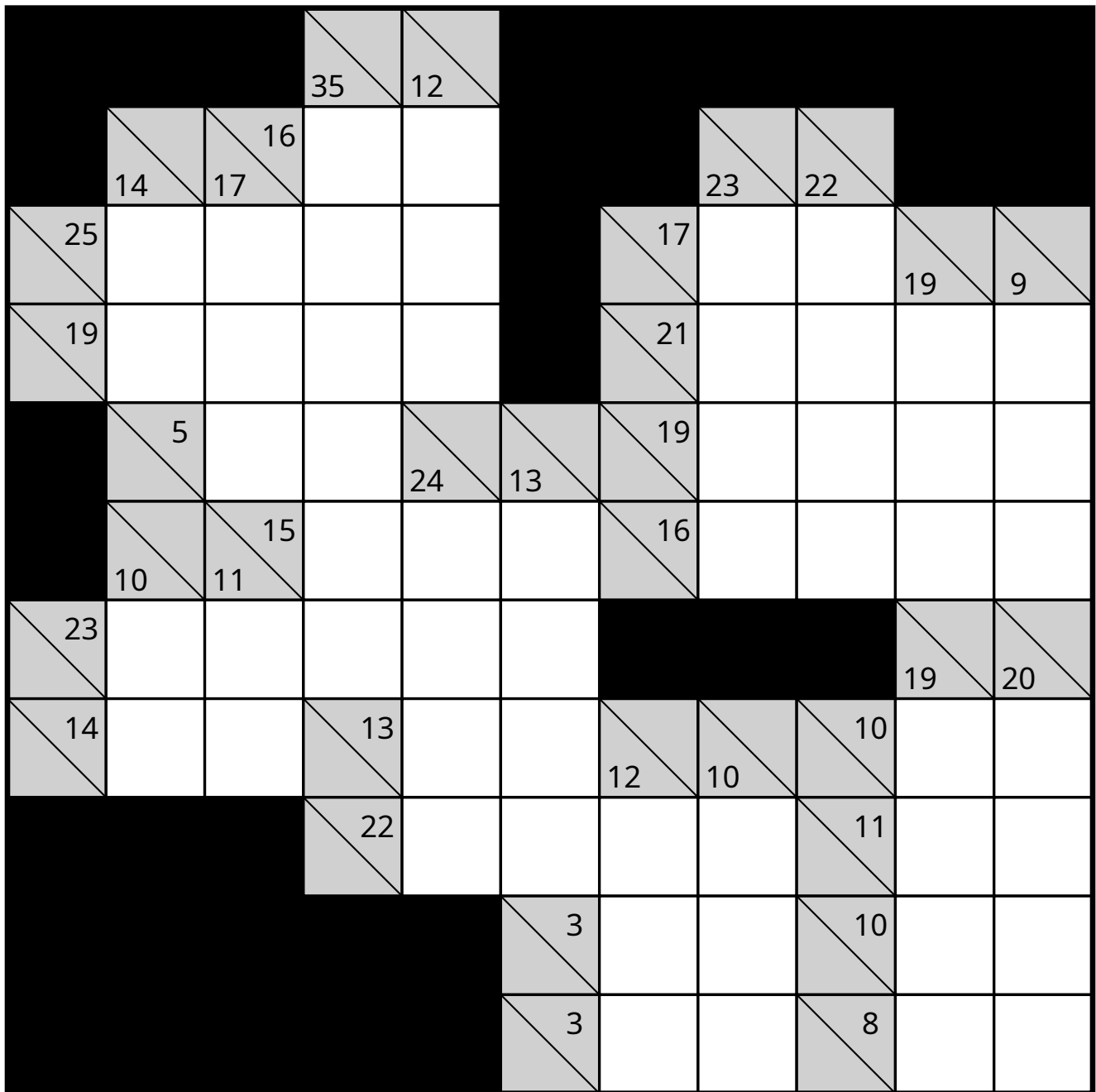
Intermediate - Puzzle 138 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



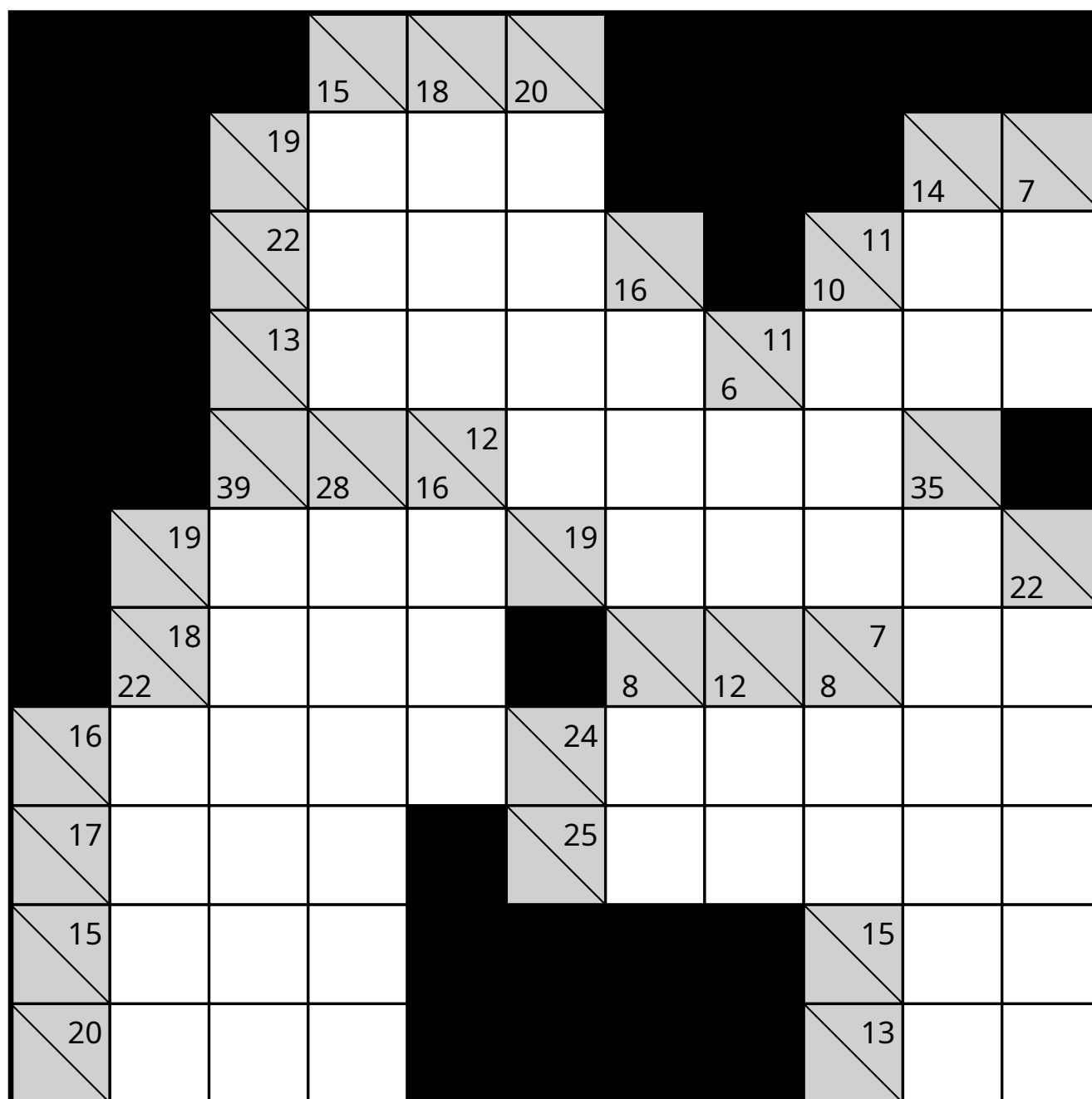
Intermediate - Puzzle 139 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



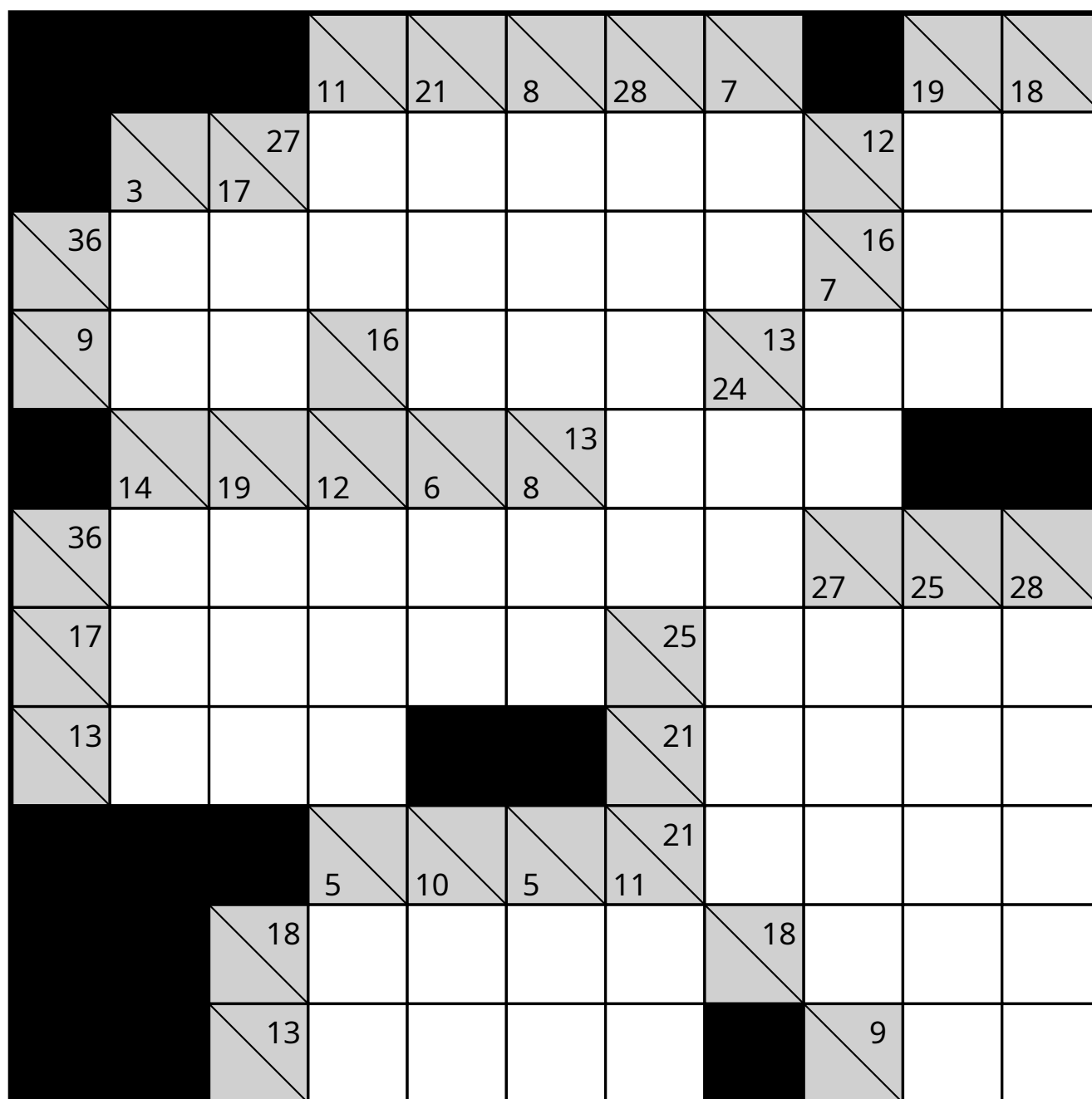
Intermediate - Puzzle 140 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



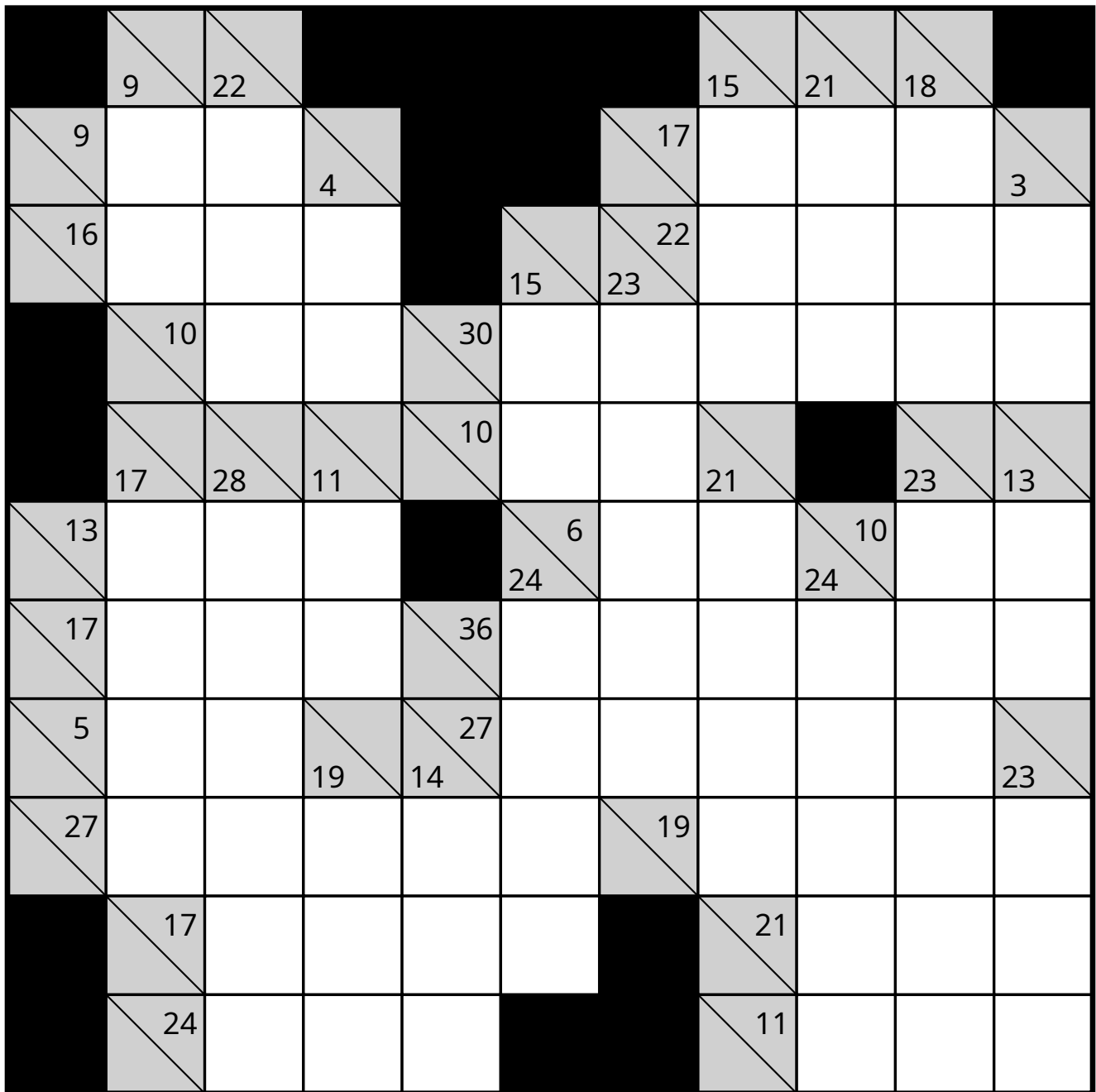
Intermediate - Puzzle 141 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



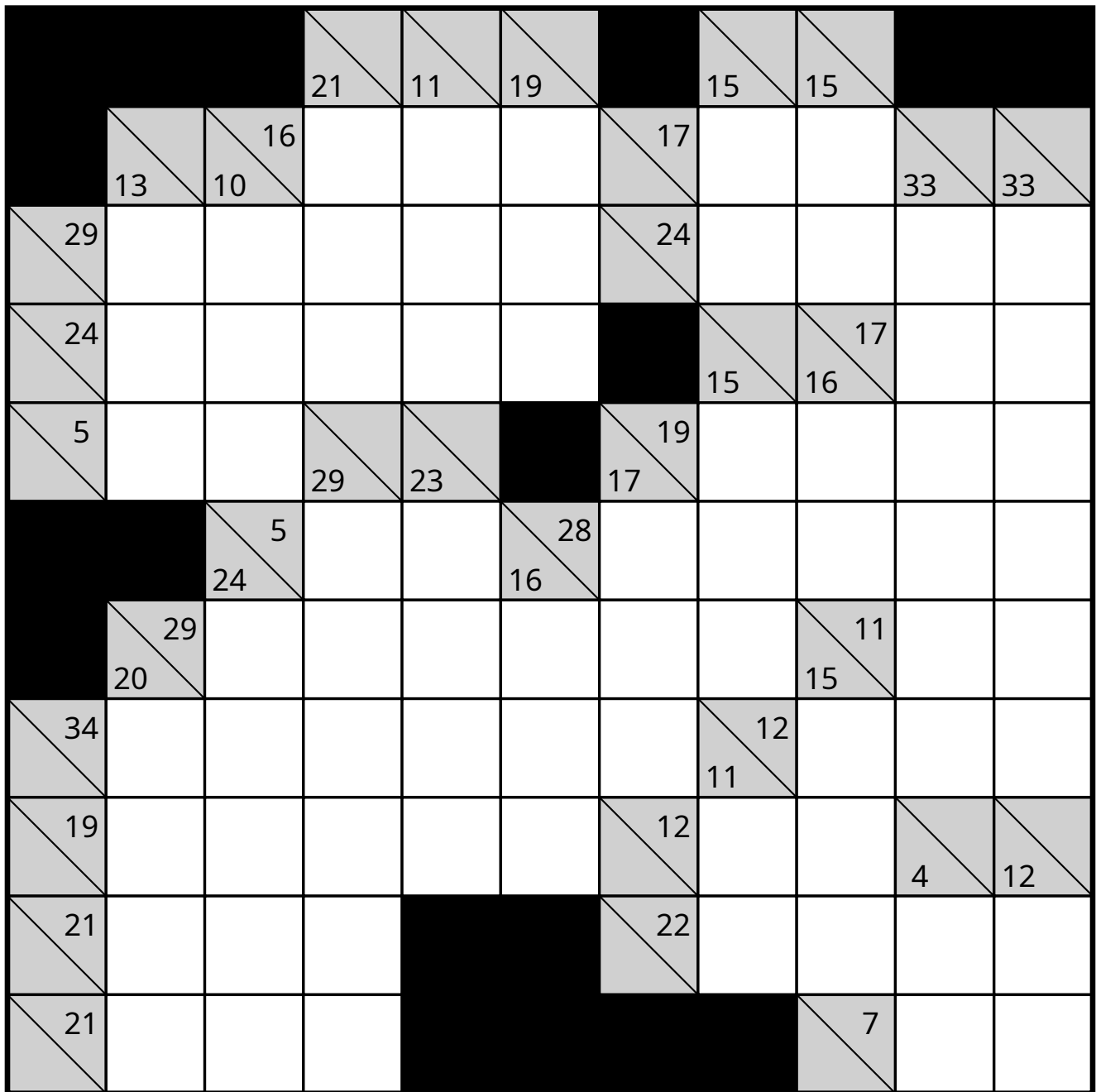
Intermediate - Puzzle 142 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



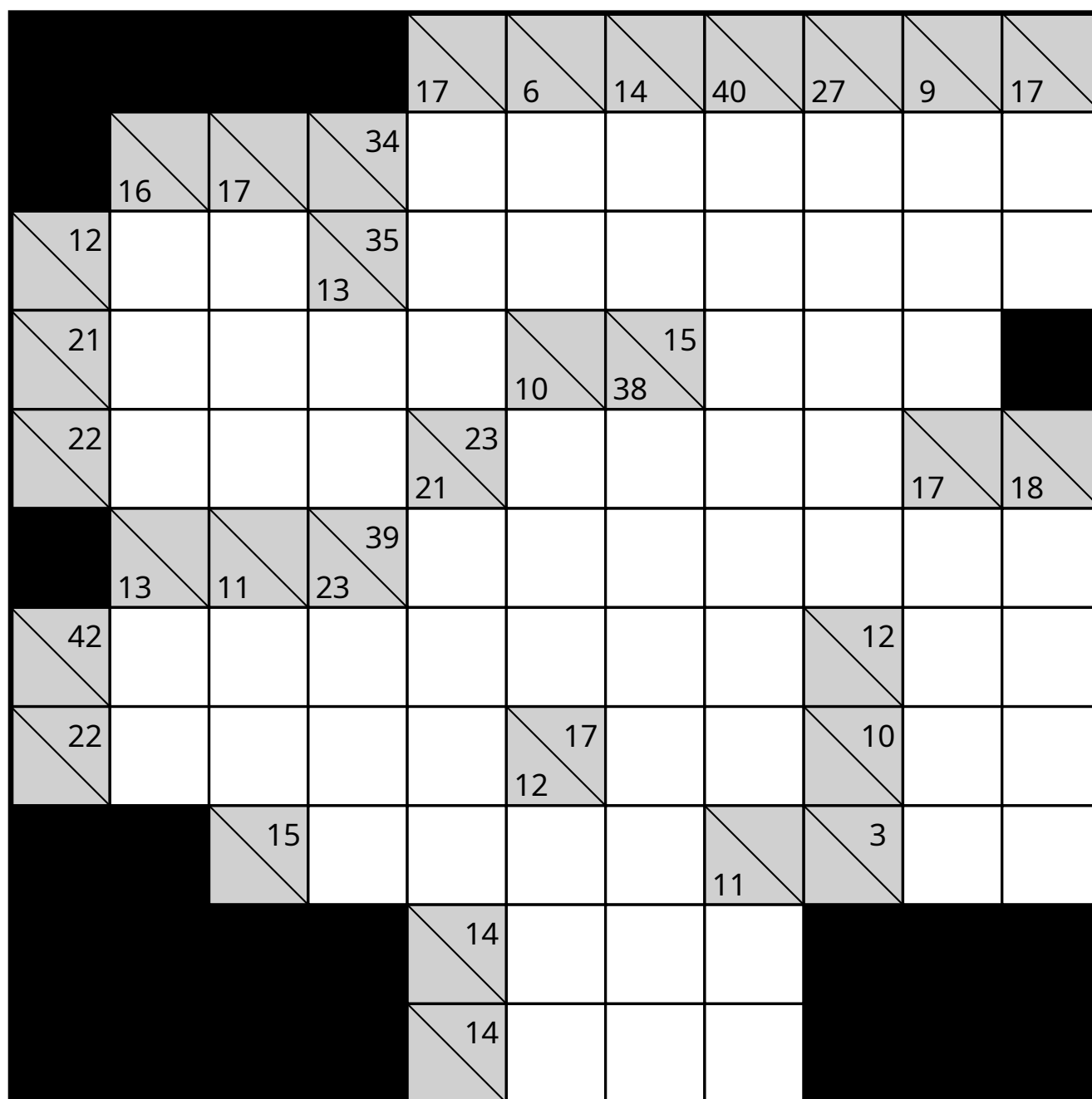
Intermediate - Puzzle 143 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



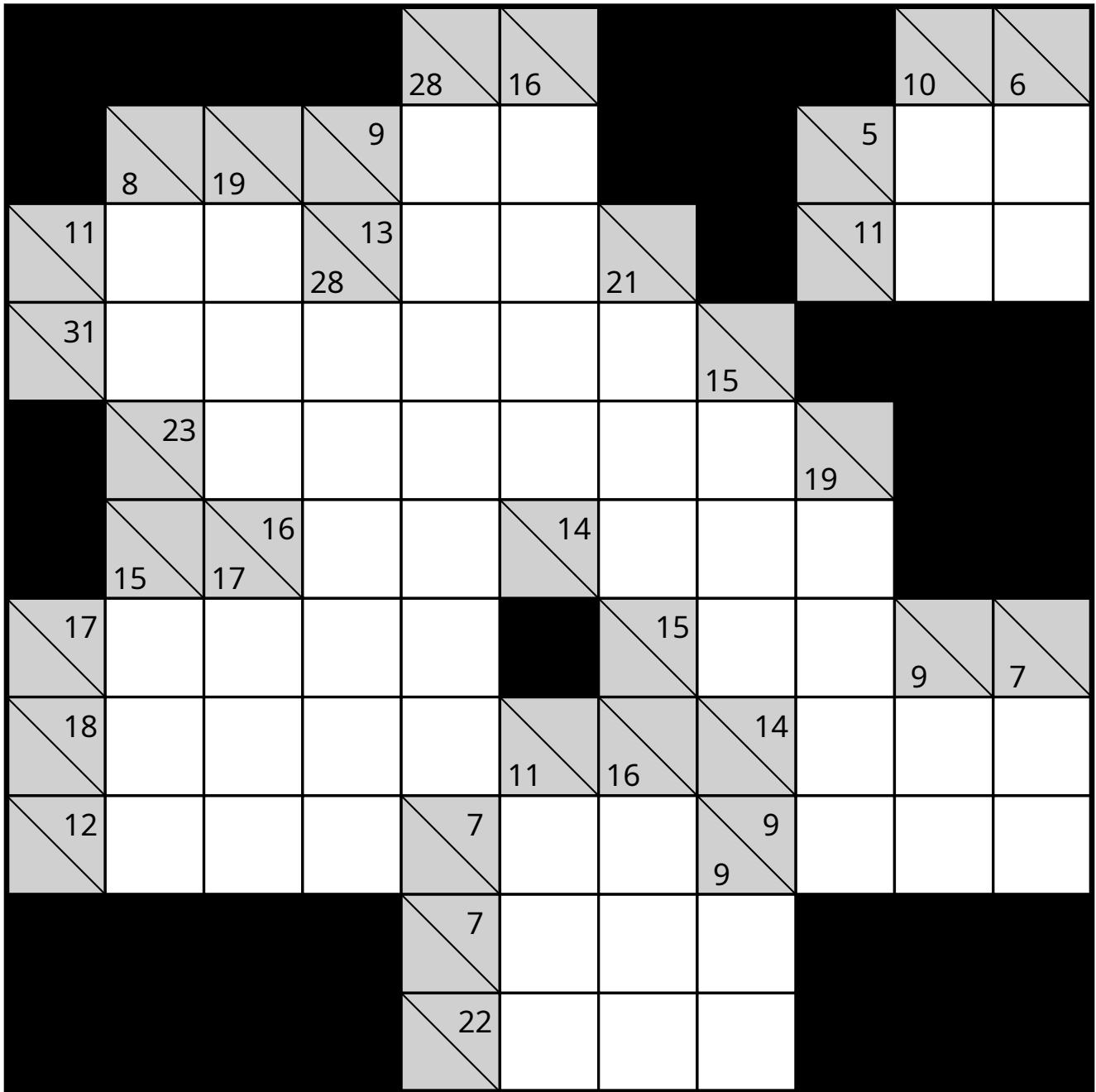
Intermediate - Puzzle 144 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



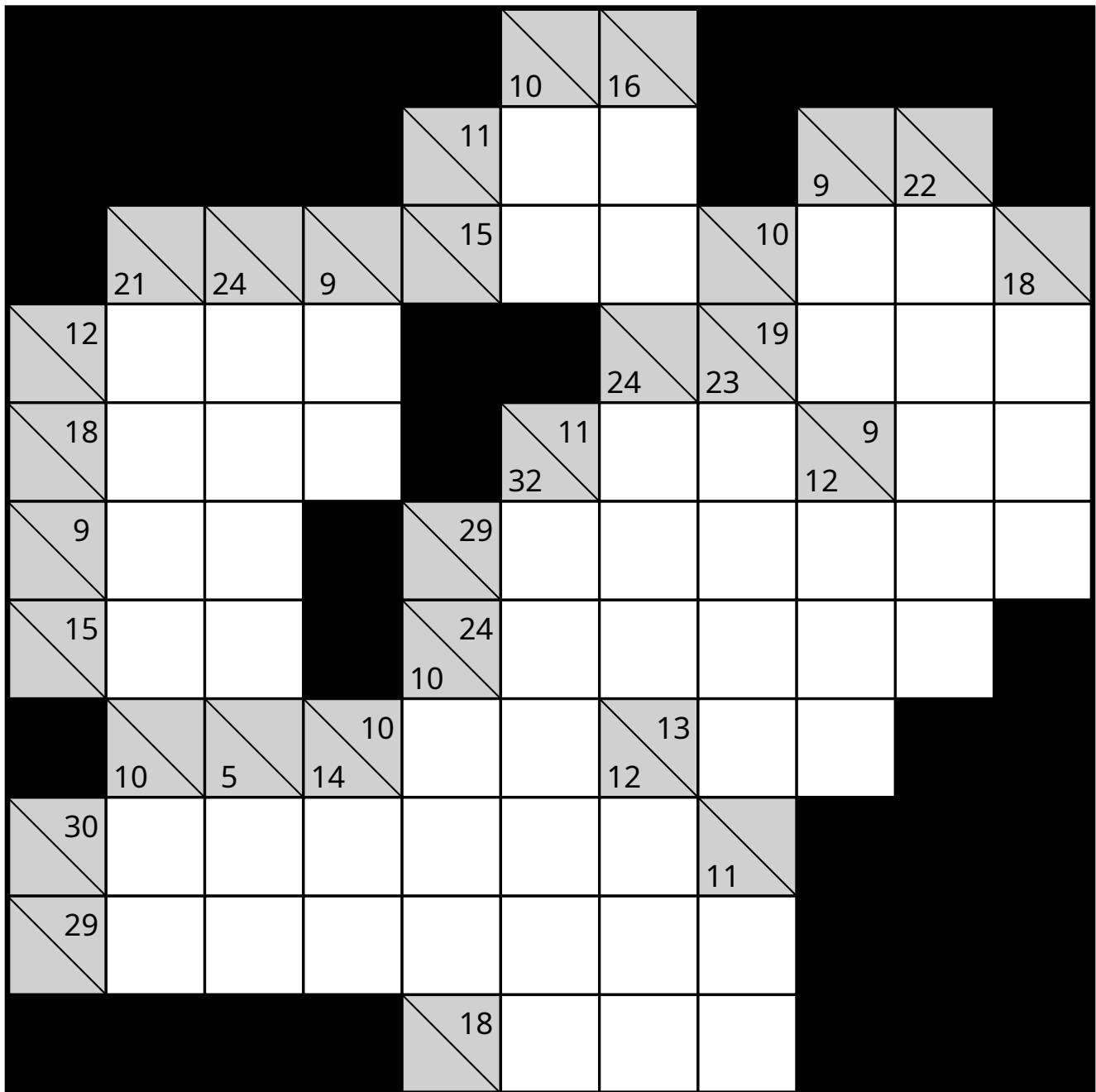
Intermediate - Puzzle 145 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



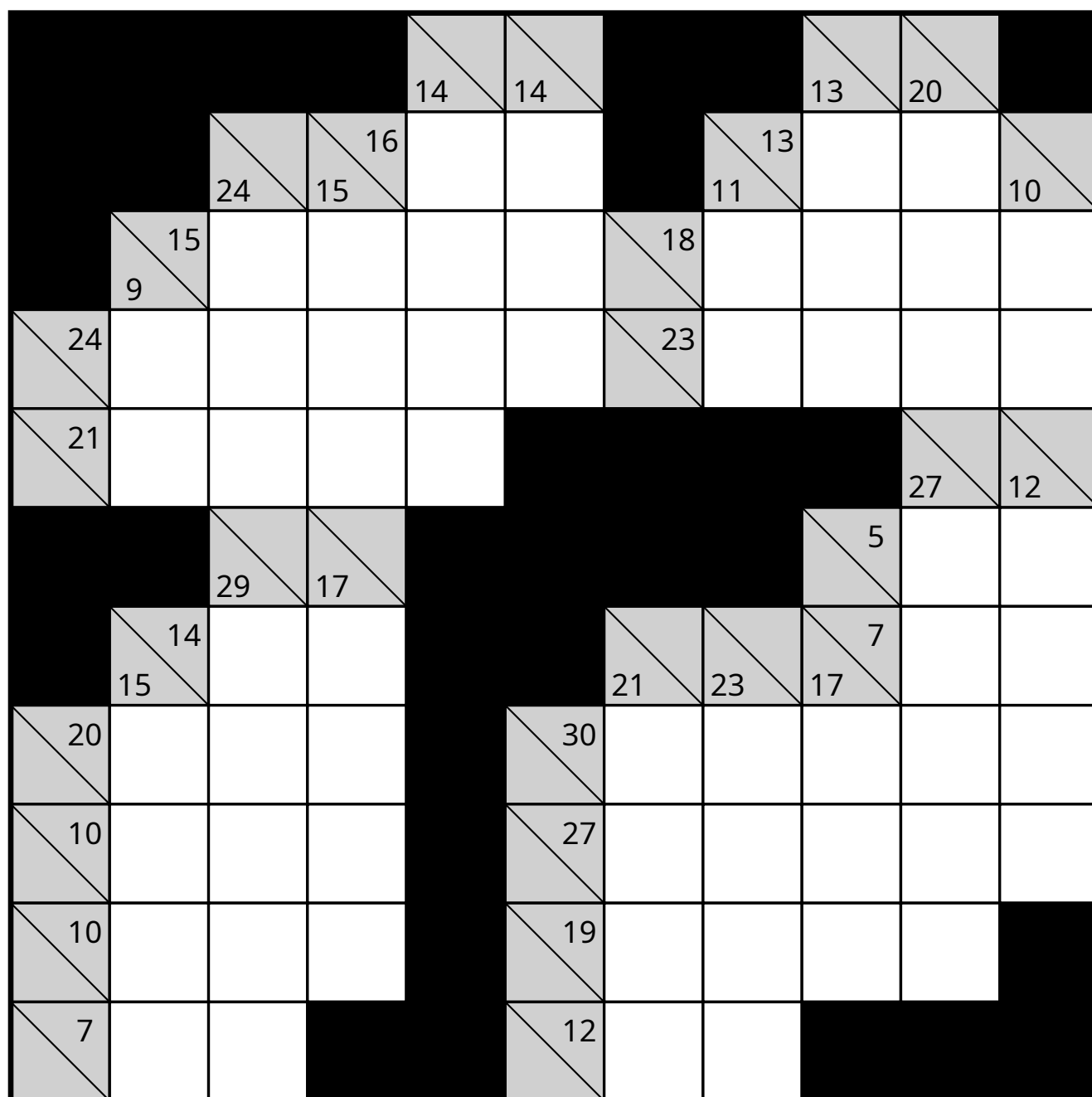
Intermediate - Puzzle 146 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



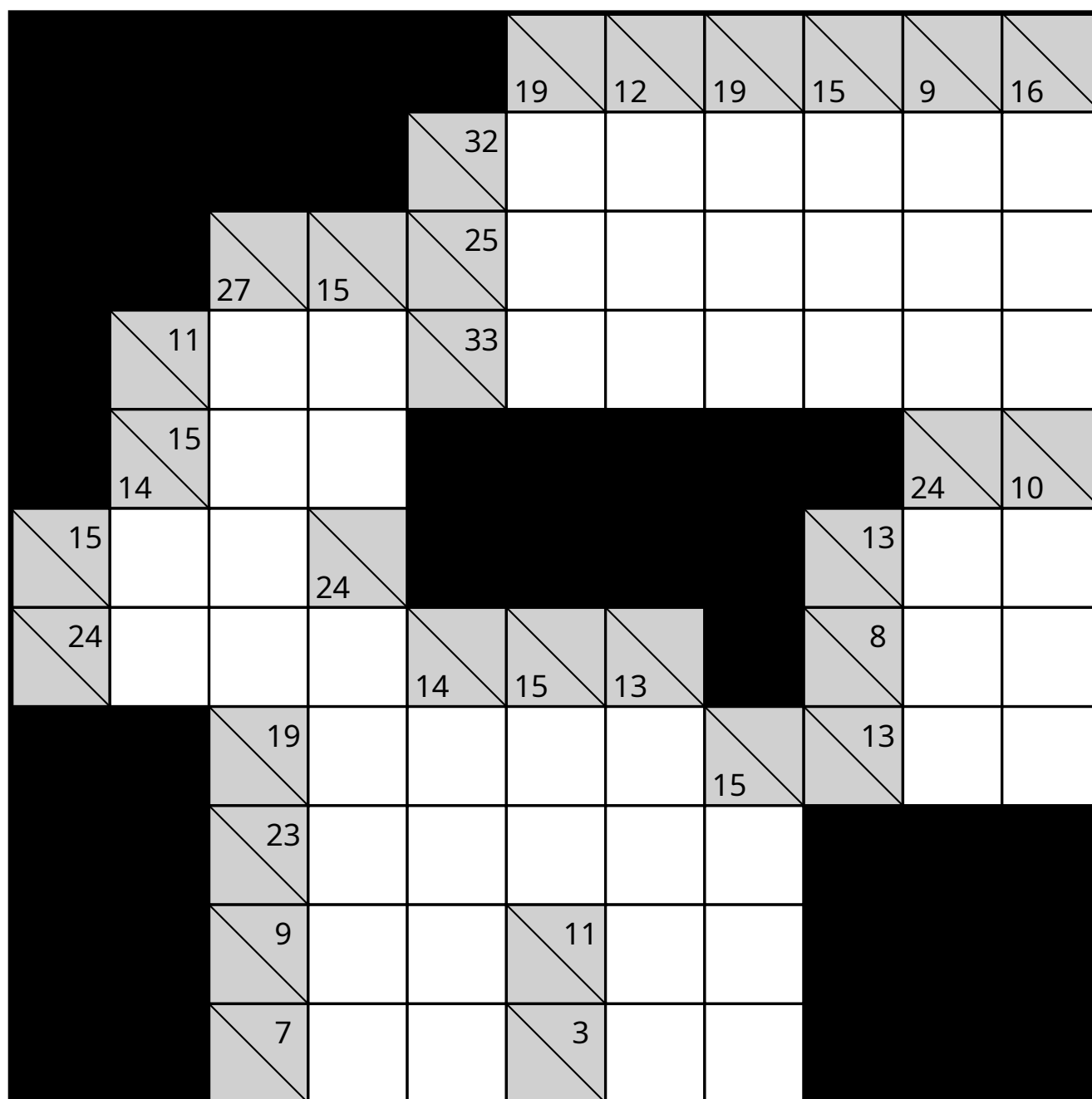
Intermediate - Puzzle 147 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



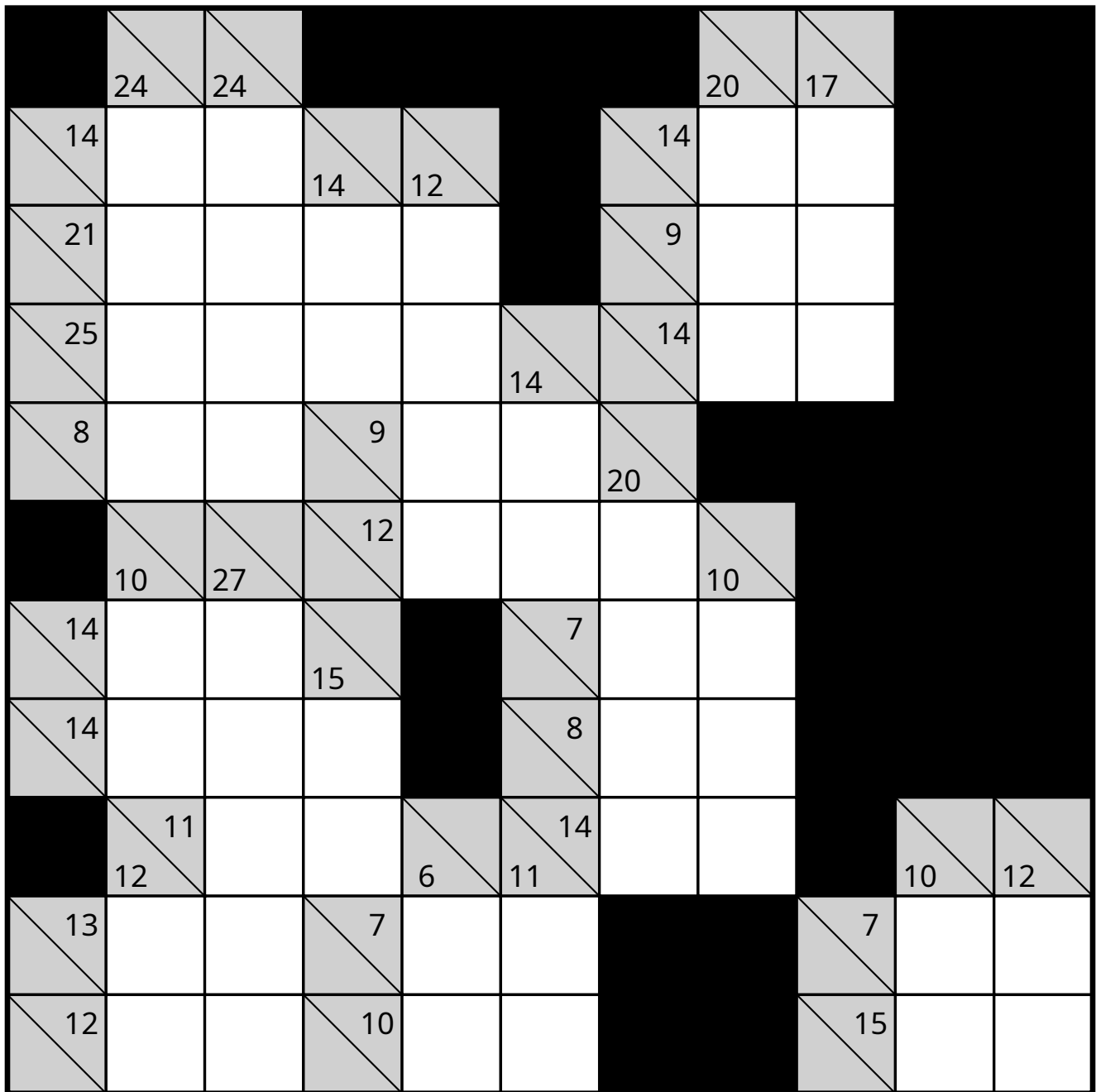
Intermediate - Puzzle 148 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



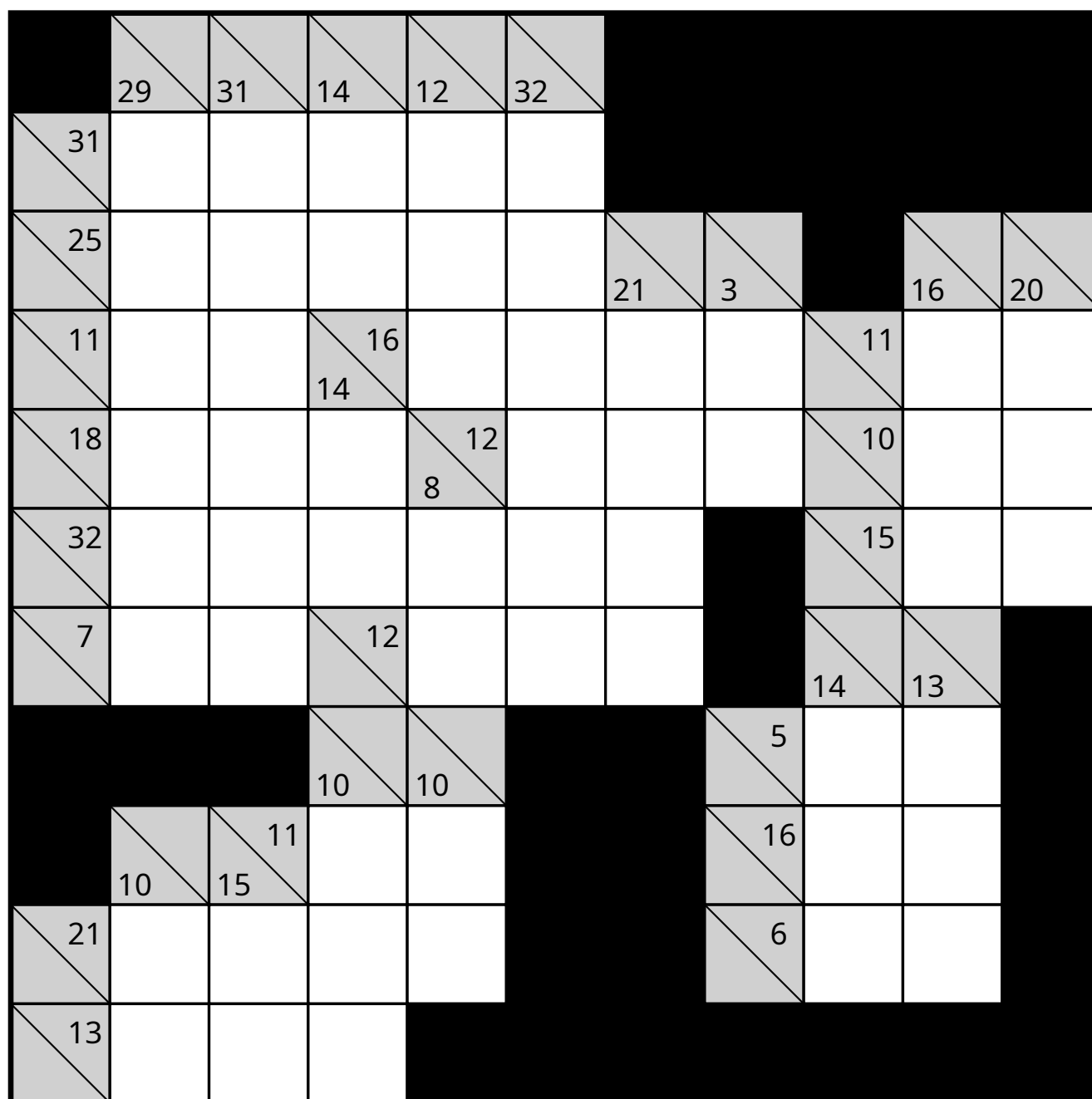
Intermediate - Puzzle 149 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



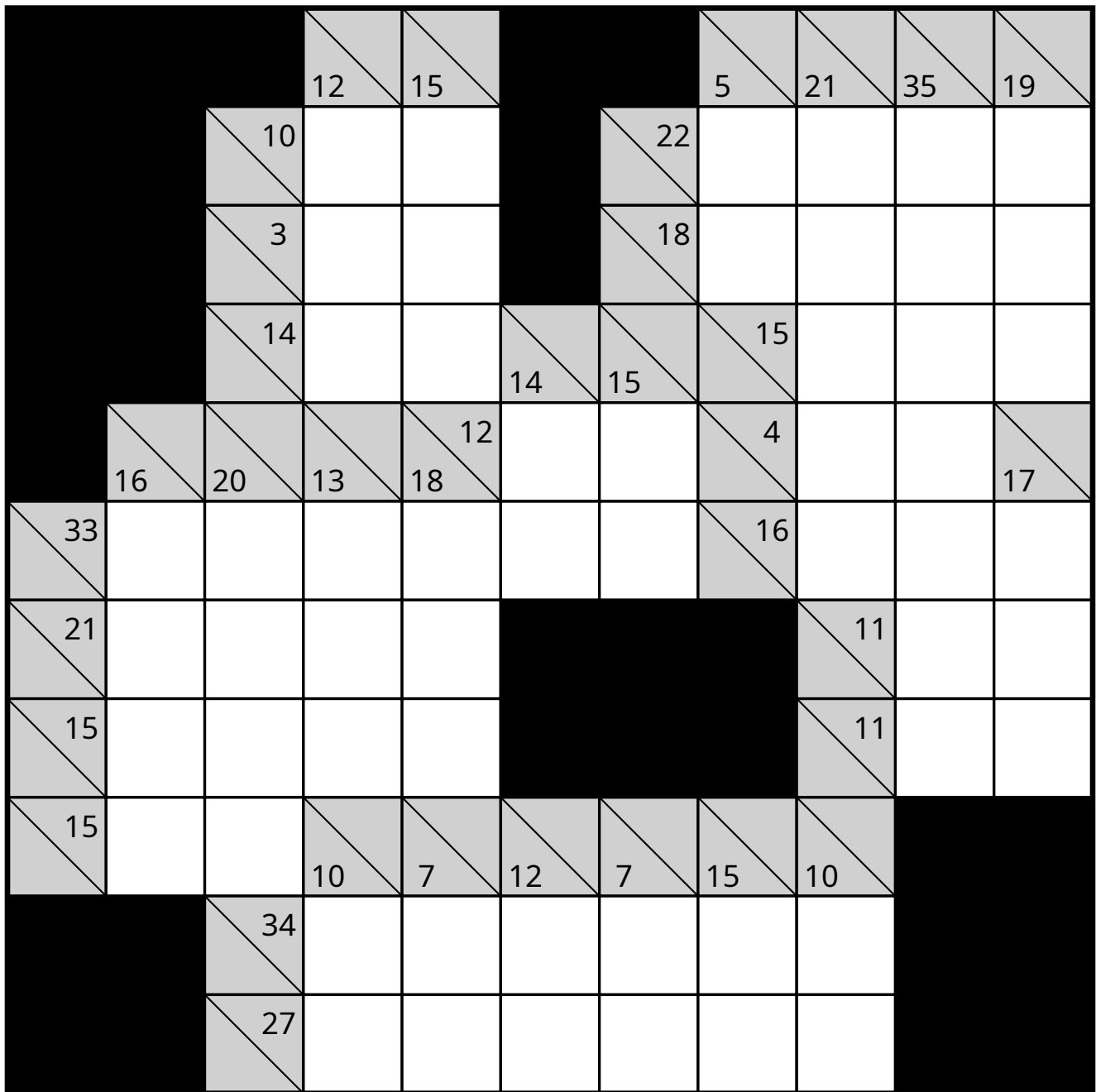
Intermediate - Puzzle 150 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



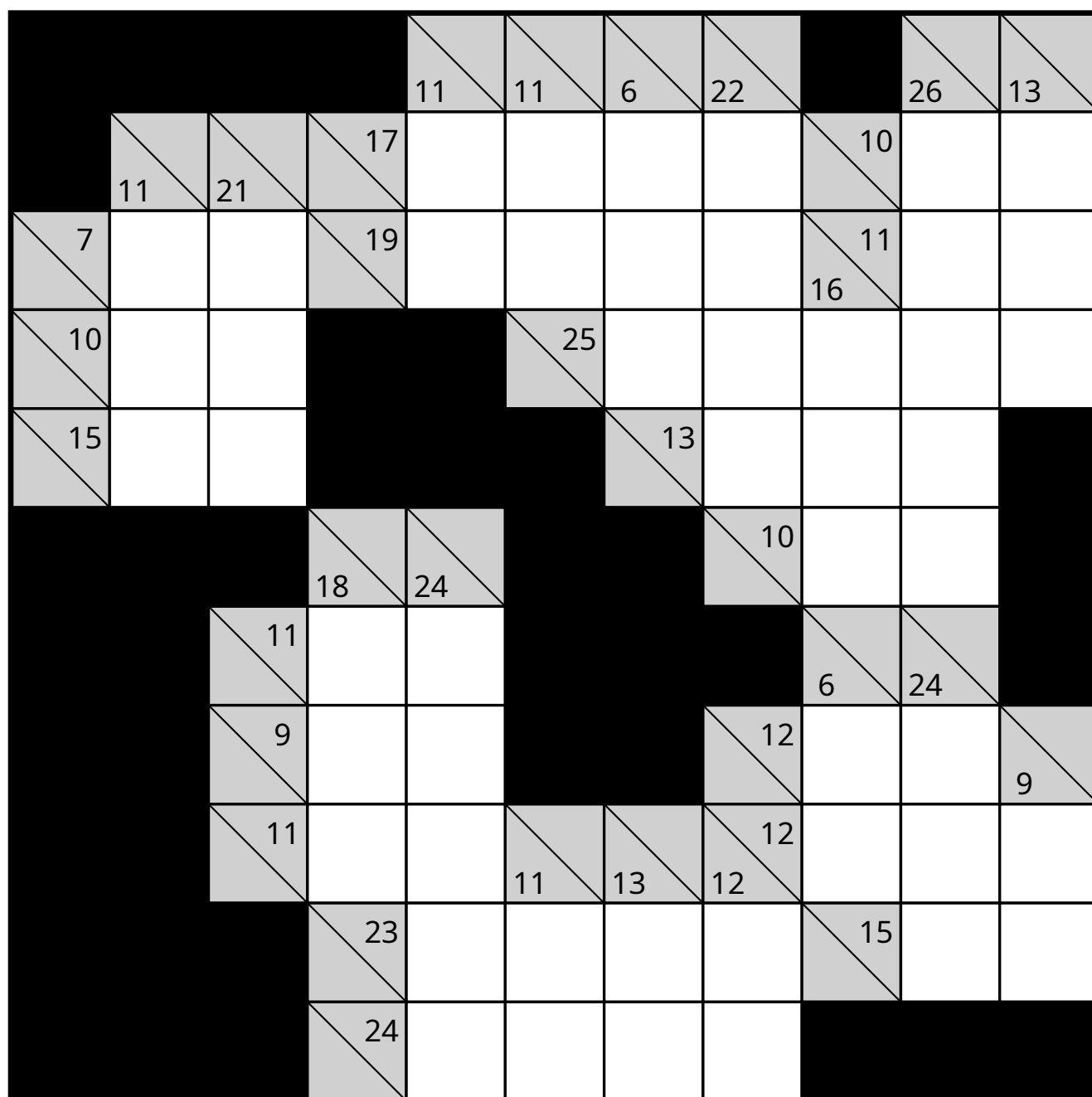
Intermediate - Puzzle 151 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



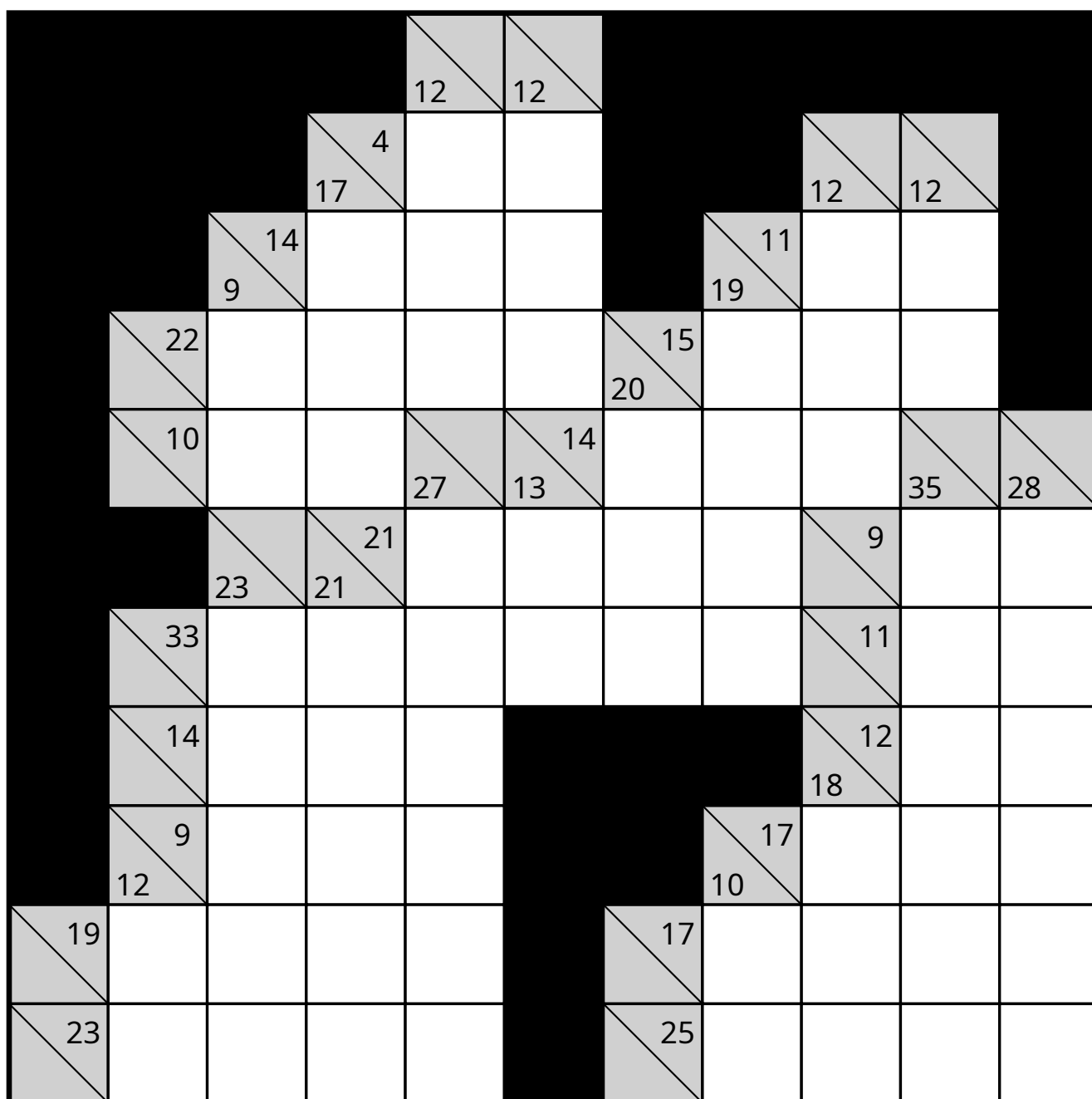
Intermediate - Puzzle 152 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



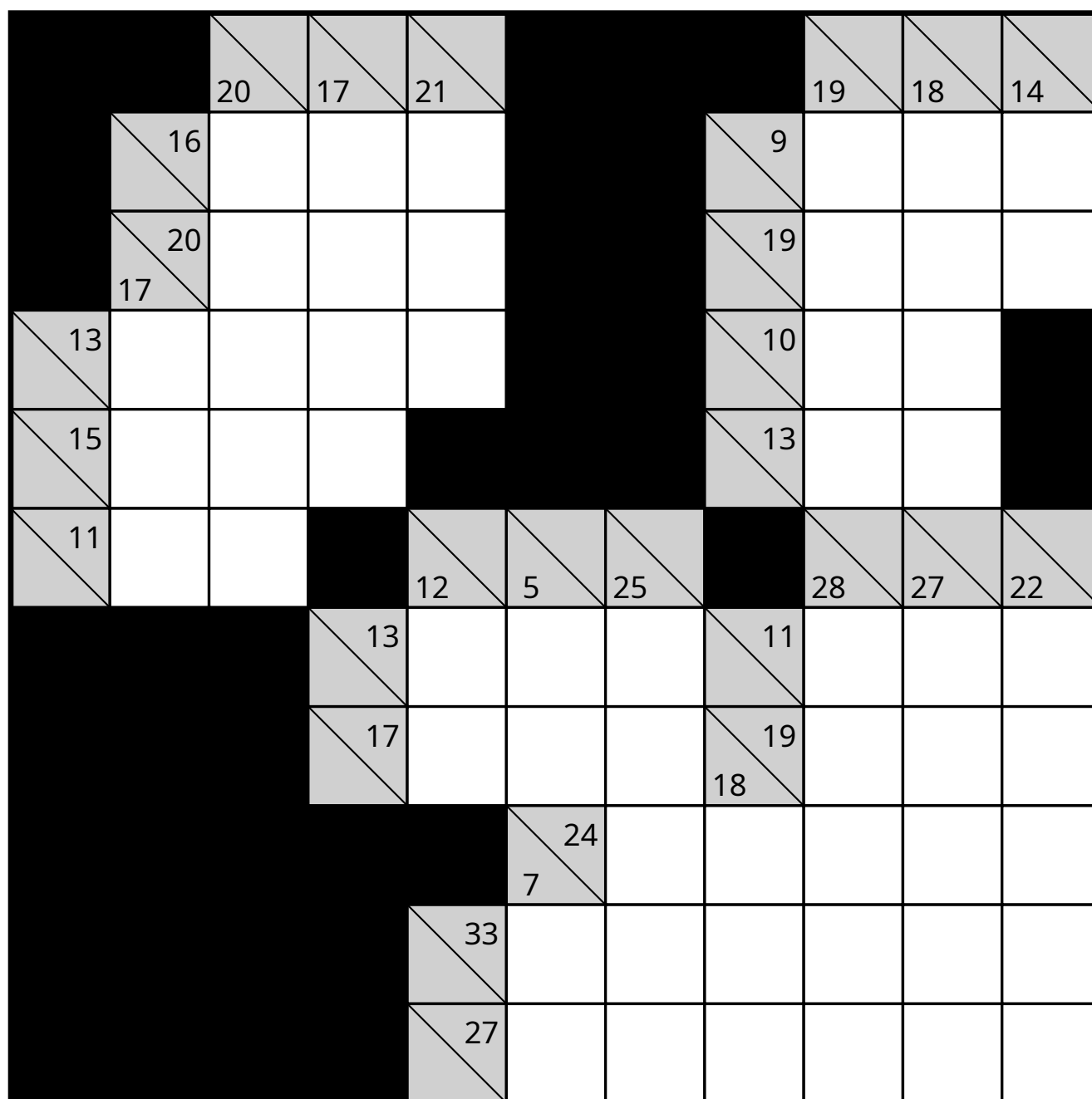
Intermediate - Puzzle 153 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



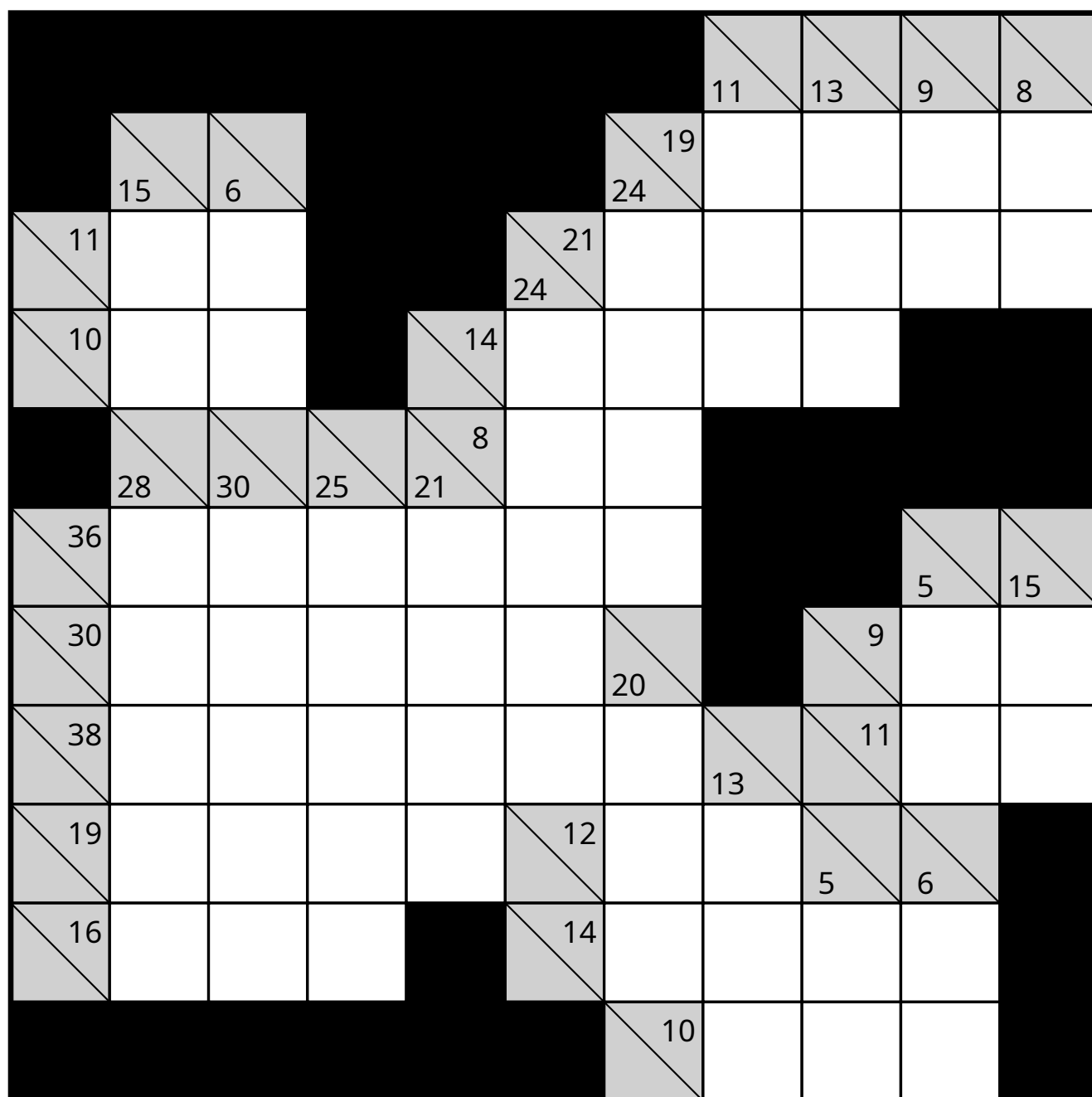
Intermediate - Puzzle 154 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



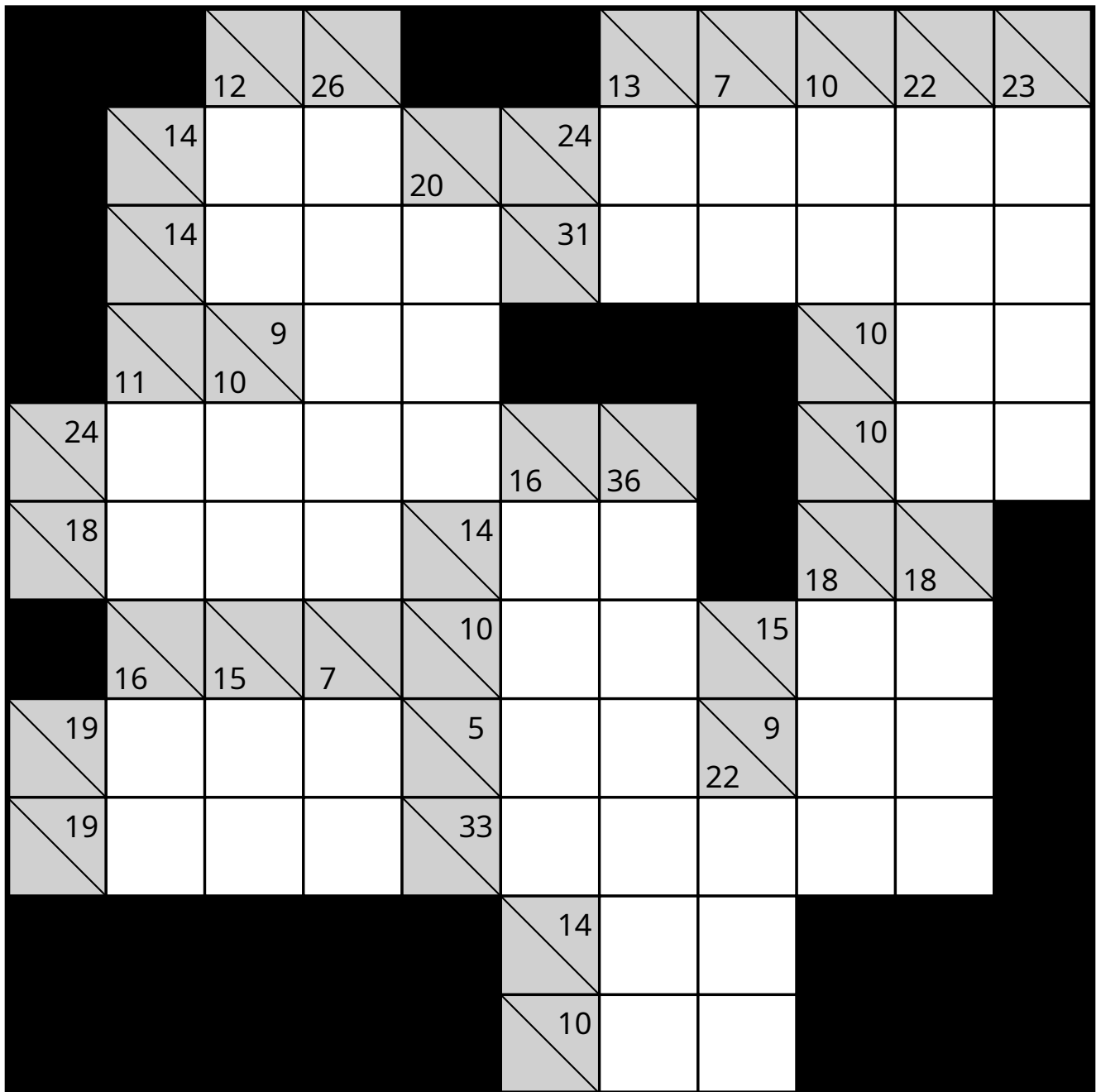
Intermediate - Puzzle 155 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



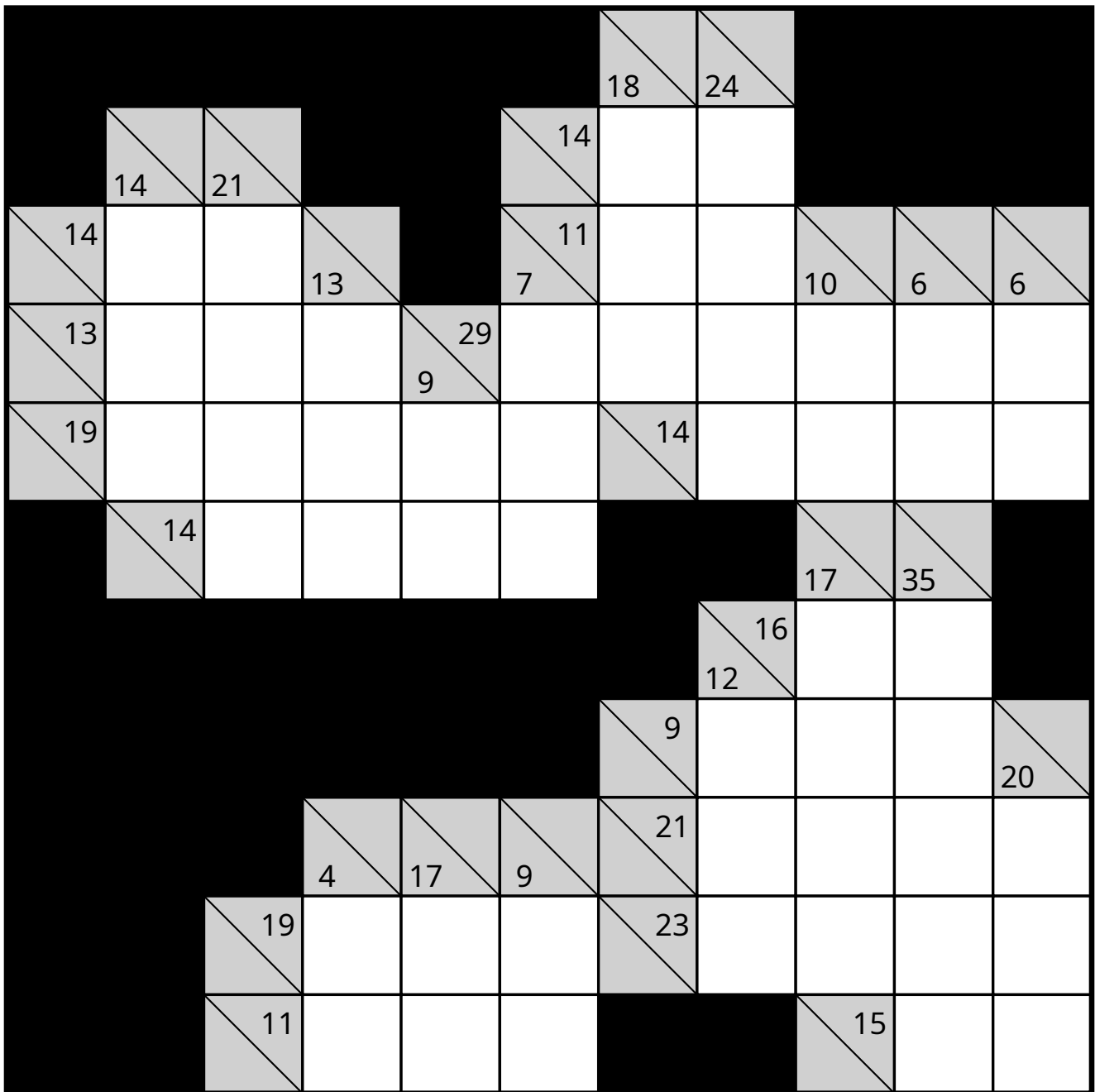
Intermediate - Puzzle 156 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



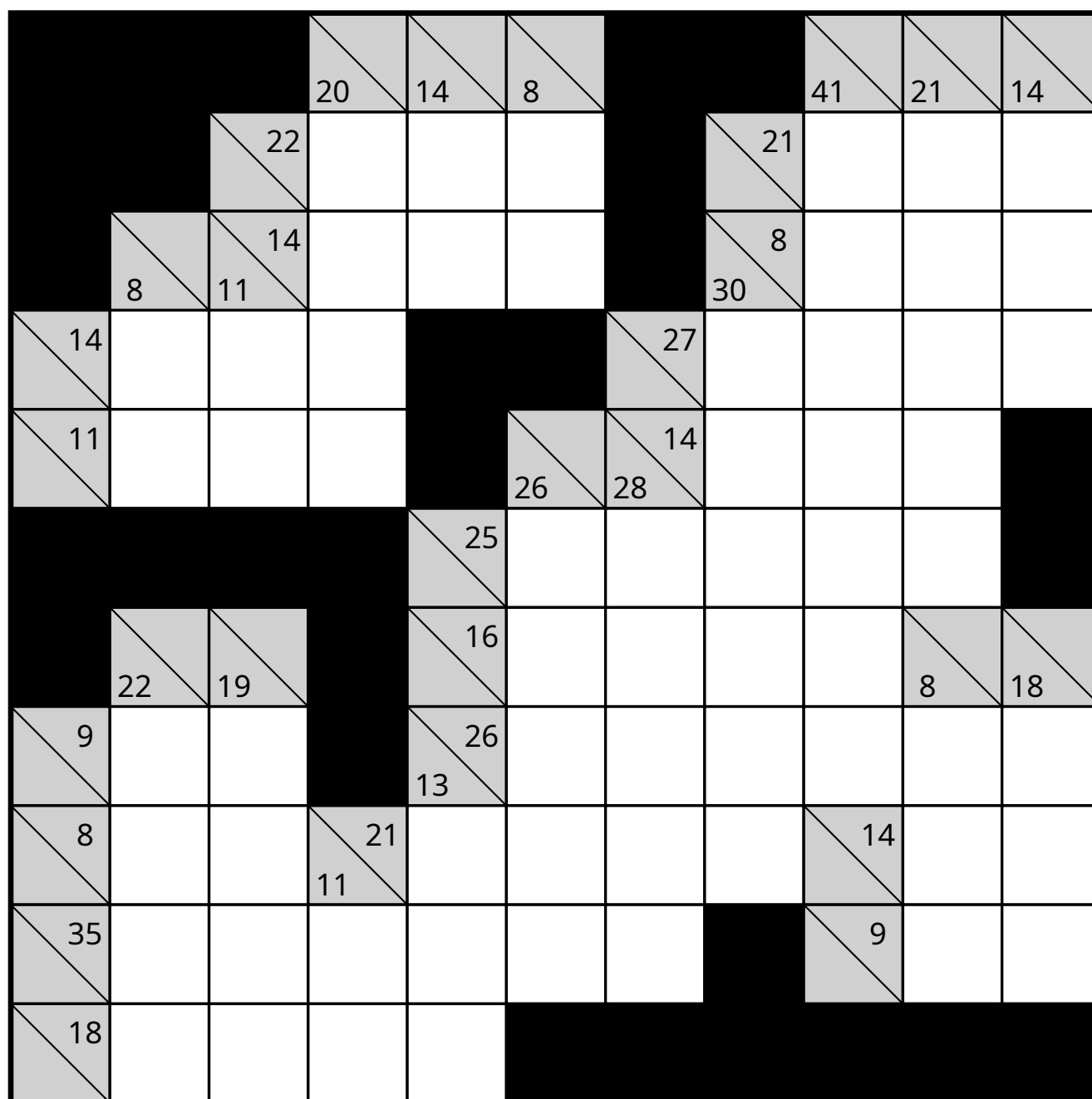
Intermediate - Puzzle 157 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate - Puzzle 158 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



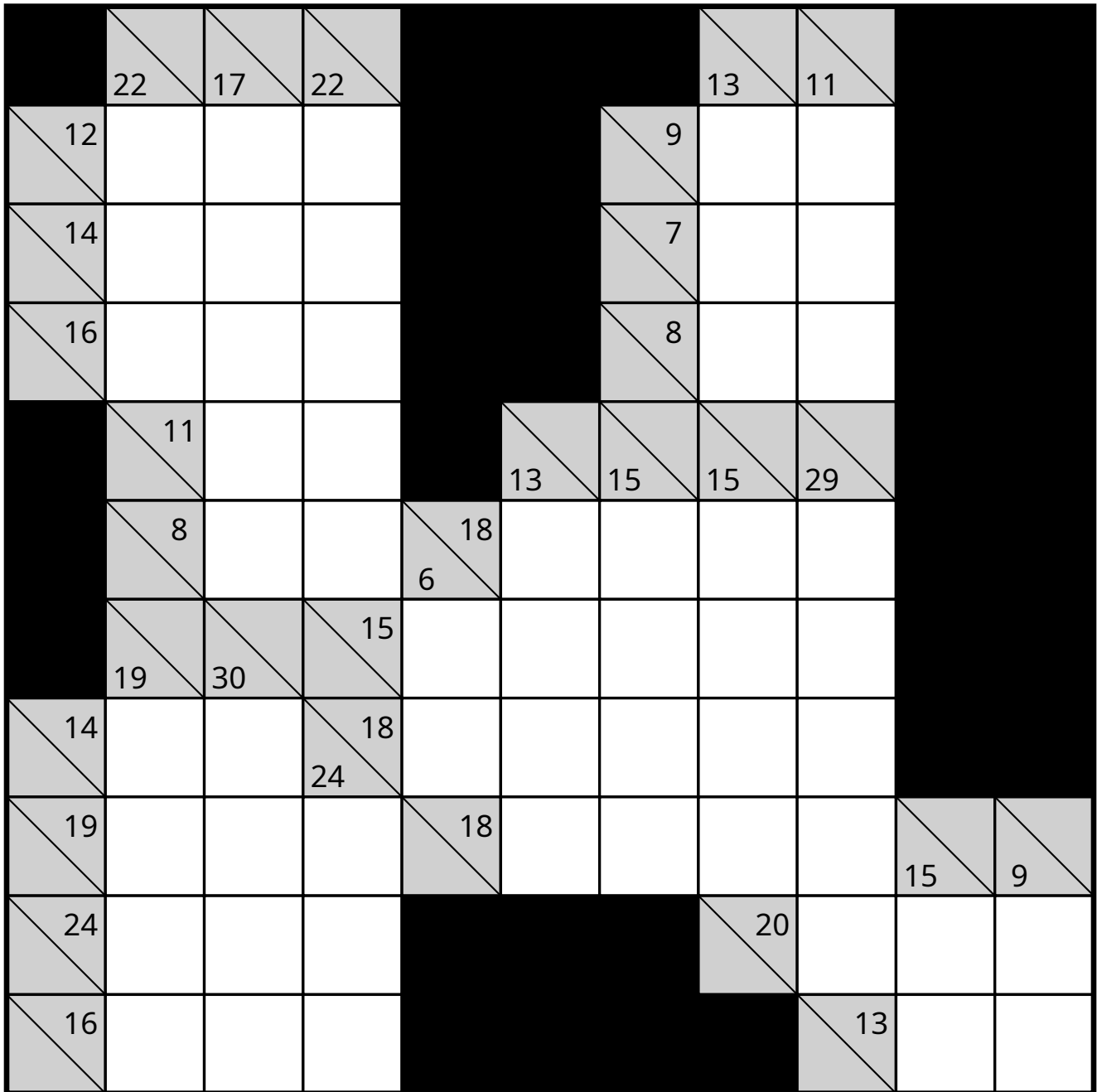
Intermediate - Puzzle 159 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	21	17	9	14			20	9	22	17
20					32	25				
19						26				
						25				
41								12		
	23	17		12			26		27	31
13			10	17				11		
								29		
13				29						
21				33						
3			13	11		18				
		15				17				
		9				19				

Intermediate - Puzzle 160 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



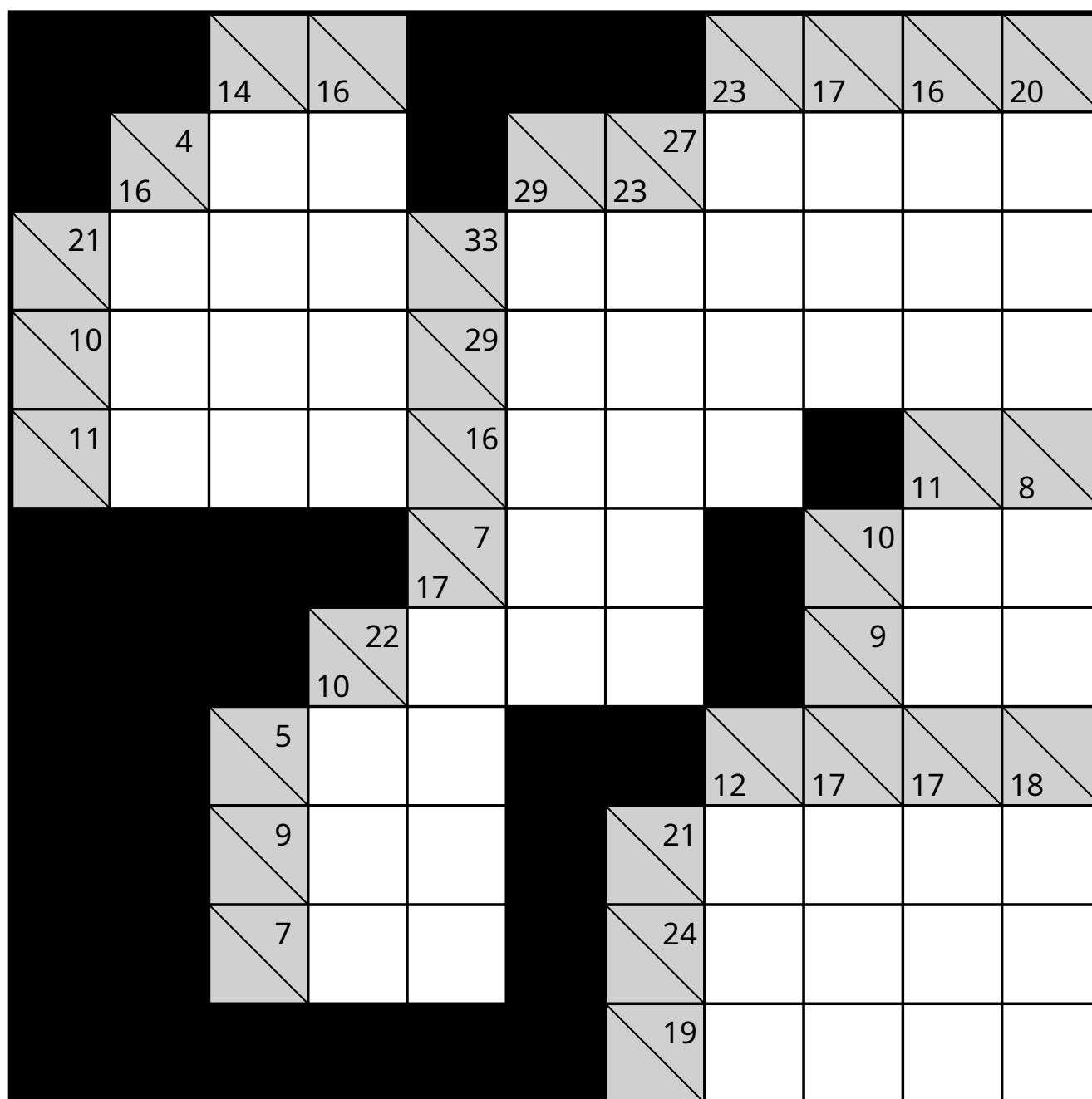
Intermediate - Puzzle 161 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	9	15	34		8	7		9	27	27
14				5			22			
27				24			14			
	13						11			
		13						7		
		11			23	25		9		
		26					6	12	27	14
	16	16	8	29						
19				29						
12				9				7		
9				11				10		

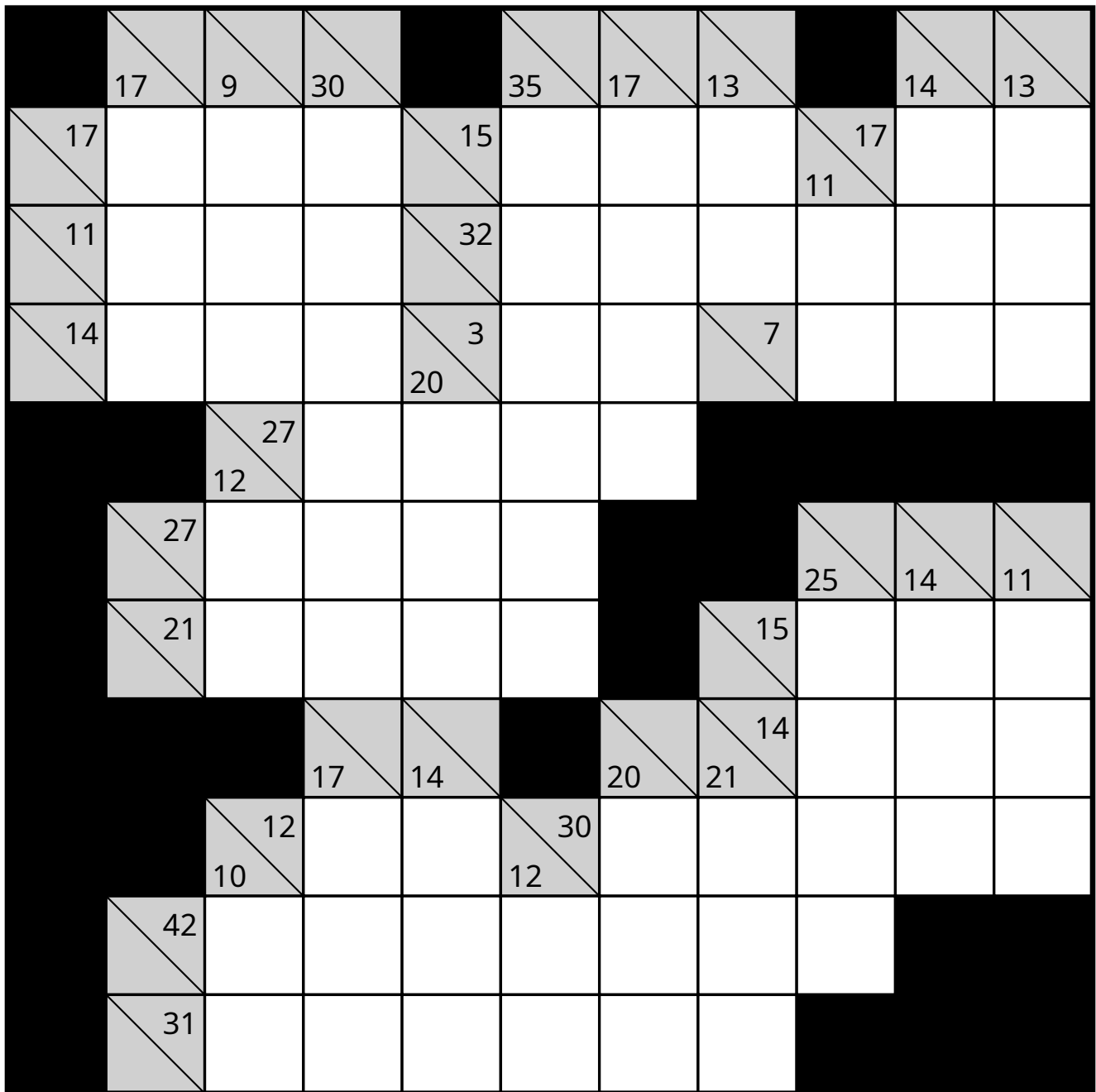
Intermediate - Puzzle 162 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



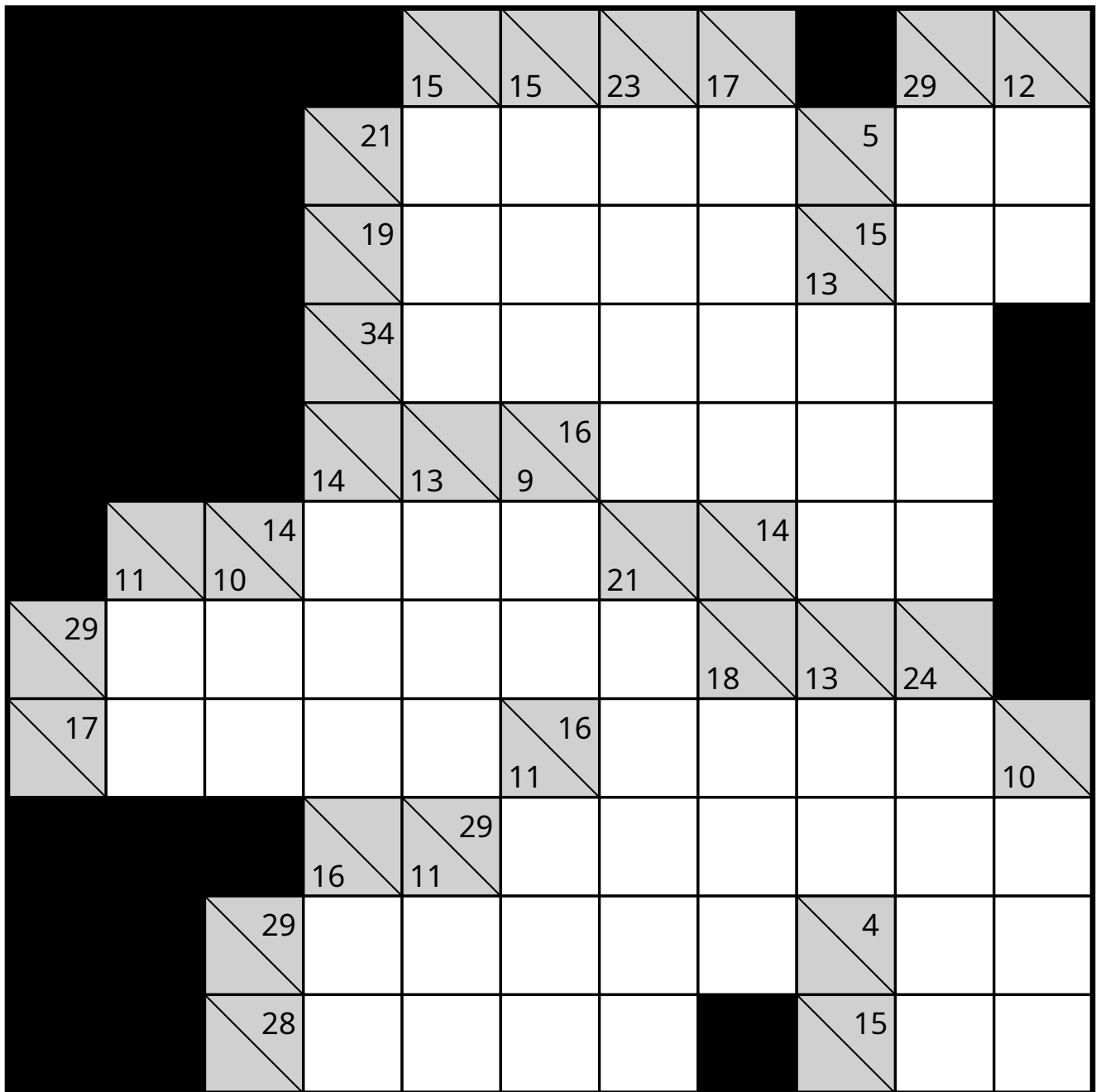
Intermediate - Puzzle 163 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



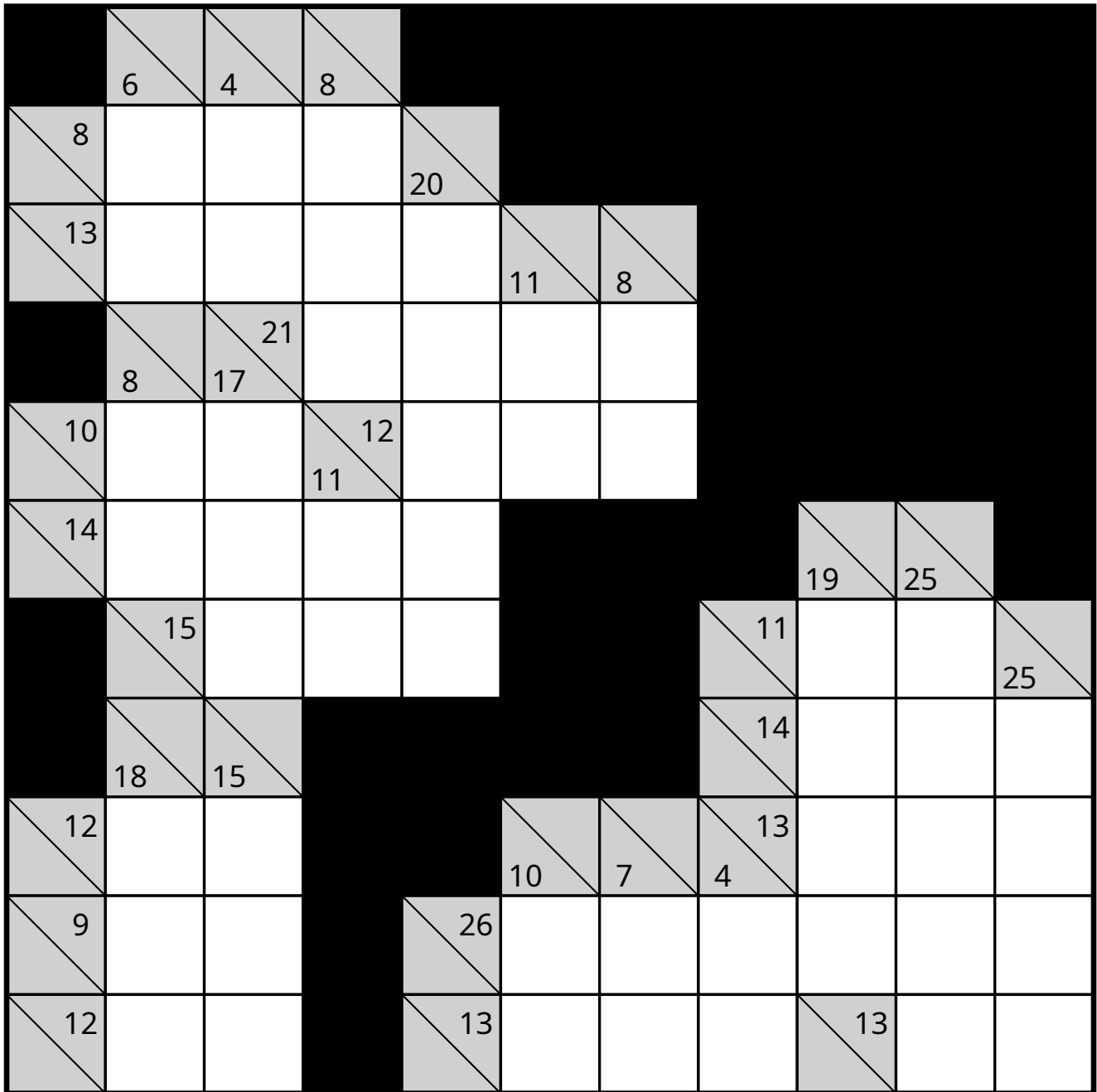
Intermediate - Puzzle 164 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



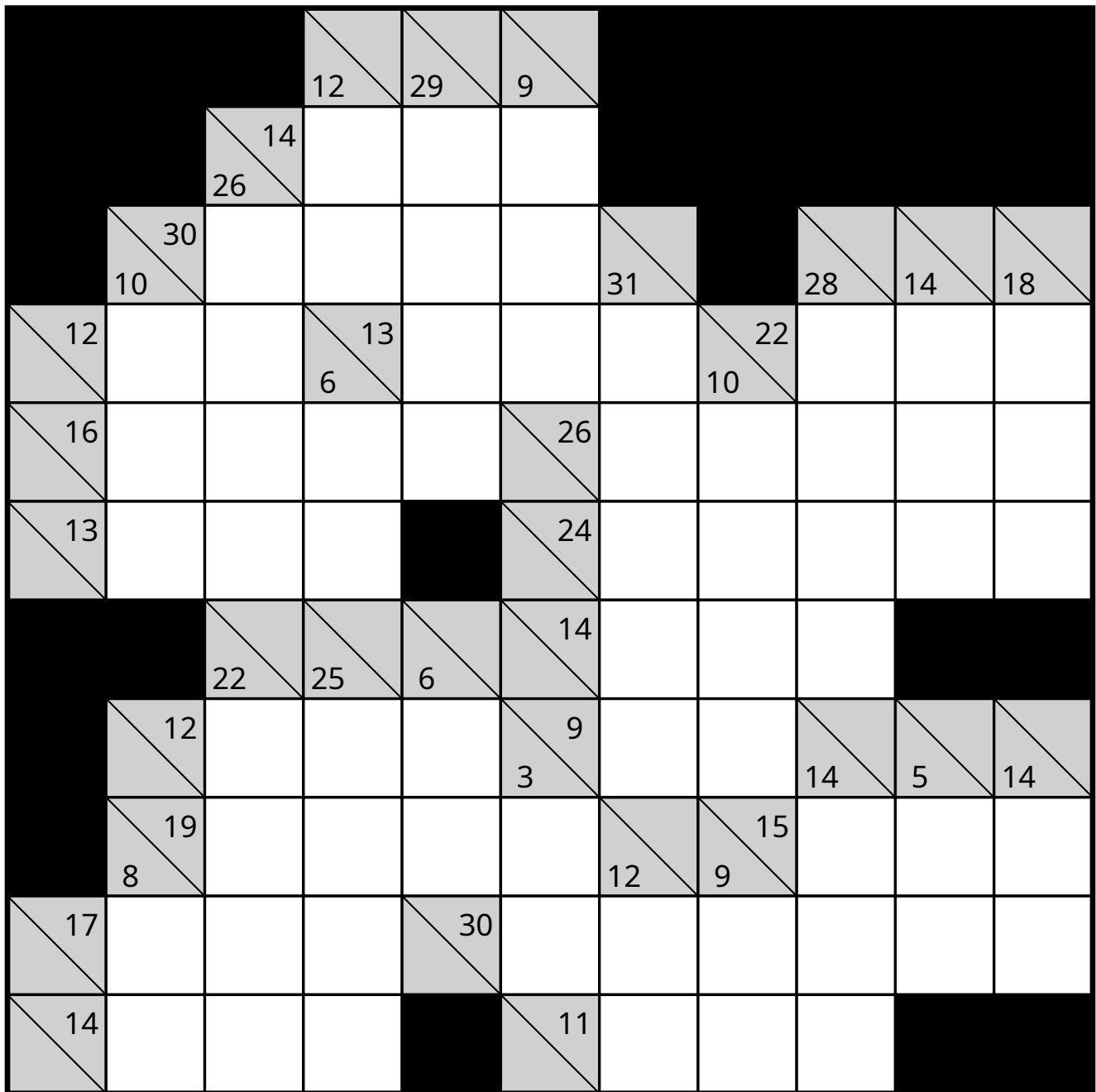
Intermediate - Puzzle 165 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



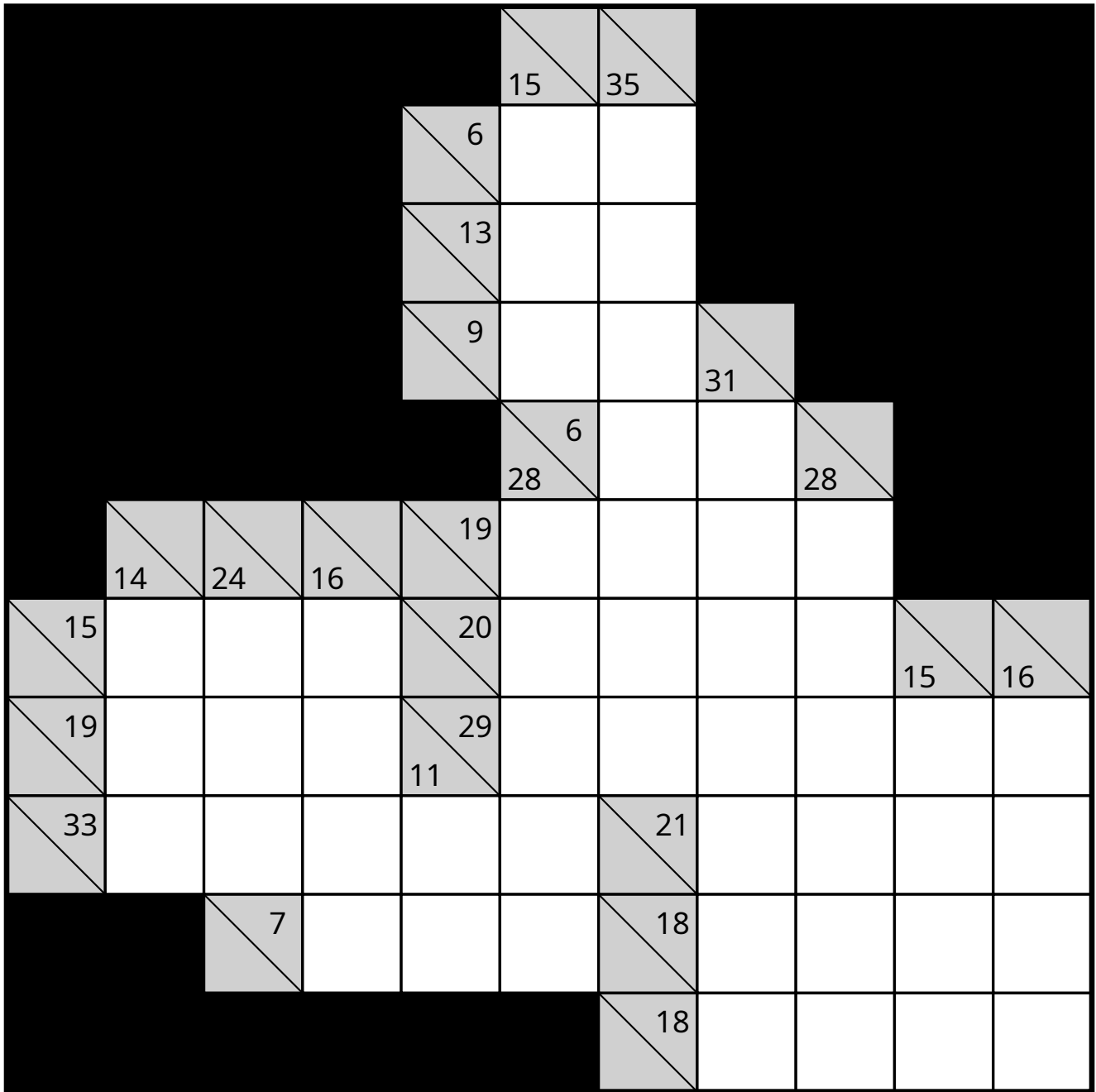
Intermediate - Puzzle 166 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



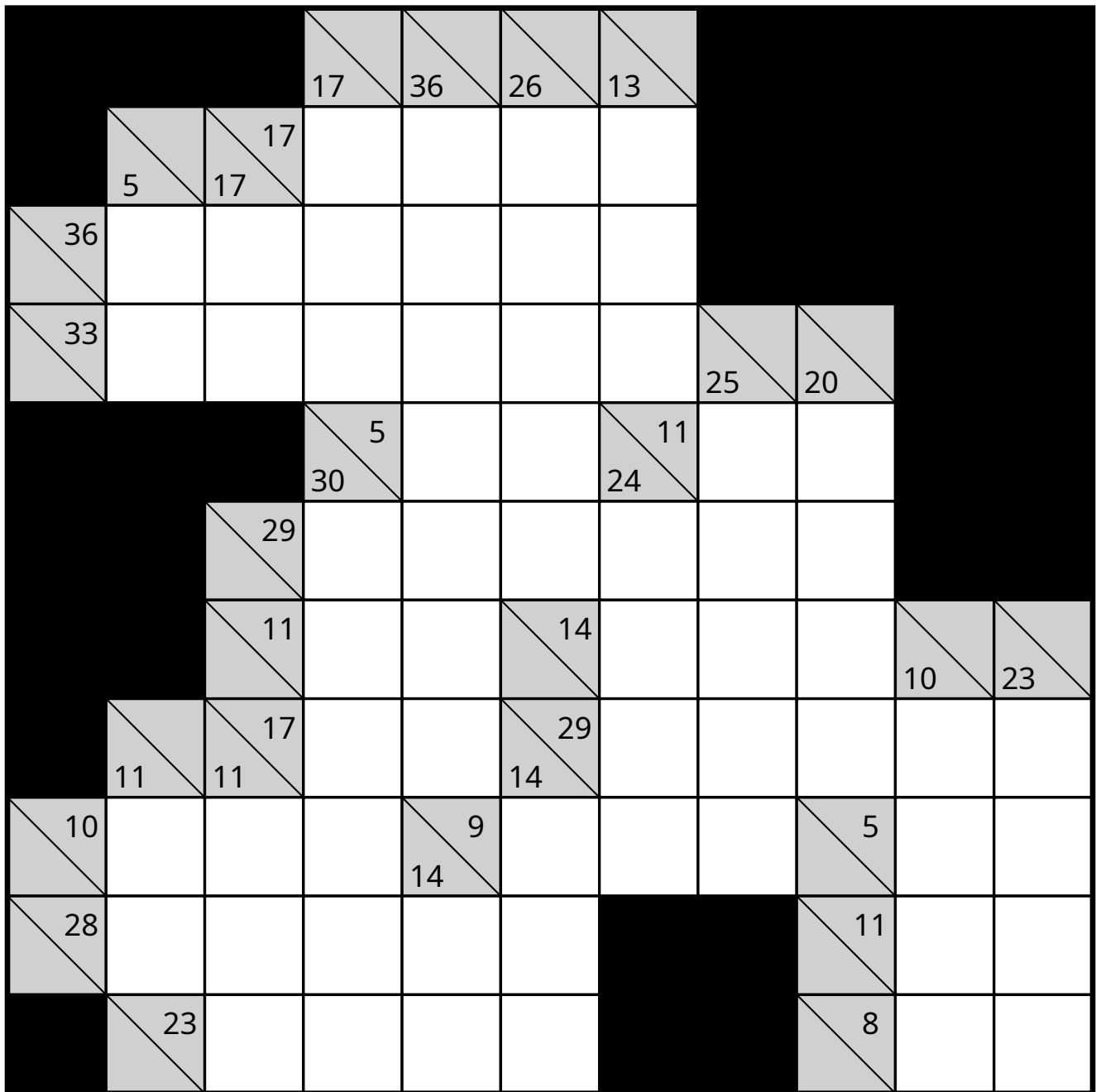
Intermediate - Puzzle 167 - 11x11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Intermediate - Puzzle 168 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



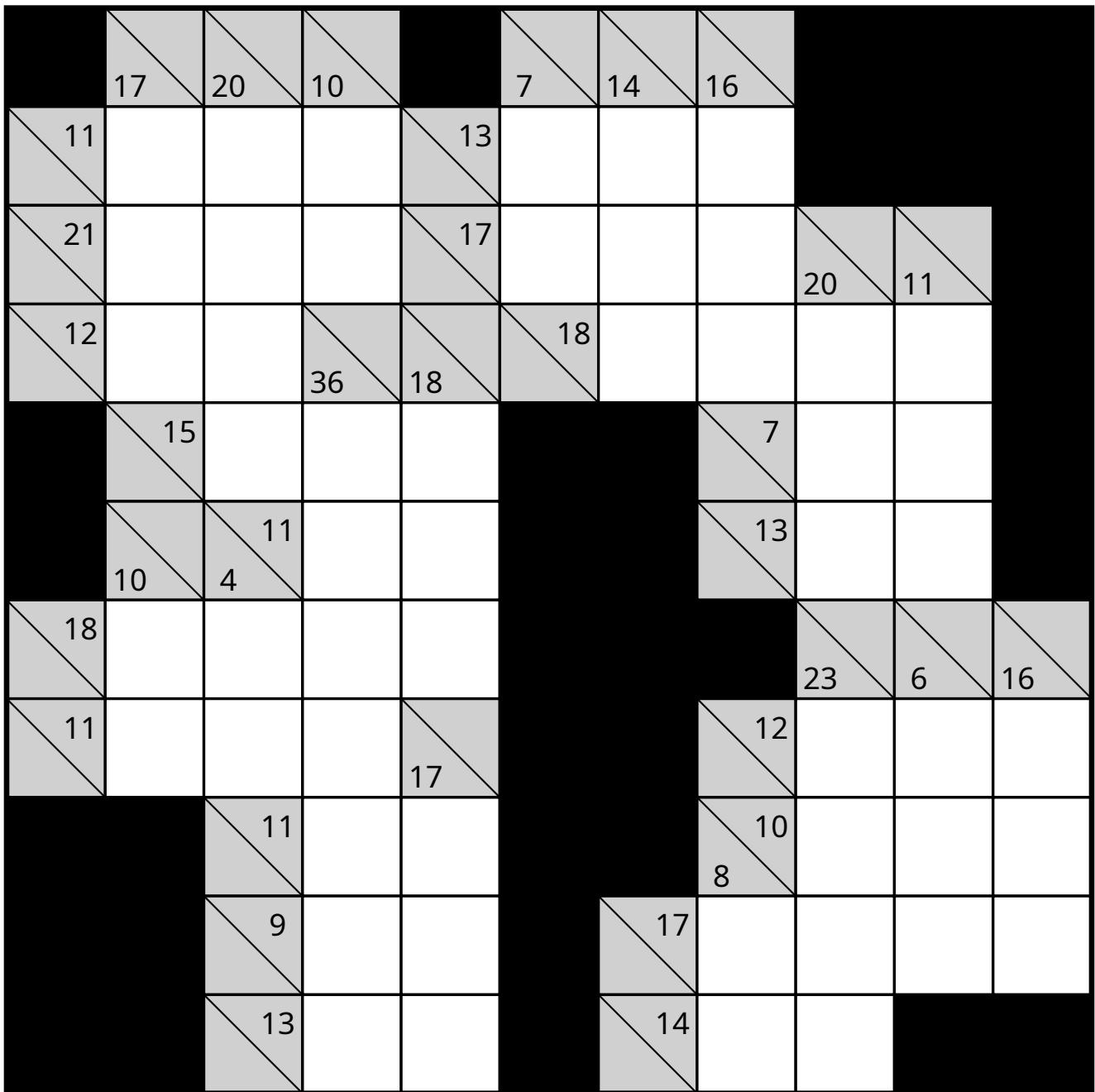
Intermediate - Puzzle 169 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	6	6	18		18	22	10		23	27
6				13				15		
36								7		
		24					16			
	16	29	31	13	12		13			
22								10		
24					14	15	22			
33								8		
10				14						
17				11	13					
	15				13					

Intermediate - Puzzle 170 - 11×11

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Part 4: Expert Level

Chapter 10: Expert Entry

Welcome to the Expert Level.

You've mastered the fundamentals. You've conquered the intermediate grids. Now, it's time to push further.

The 12×12 grids in this chapter represent a significant step up. Longer runs, more complex intersections, and fewer obvious starting points will test your patience and precision.

What to Expect

- **Larger Solution Space:** With more cells, each puzzle offers more paths—and more dead ends.
- **Deep Chains:** You'll often need to reason 3-4 steps ahead before placing a single digit.
- **Time Investment:** Plan for 30+ minutes per puzzle.

Strategy Reminder

1. **Scan for constraints** - Look for runs with limited combinations (e.g., sums near 3-6 or 38-45 in longer runs).

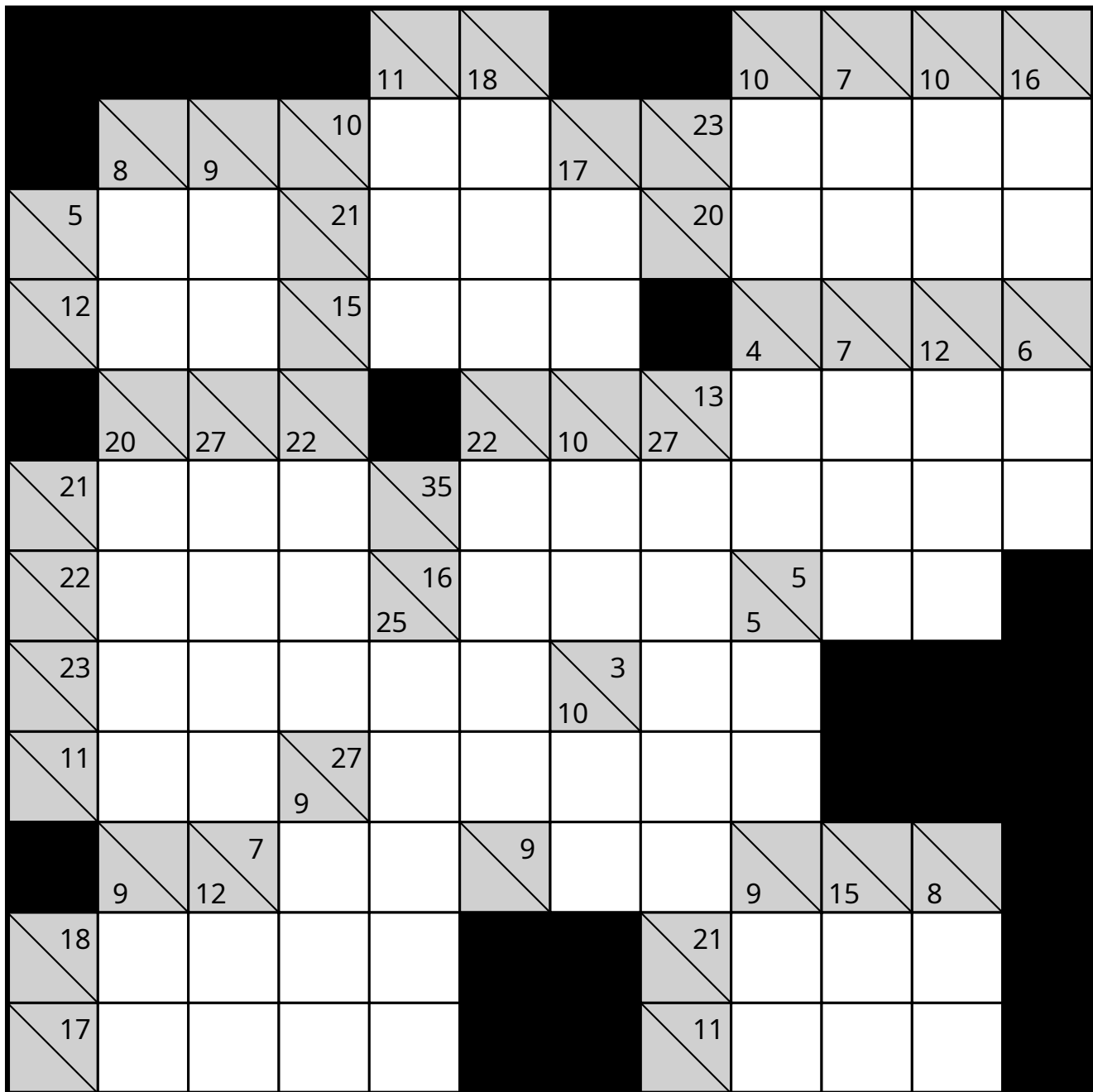
2. **Build from certainty** - Only fill cells you can prove.

3. **Track candidates** - Pencil marks become essential at this level.

Take your time. These puzzles reward careful thinking over speed.

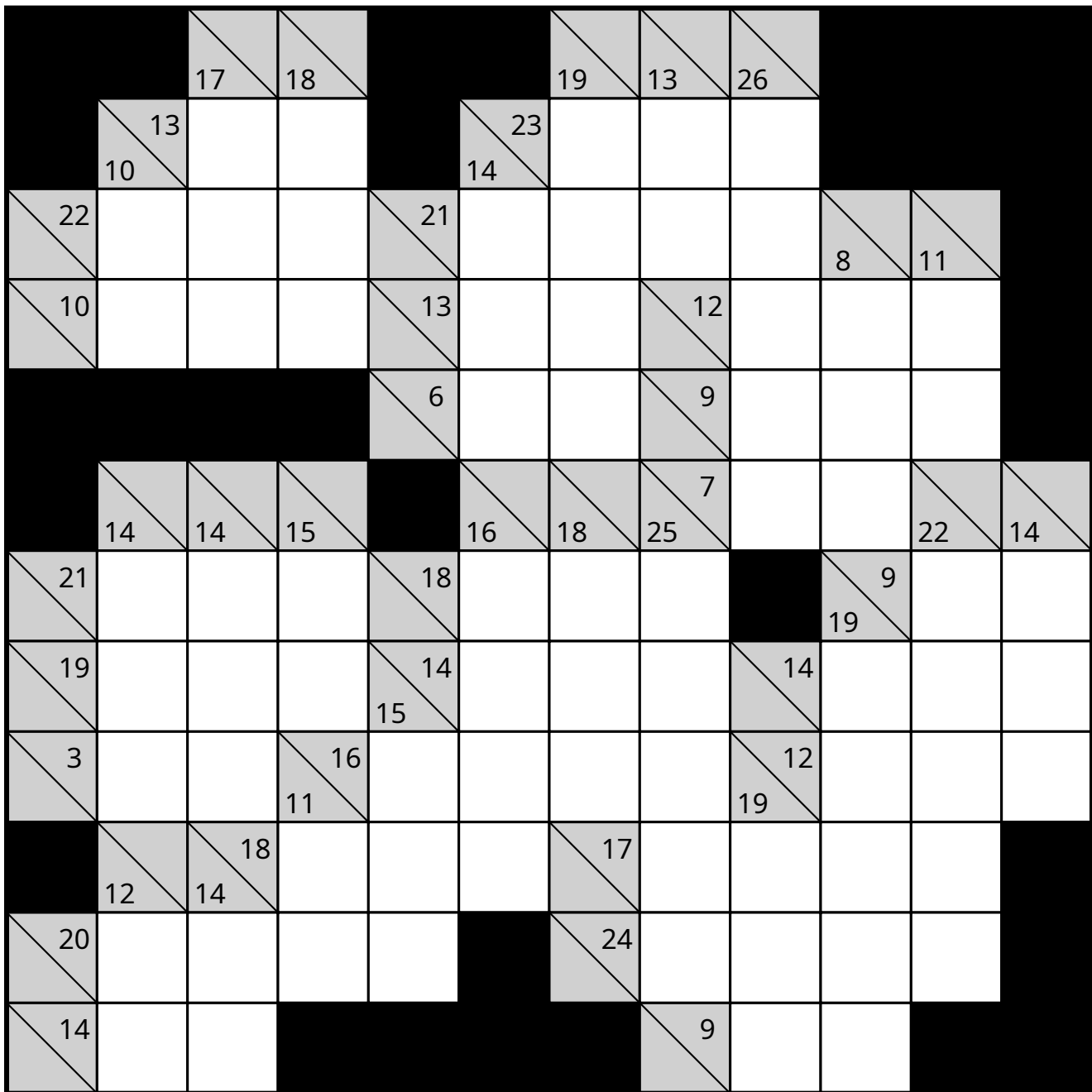
Expert – Puzzle 171 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



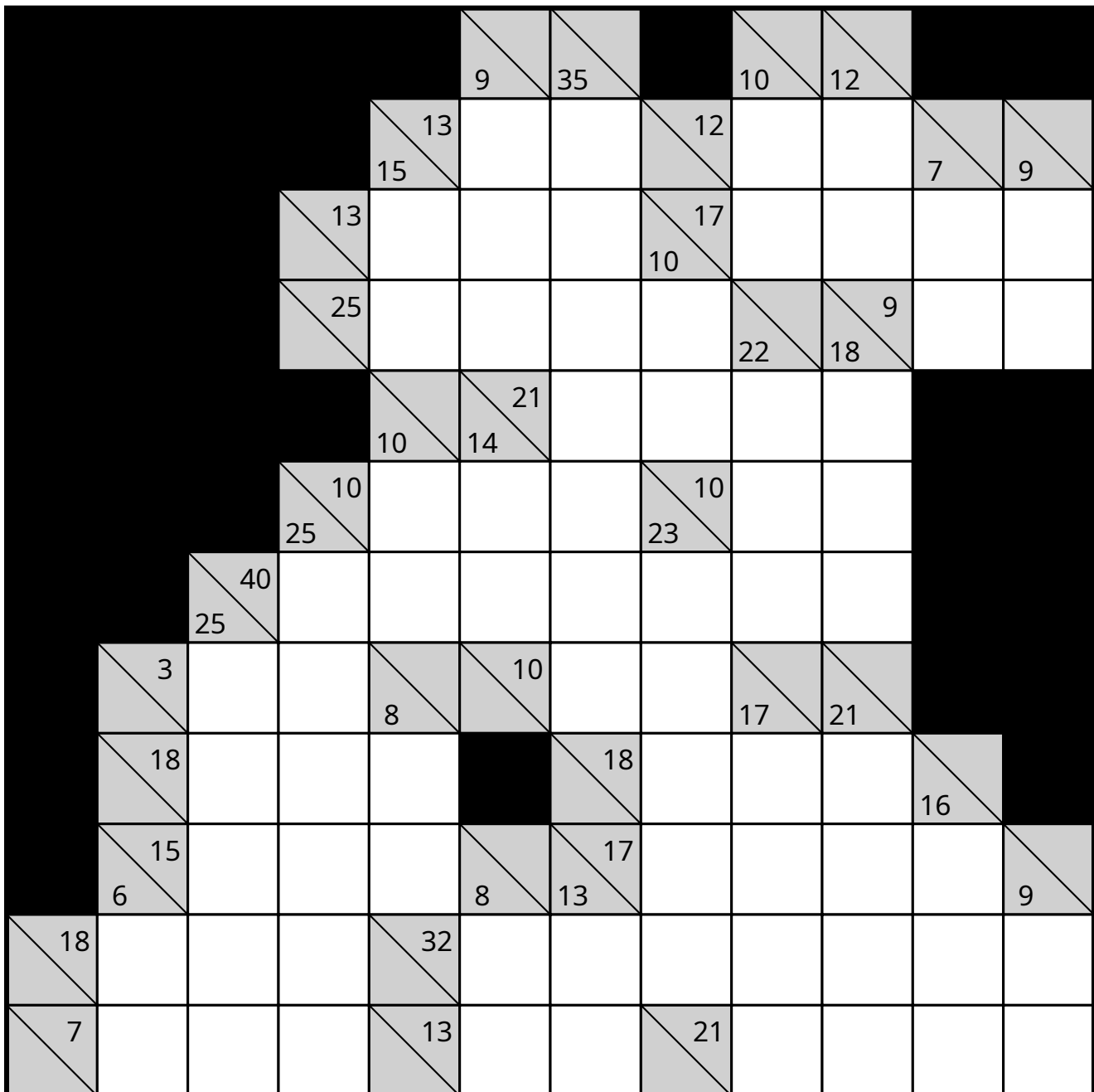
Expert – Puzzle 172 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



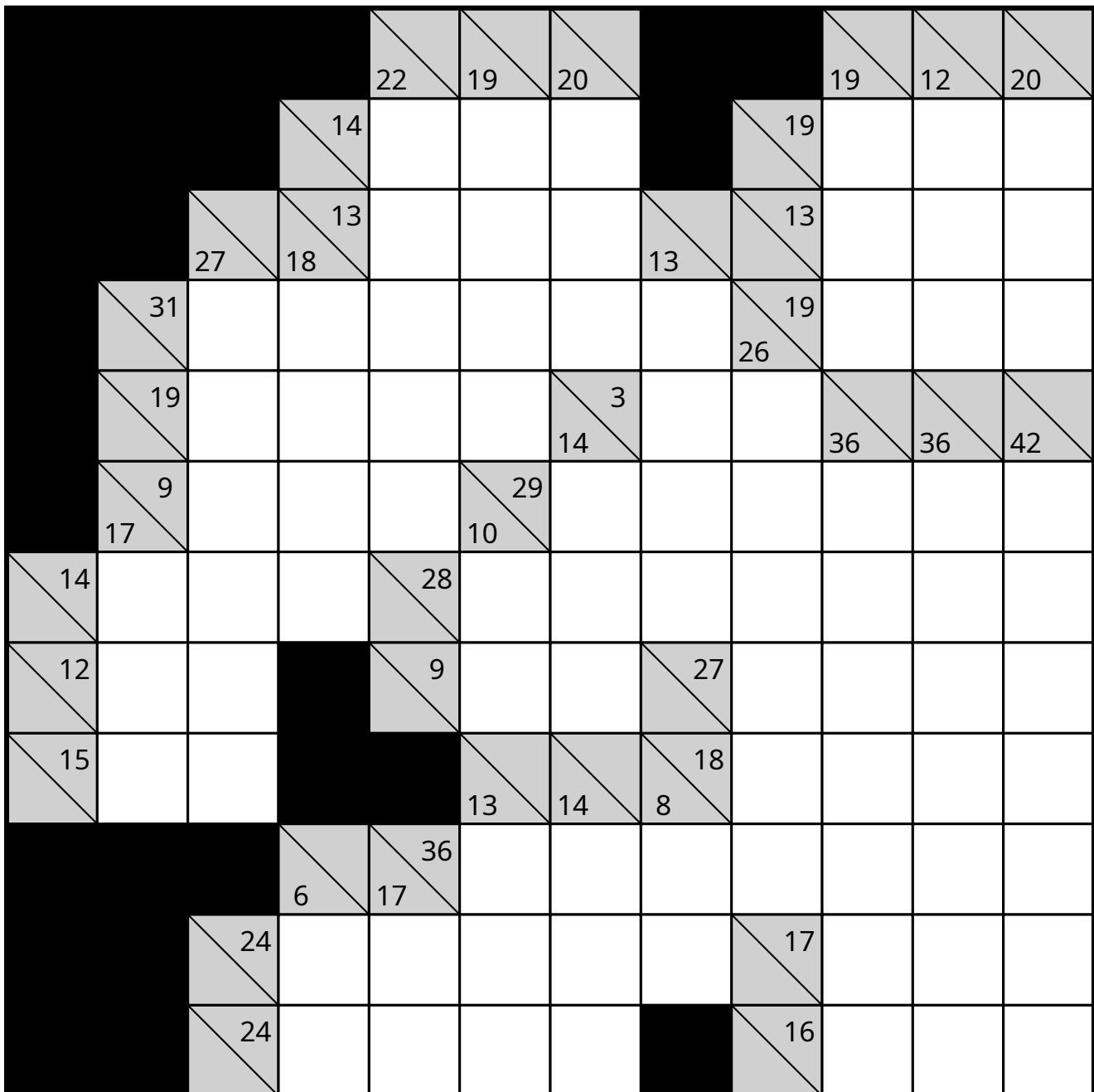
Expert – Puzzle 173 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



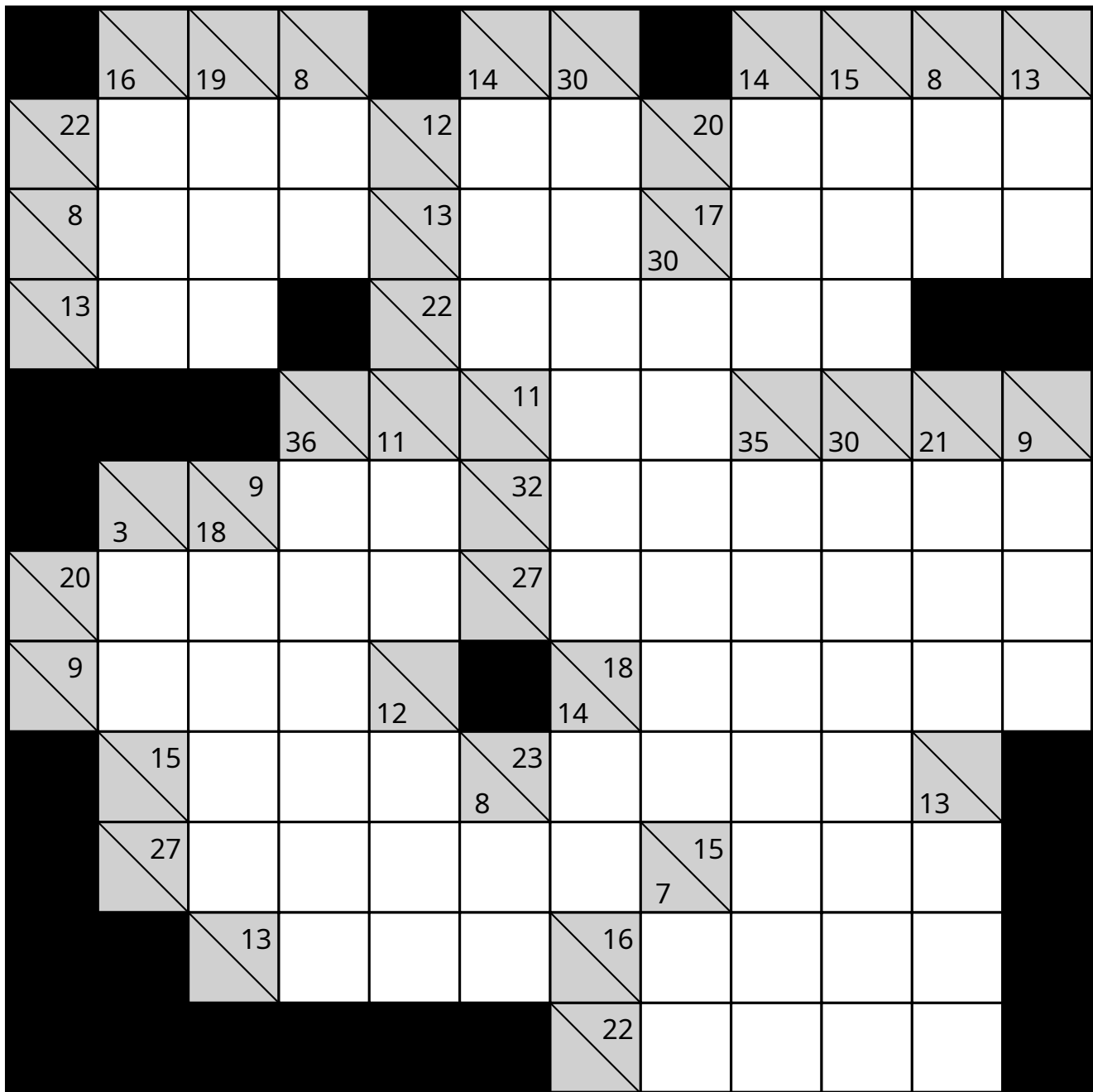
Expert – Puzzle 174 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



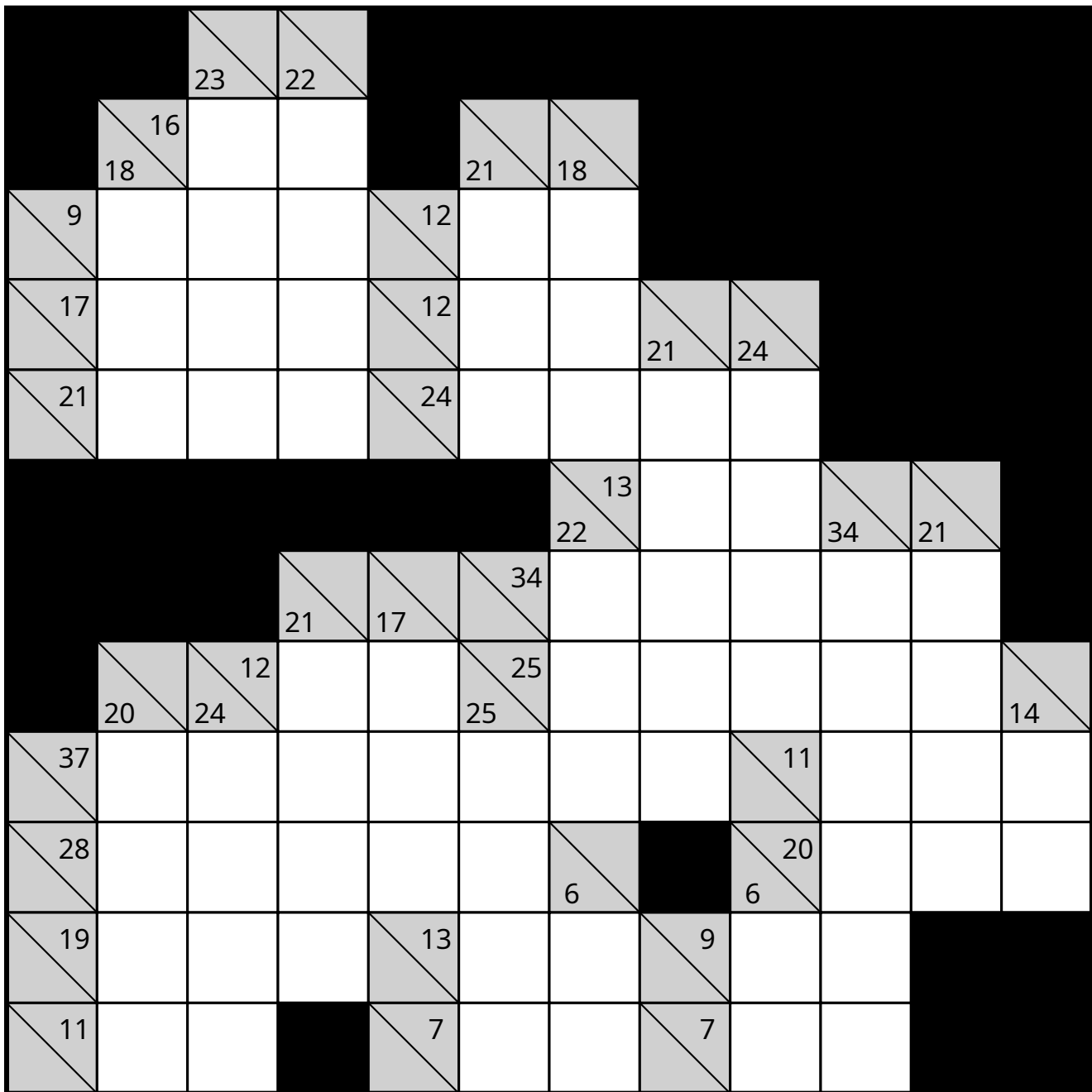
Expert – Puzzle 175 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



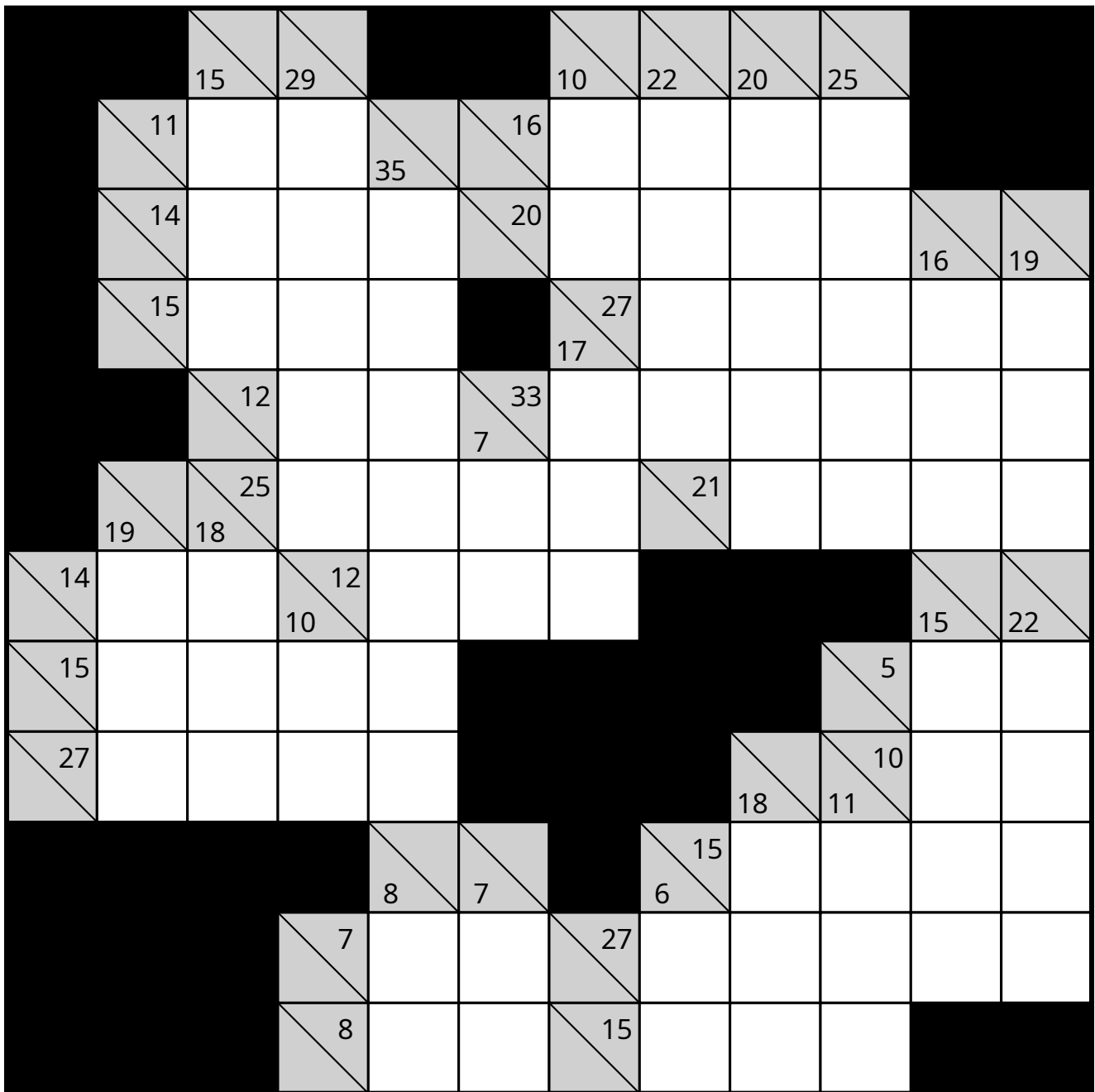
Expert – Puzzle 176 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



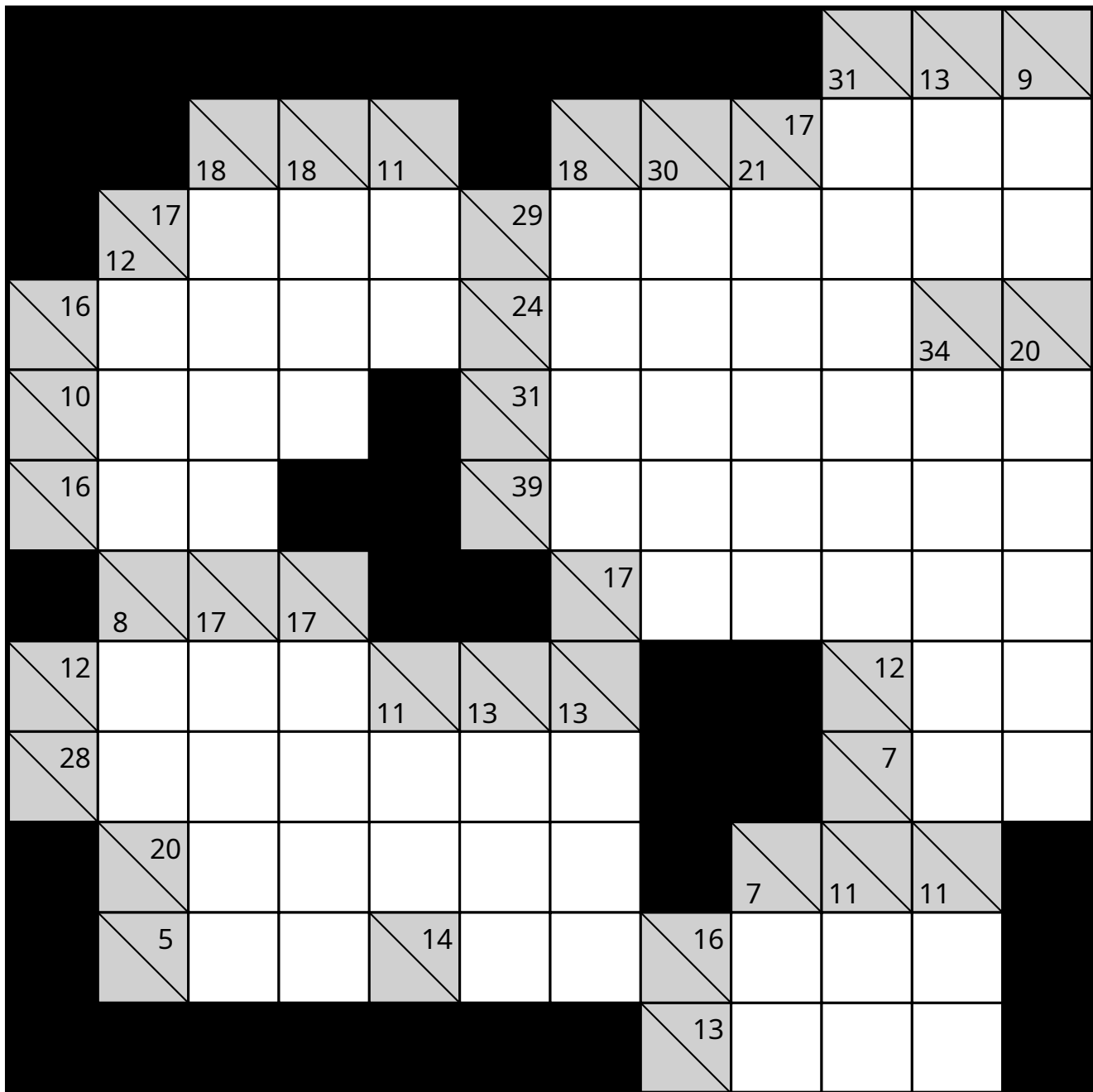
Expert – Puzzle 177 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



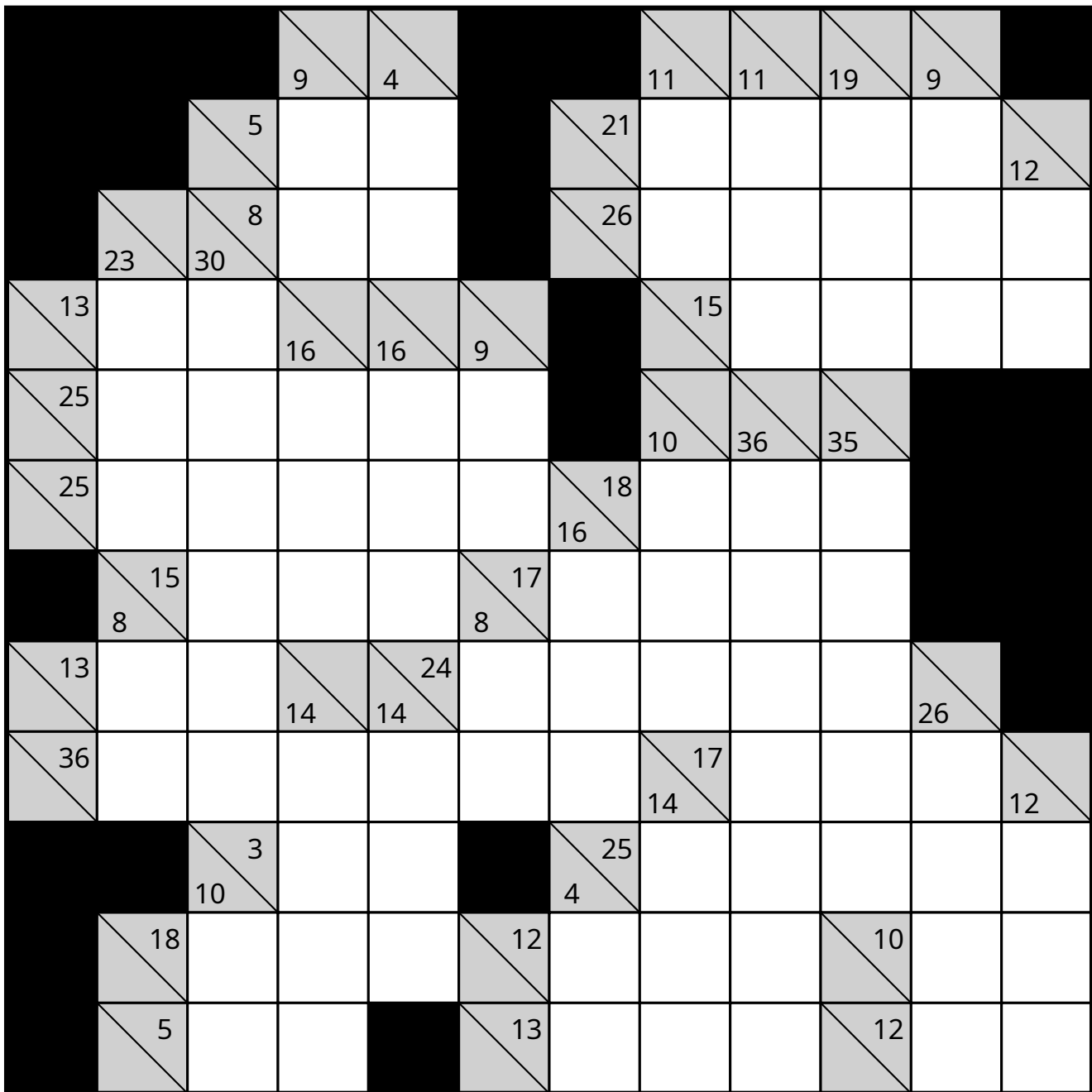
Expert – Puzzle 178 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



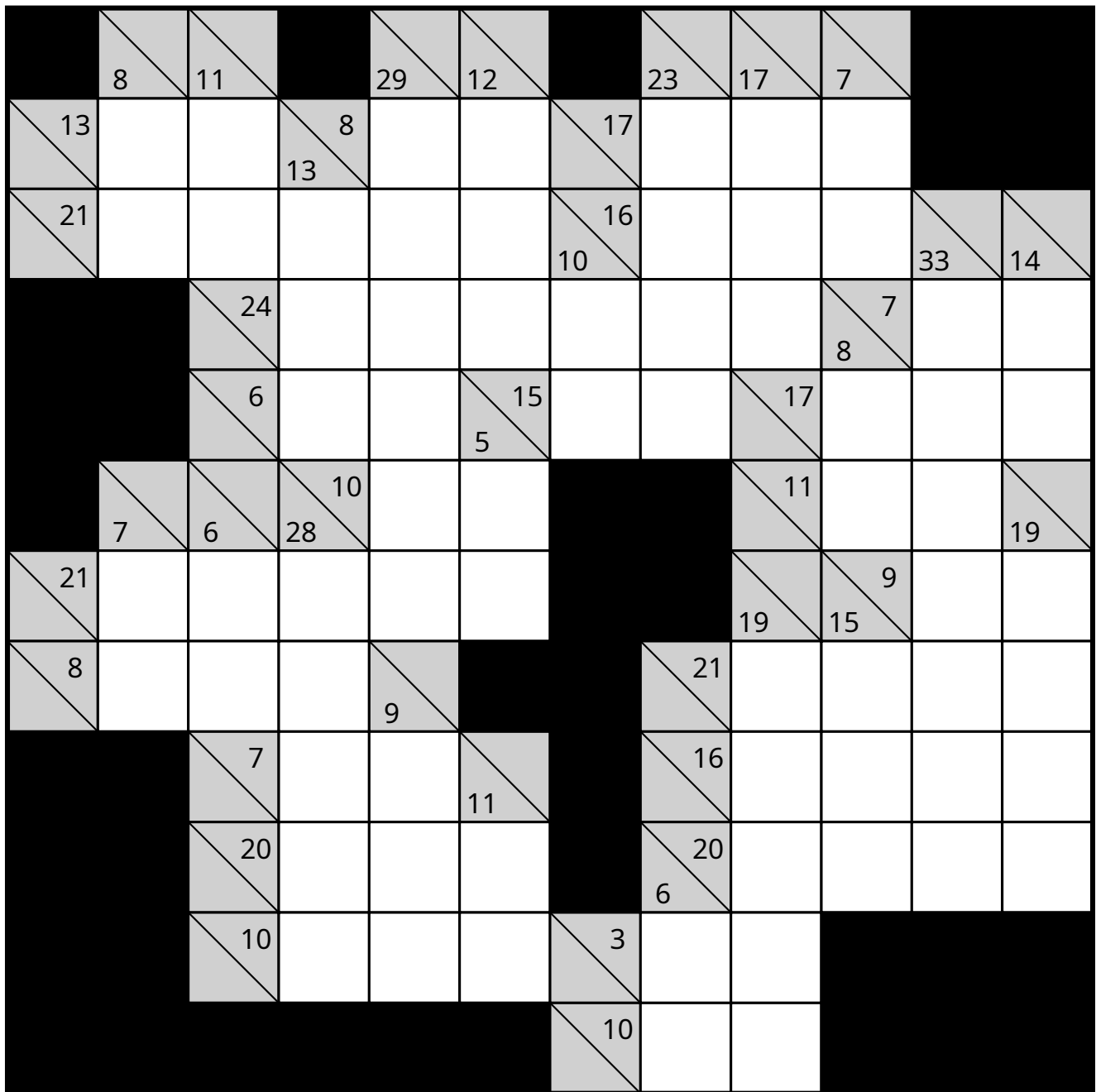
Expert – Puzzle 179 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



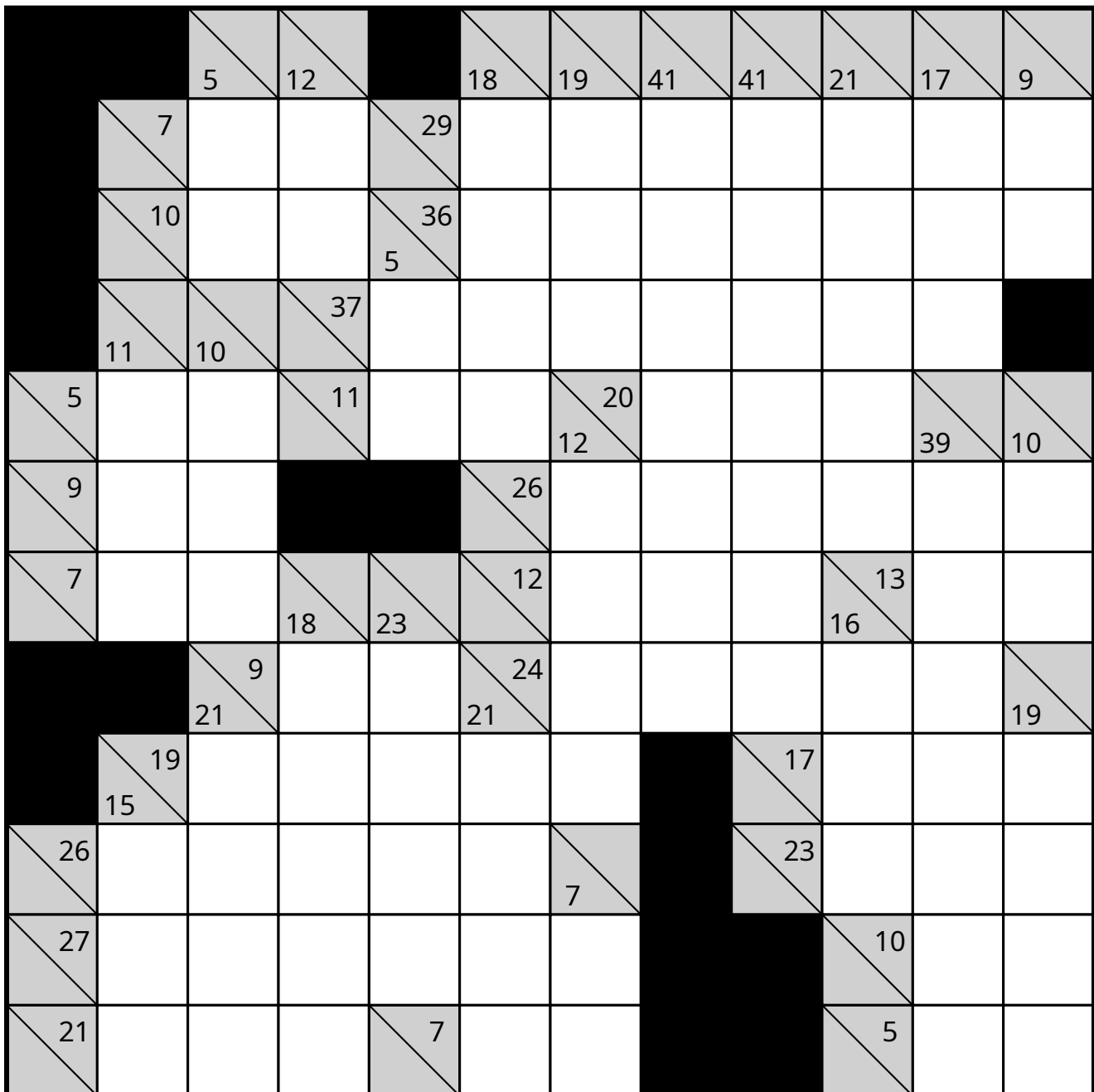
Expert – Puzzle 180 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



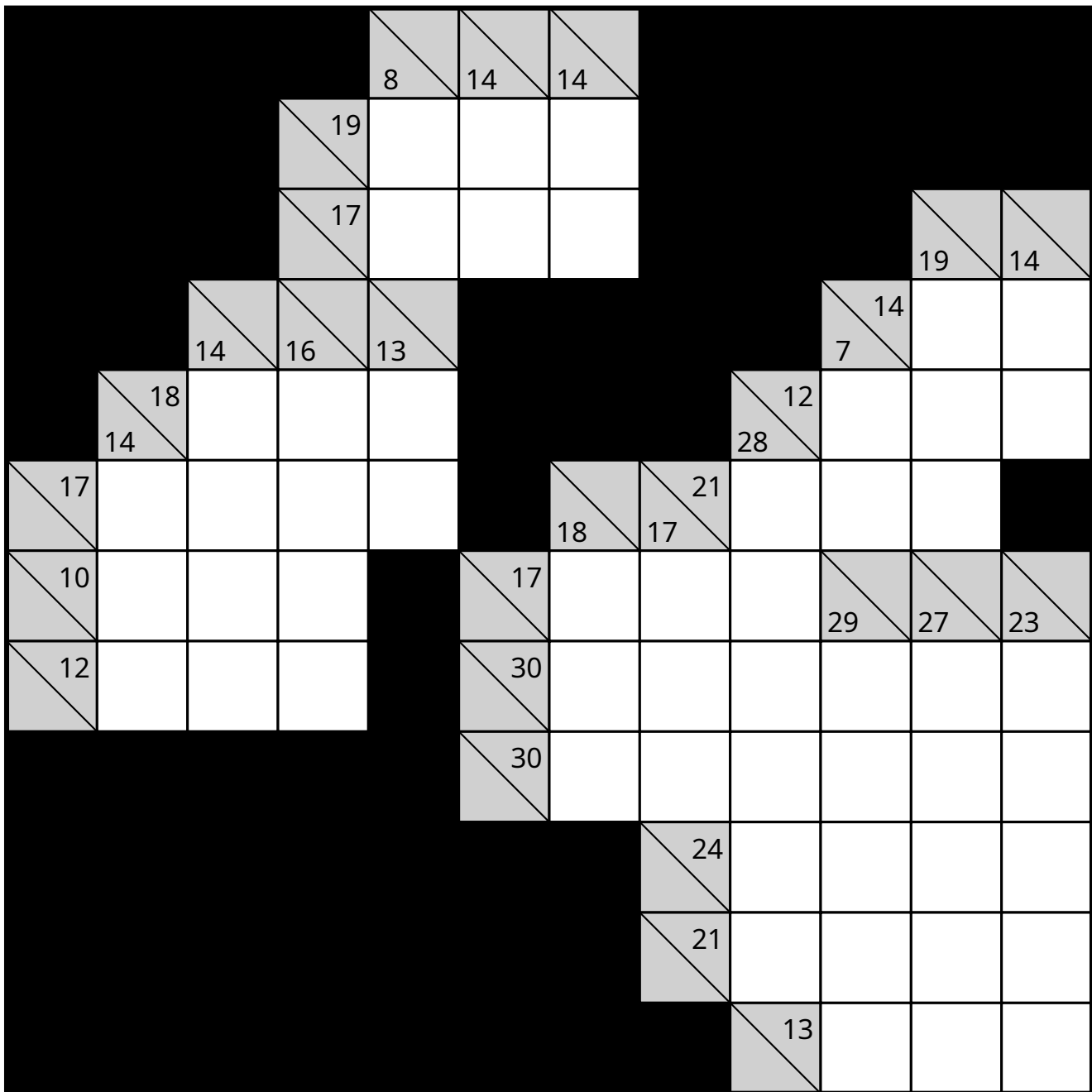
Expert – Puzzle 181 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



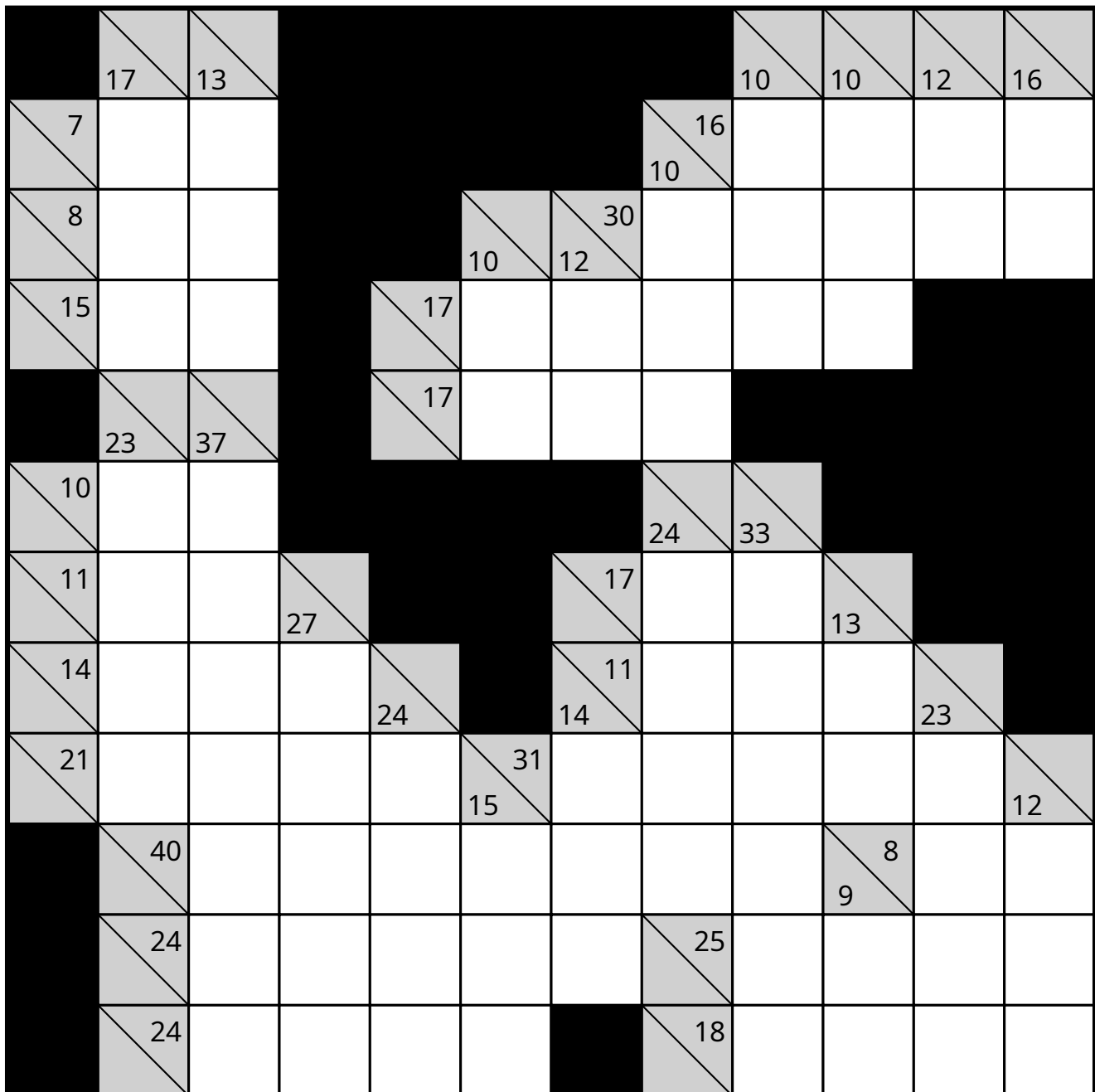
Expert – Puzzle 182 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



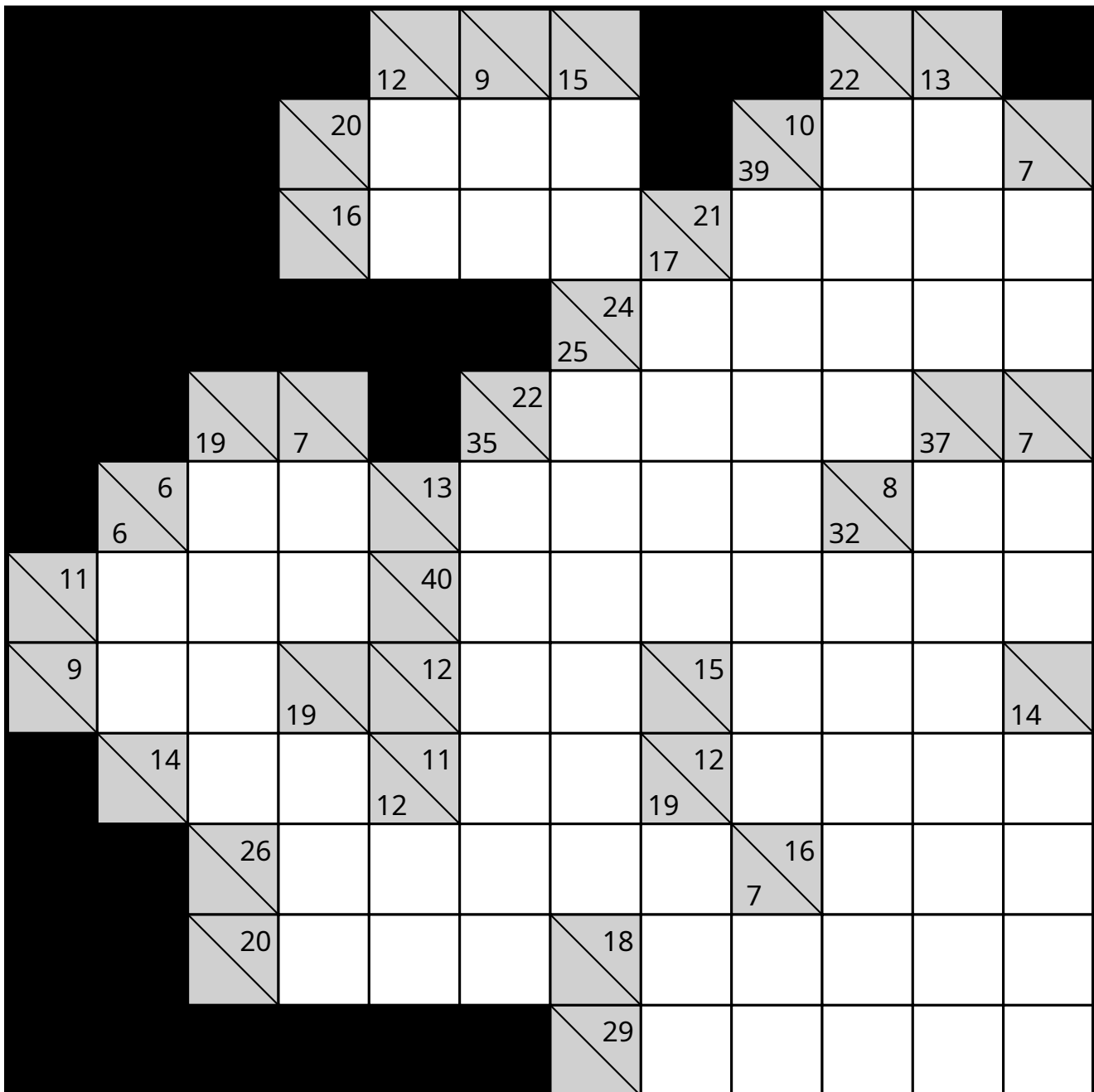
Expert – Puzzle 183 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



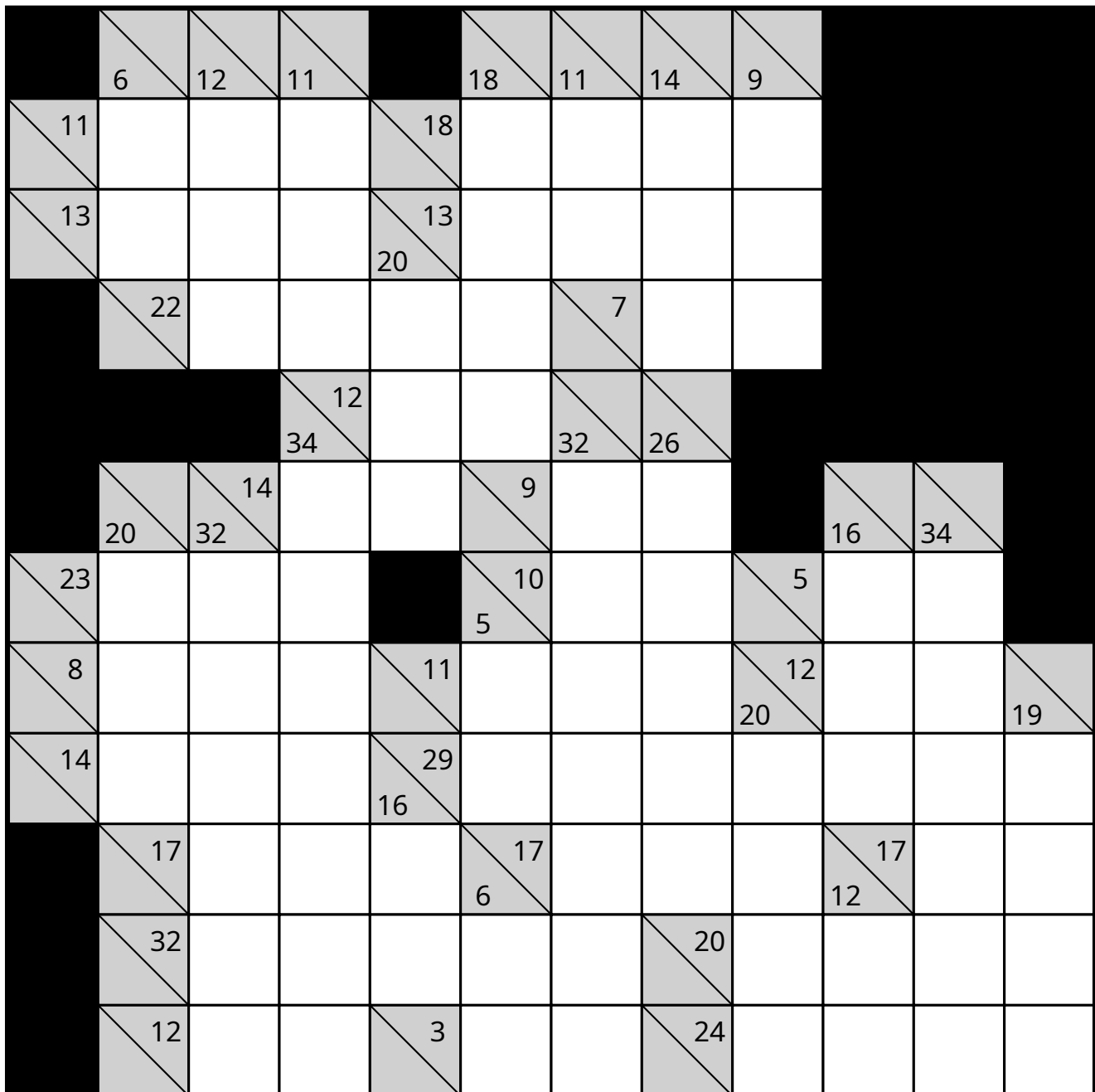
Expert – Puzzle 184 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



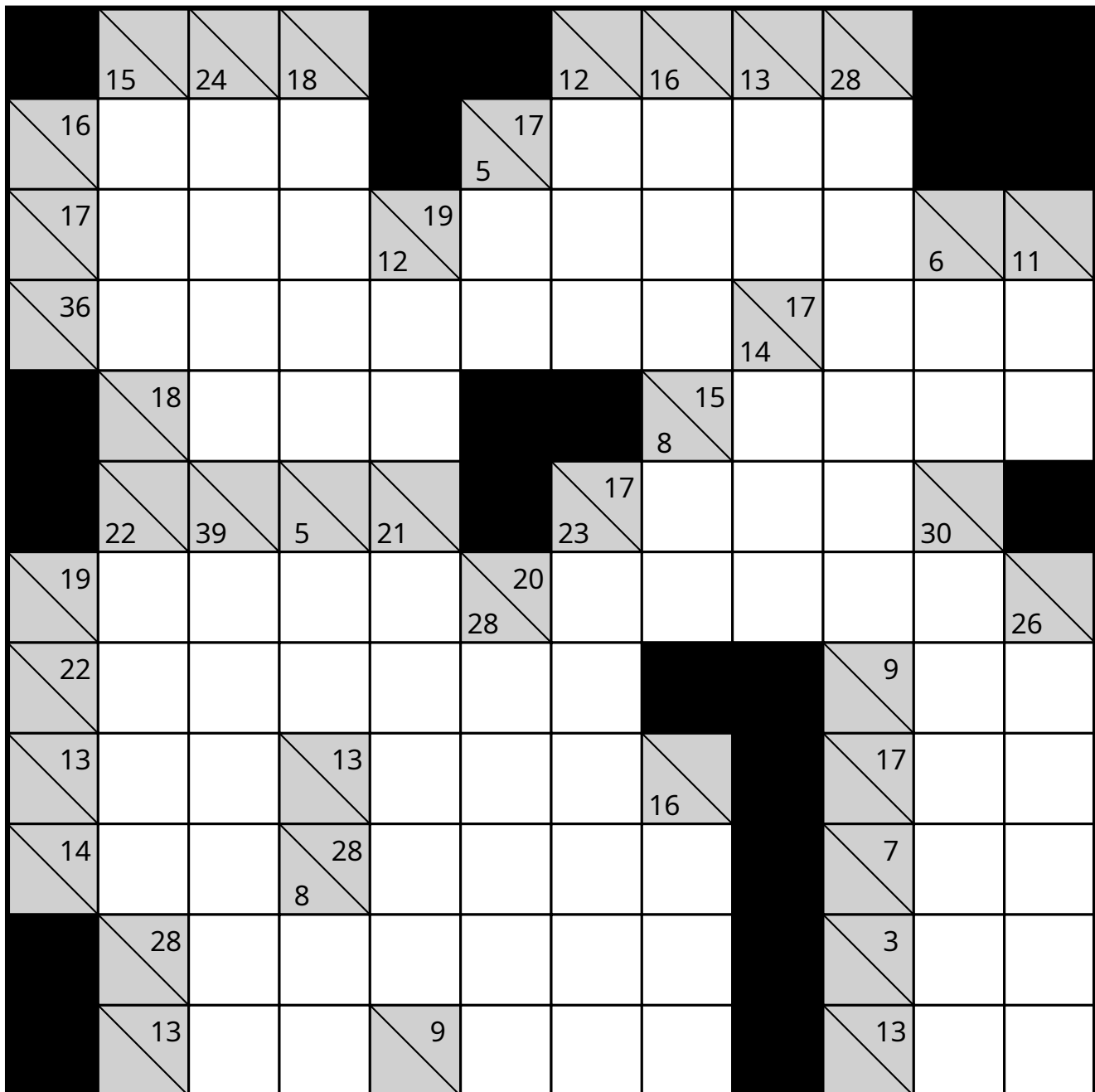
Expert – Puzzle 185 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



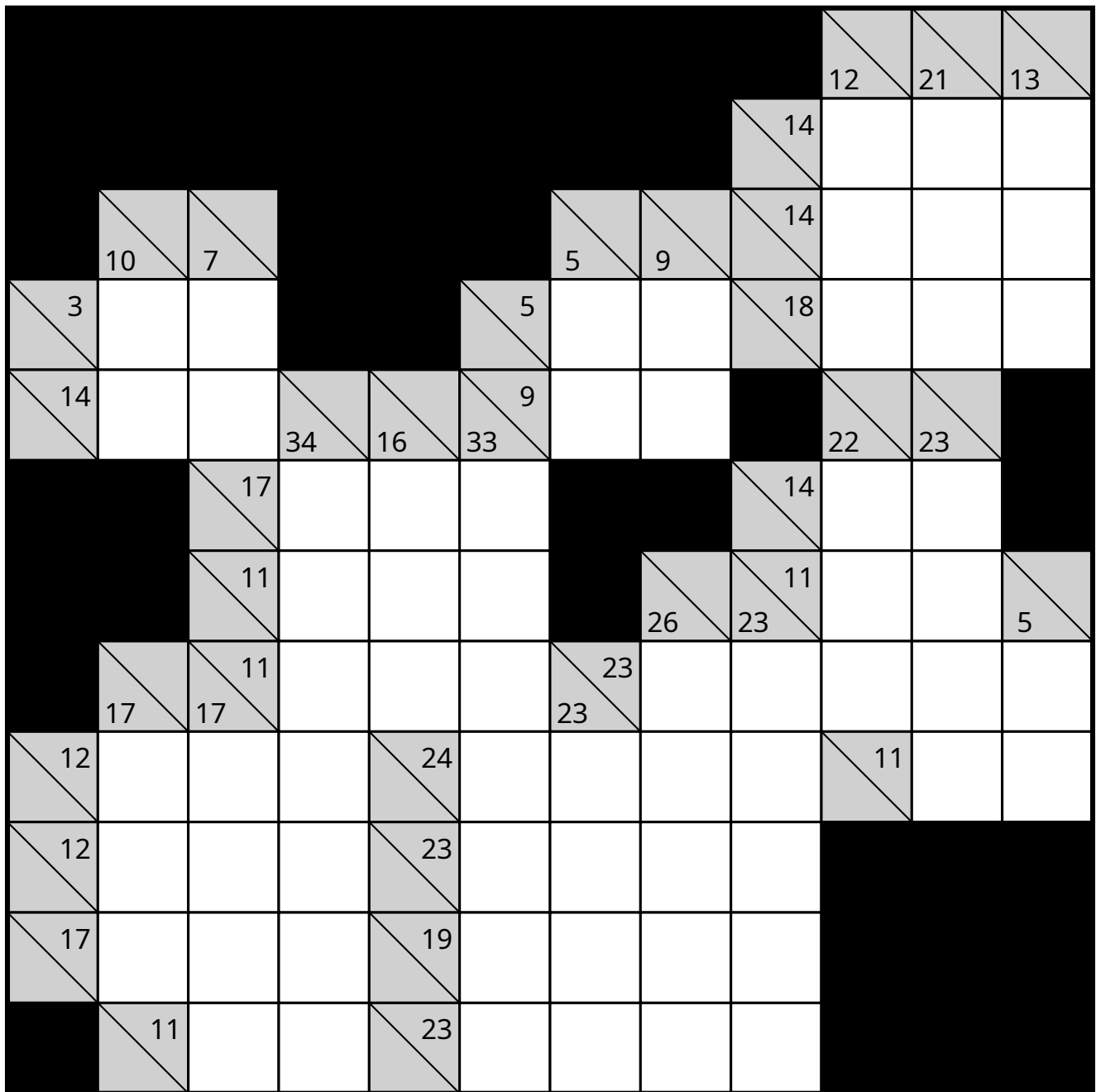
Expert – Puzzle 186 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



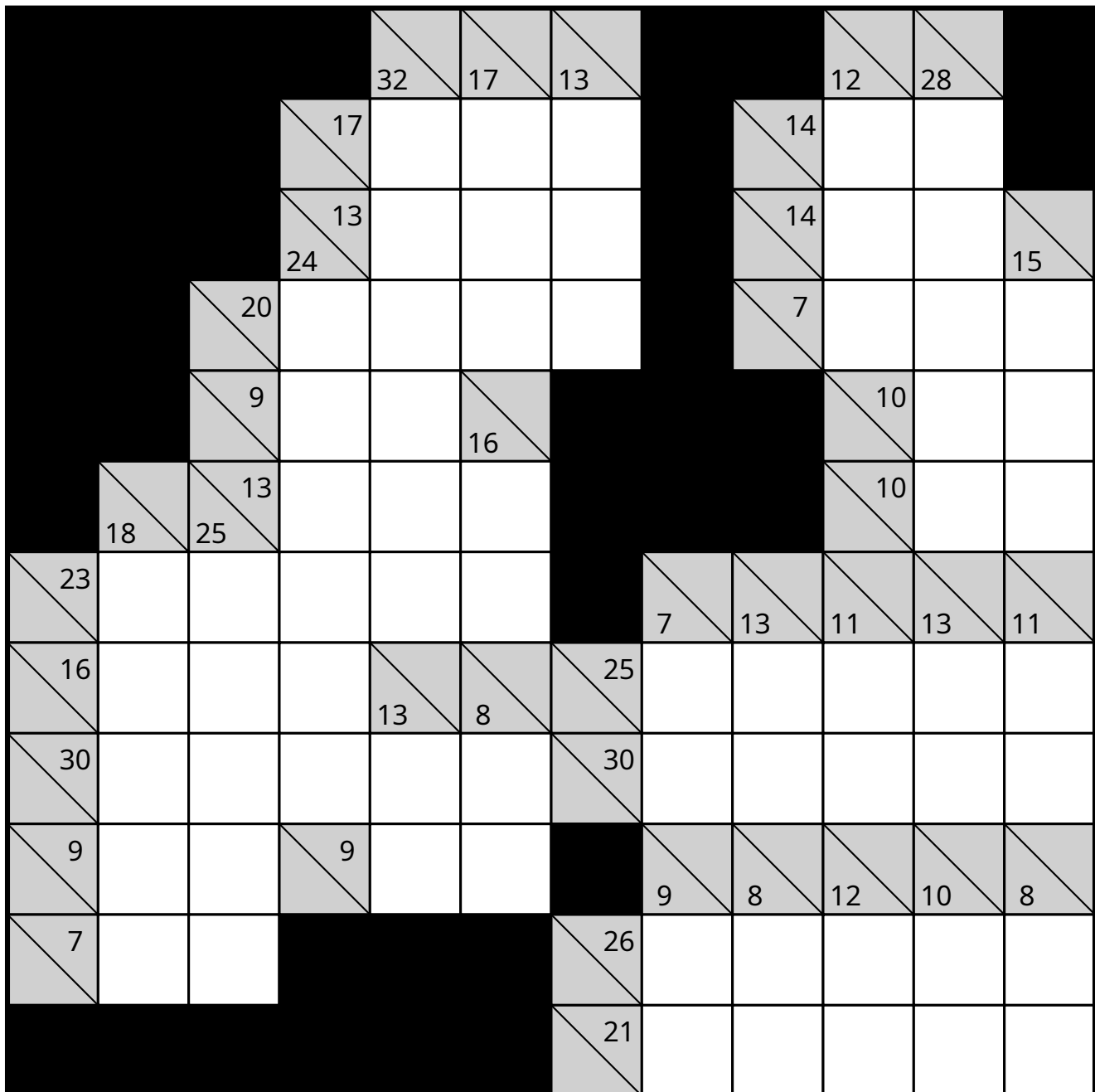
Expert – Puzzle 187 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



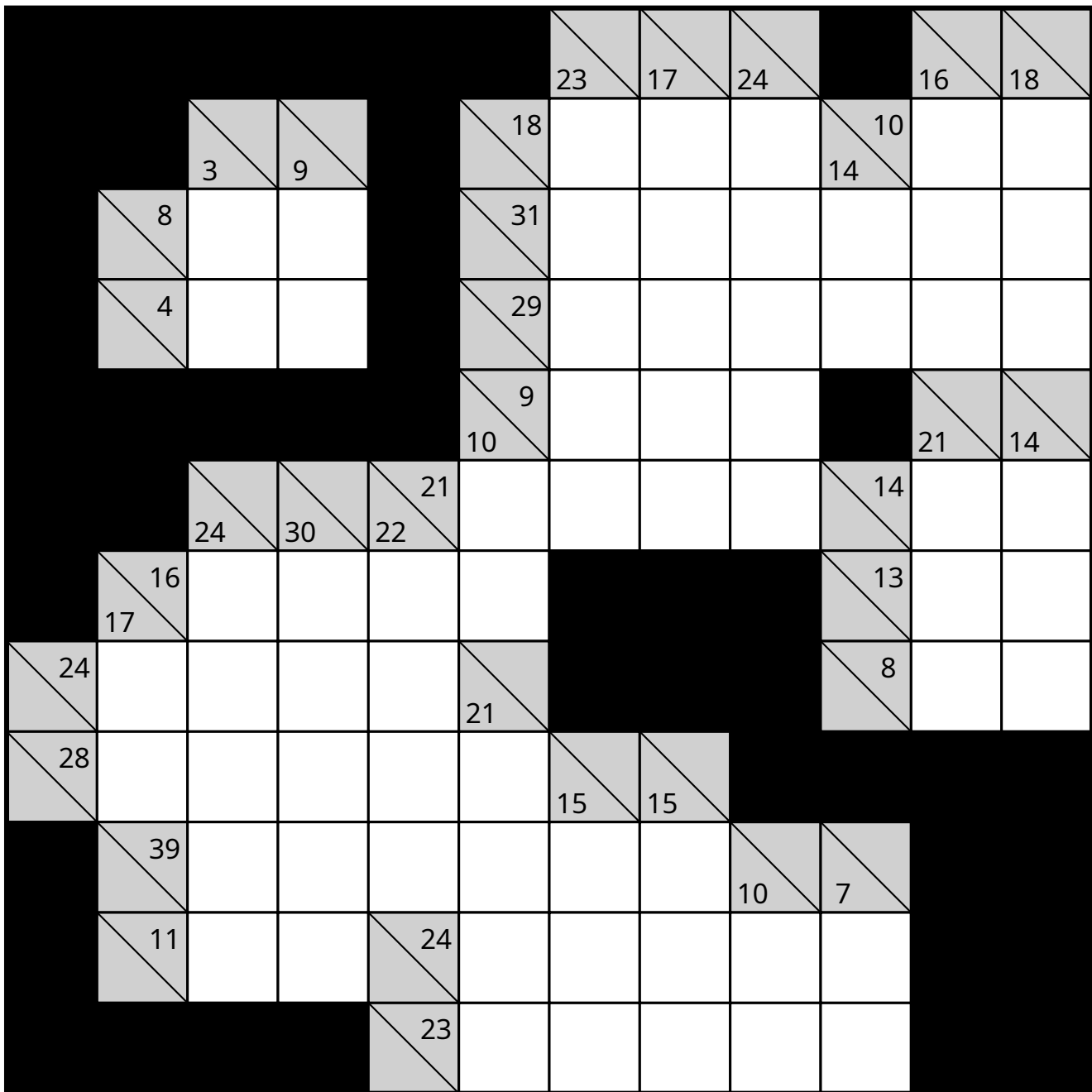
Expert – Puzzle 188 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



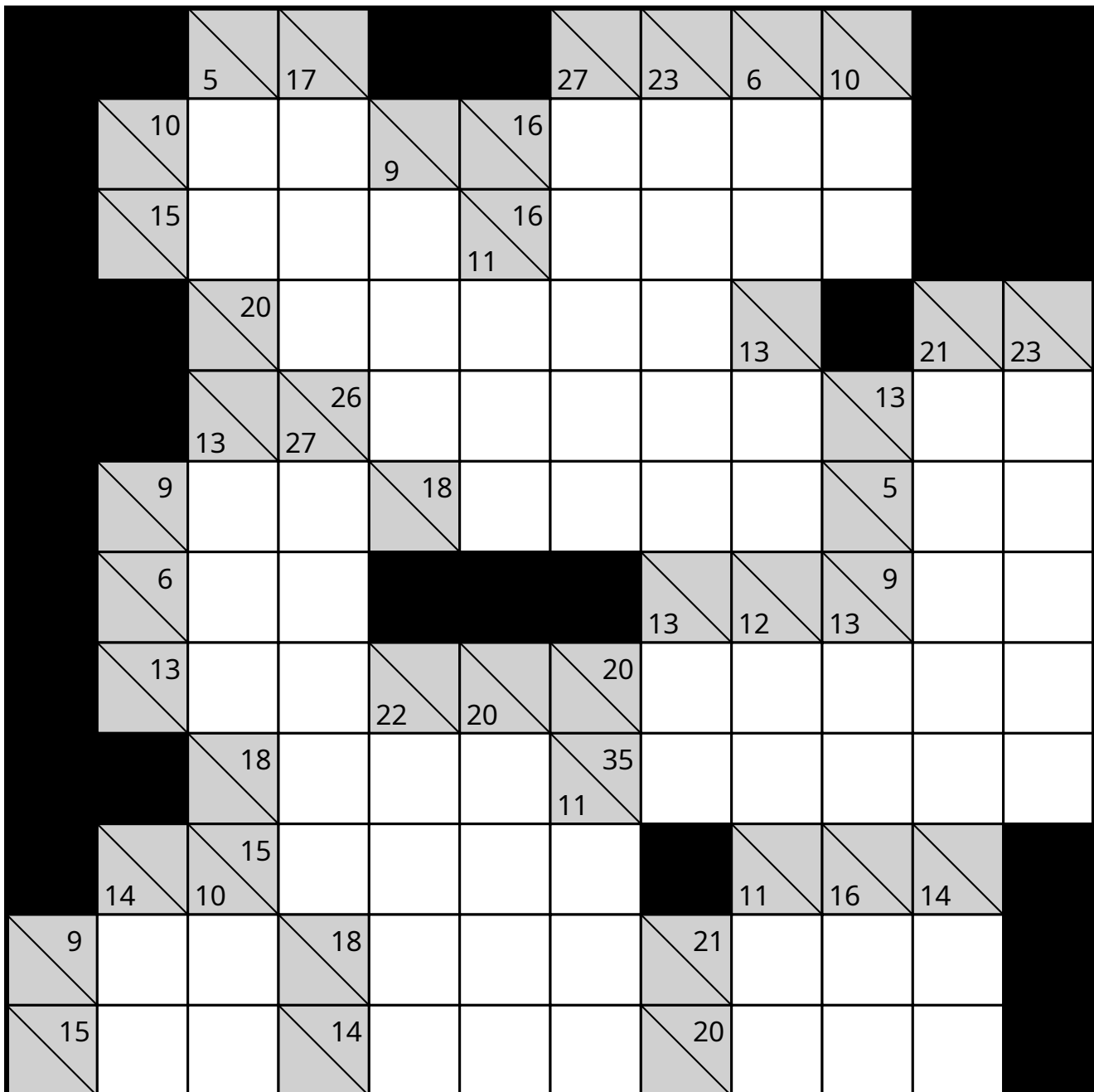
Expert – Puzzle 189 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



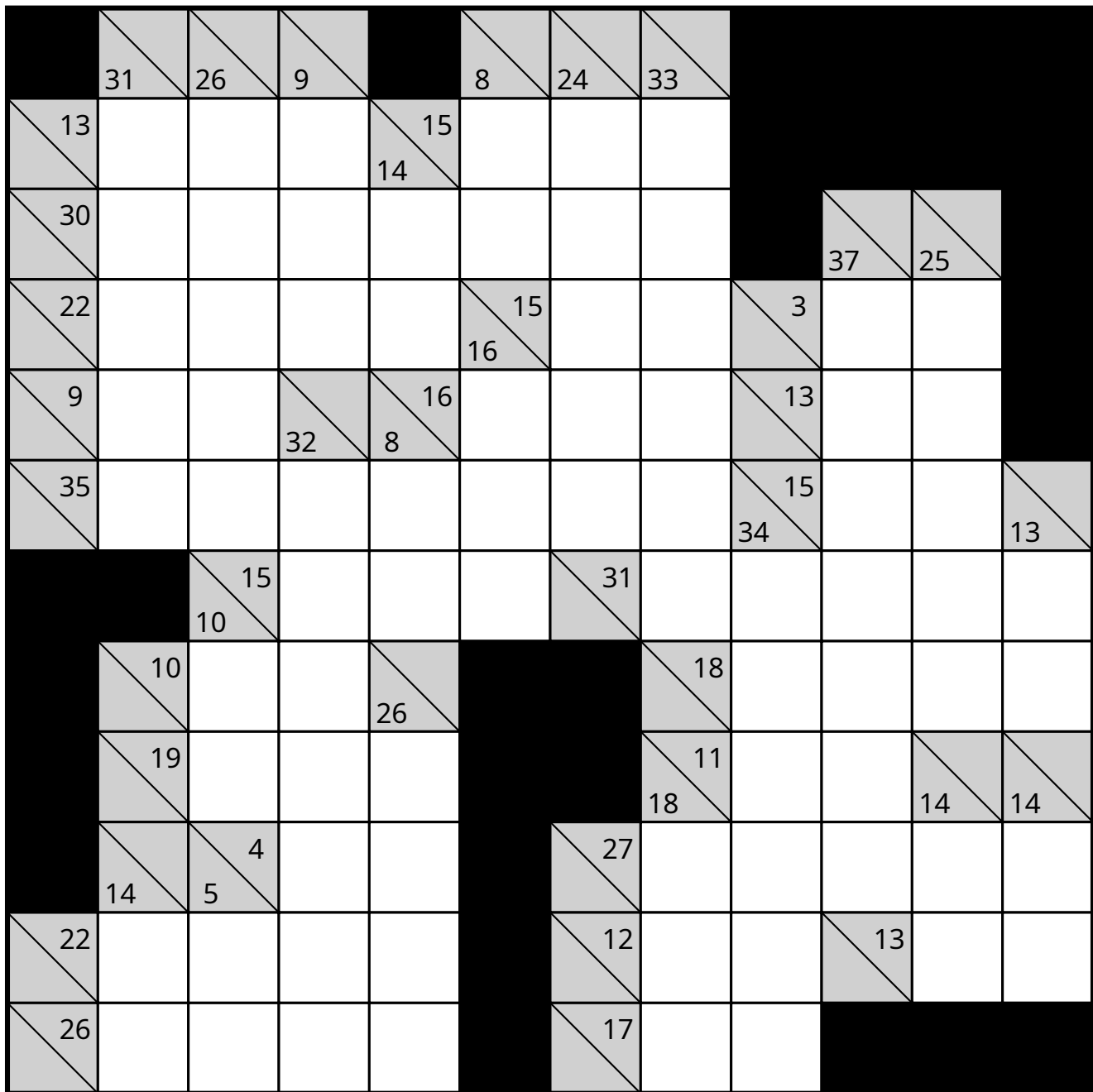
Expert – Puzzle 190 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



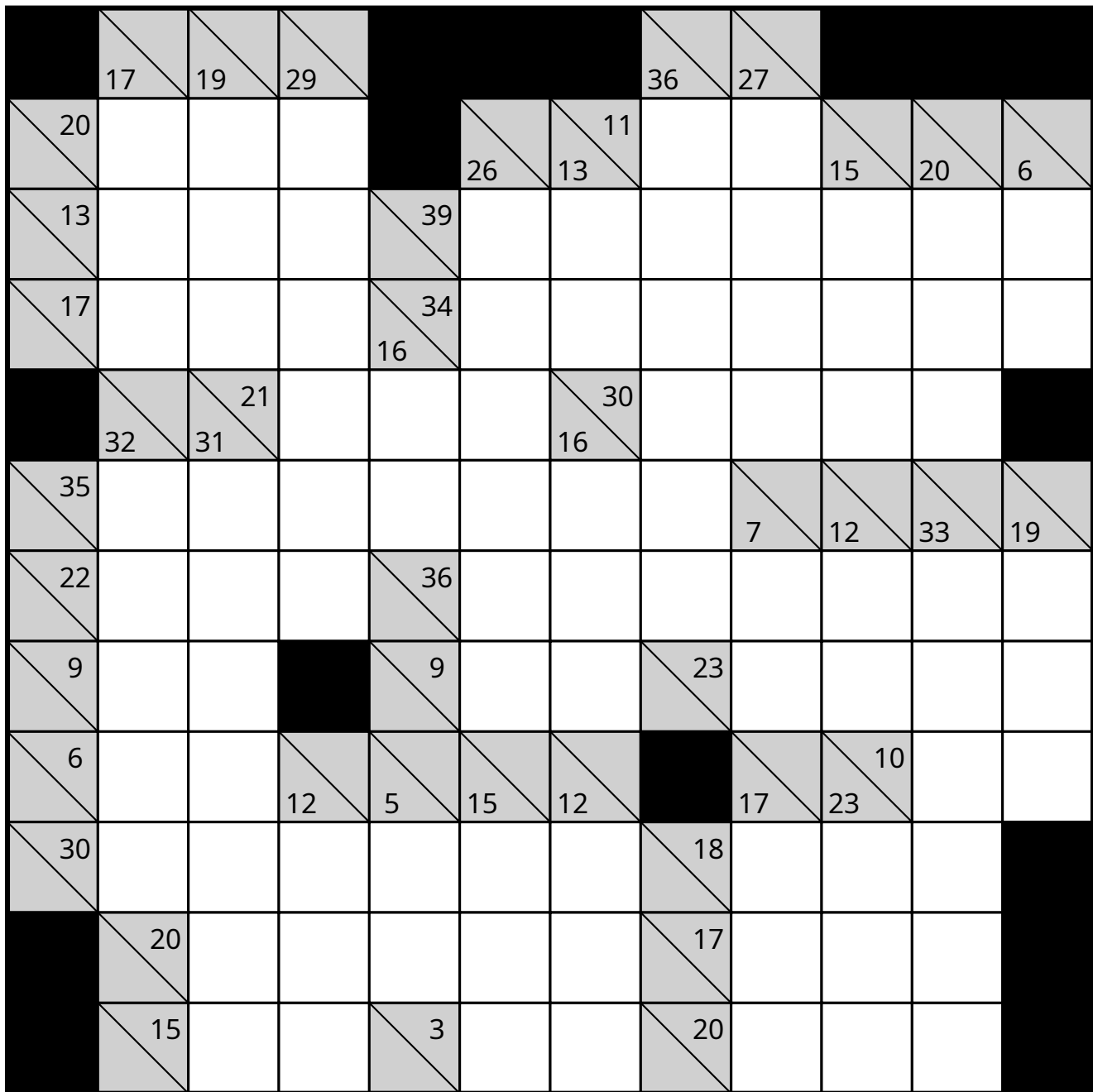
Expert – Puzzle 191 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



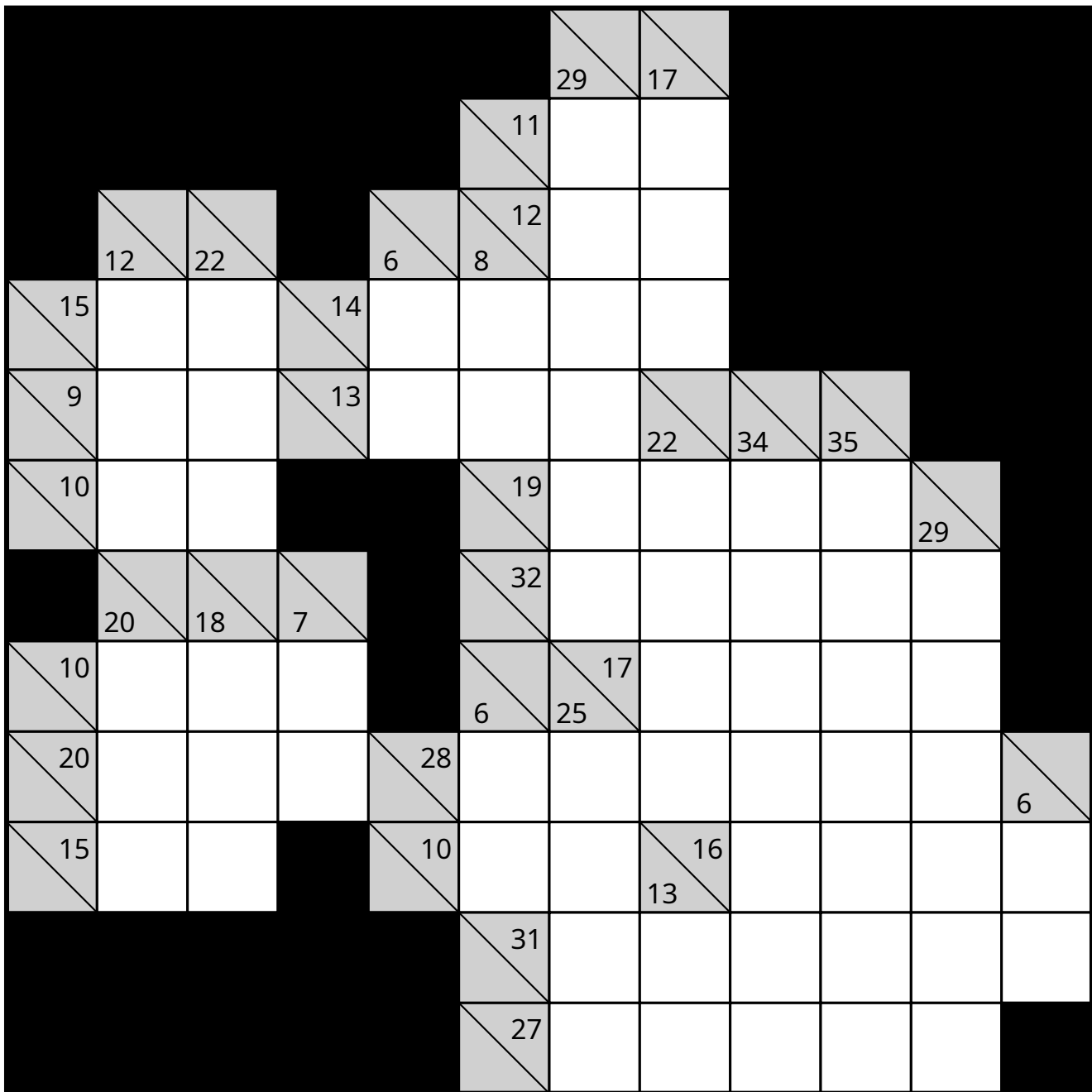
Expert – Puzzle 192 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



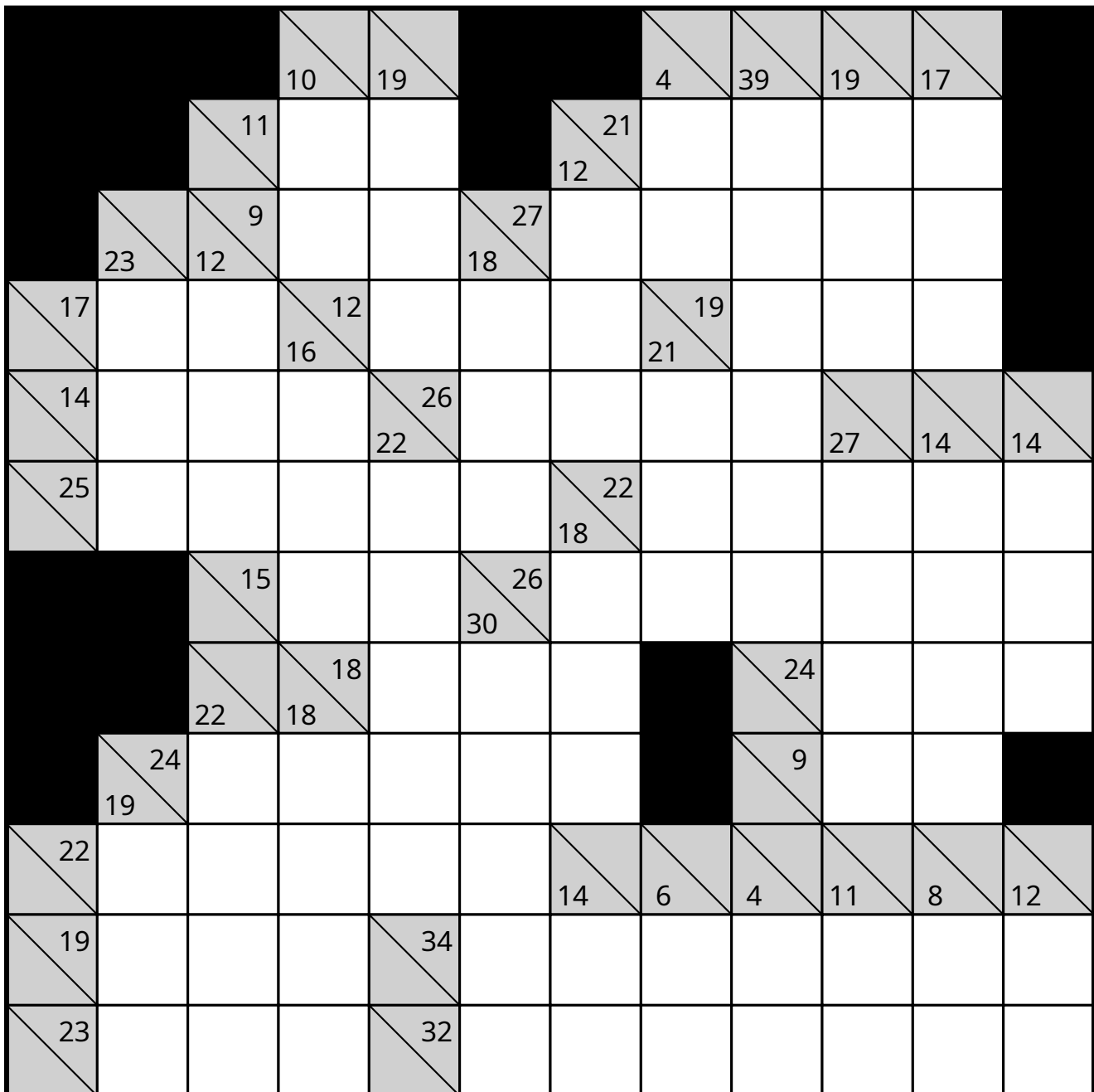
Expert – Puzzle 193 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



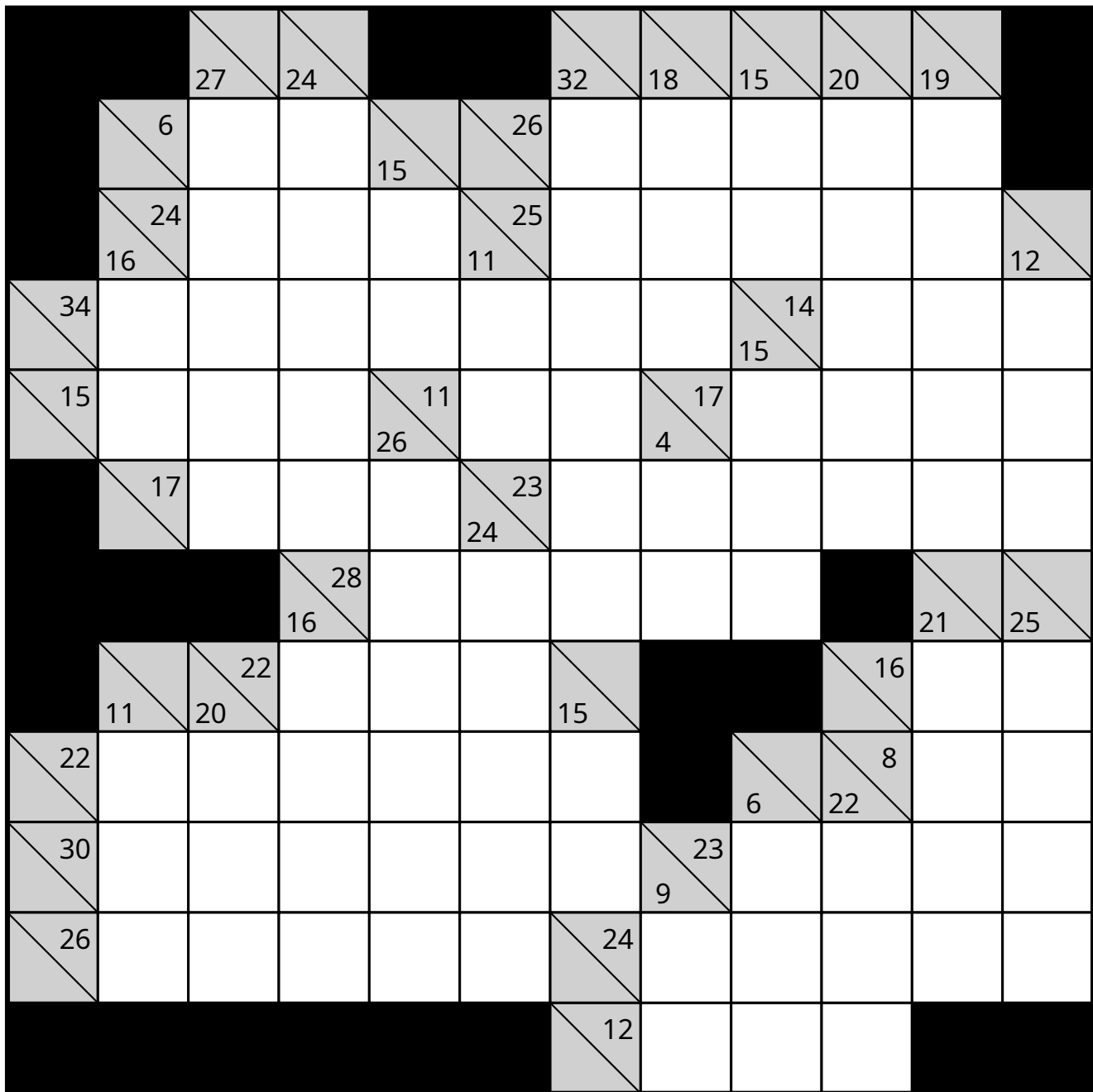
Expert – Puzzle 194 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Expert – Puzzle 195 – 12×12

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Chapter 11: Master Class

You've proven yourself capable. Now prove you're exceptional.

The 13×13 grids in this chapter separate casual solvers from dedicated puzzle masters. Every technique you've learned will be tested.

The Challenge Increases

- **Intricate Constraint Networks:** Runs interweave in complex patterns. One mistake cascades.
- **Minimal Givens:** Fewer obvious starting cells. You must create your own footholds.
- **Mental Stamina:** These puzzles demand sustained focus over 40+ minutes.

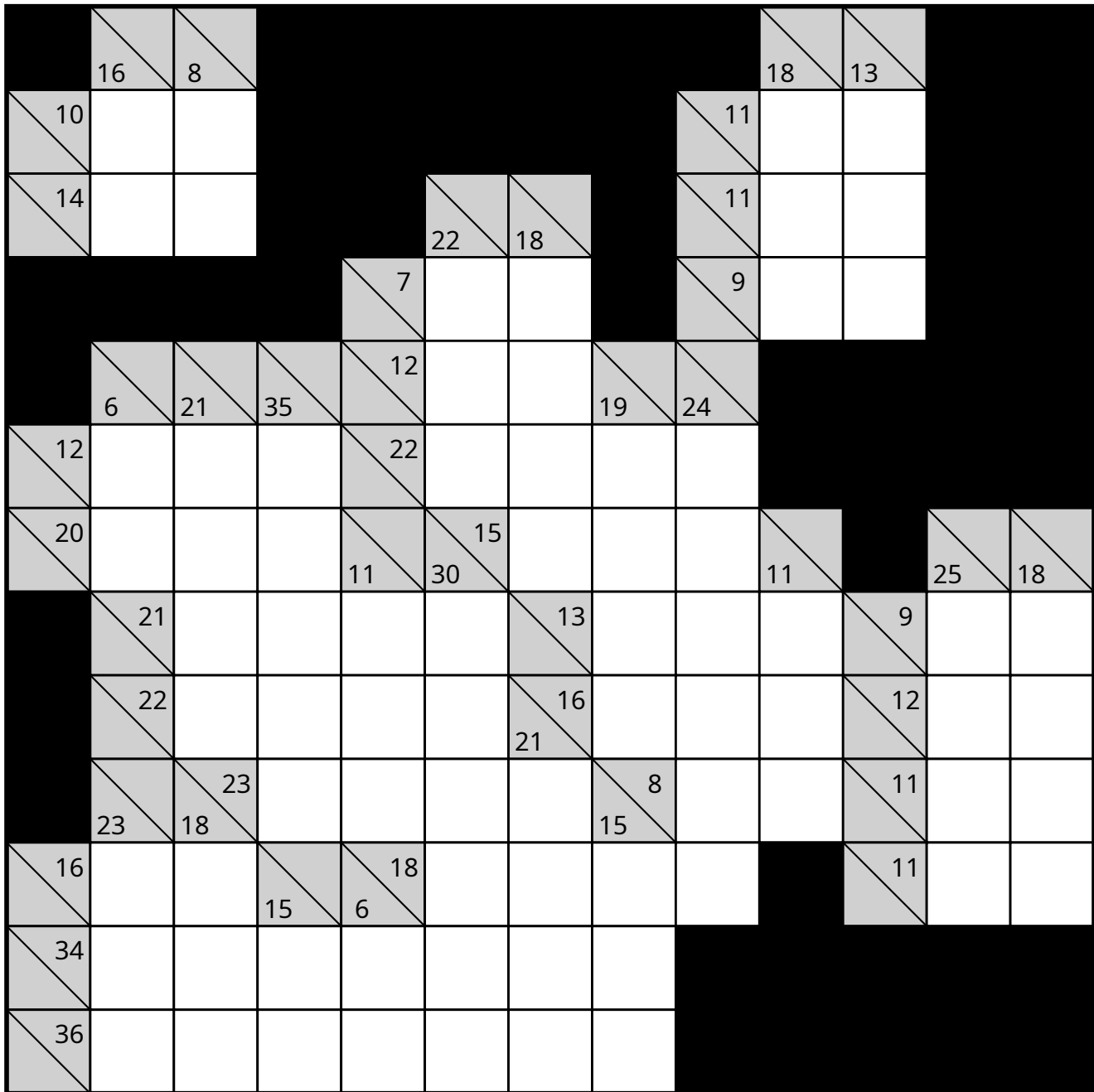
Master Techniques

- **Intersection Analysis:** When two long runs cross, the overlap often reveals the only valid digit.
- **Elimination Chains:** Sometimes you must prove what CAN'T go somewhere before discovering what can.
- **Verify Continuously:** Check your work after each cell—errors compound quickly.

Trust your training. You have the skills. Now apply them.

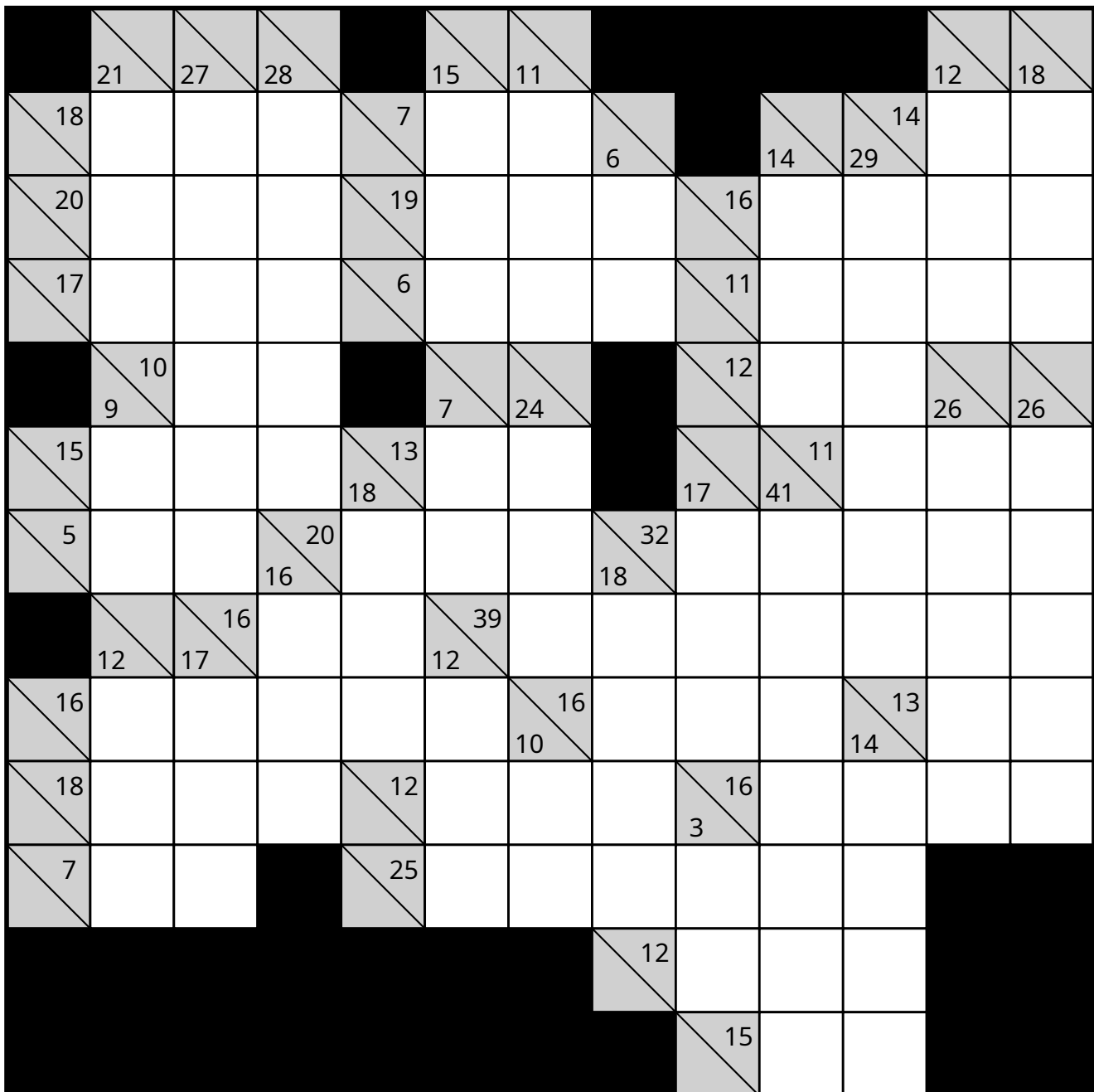
Expert – Puzzle 196 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



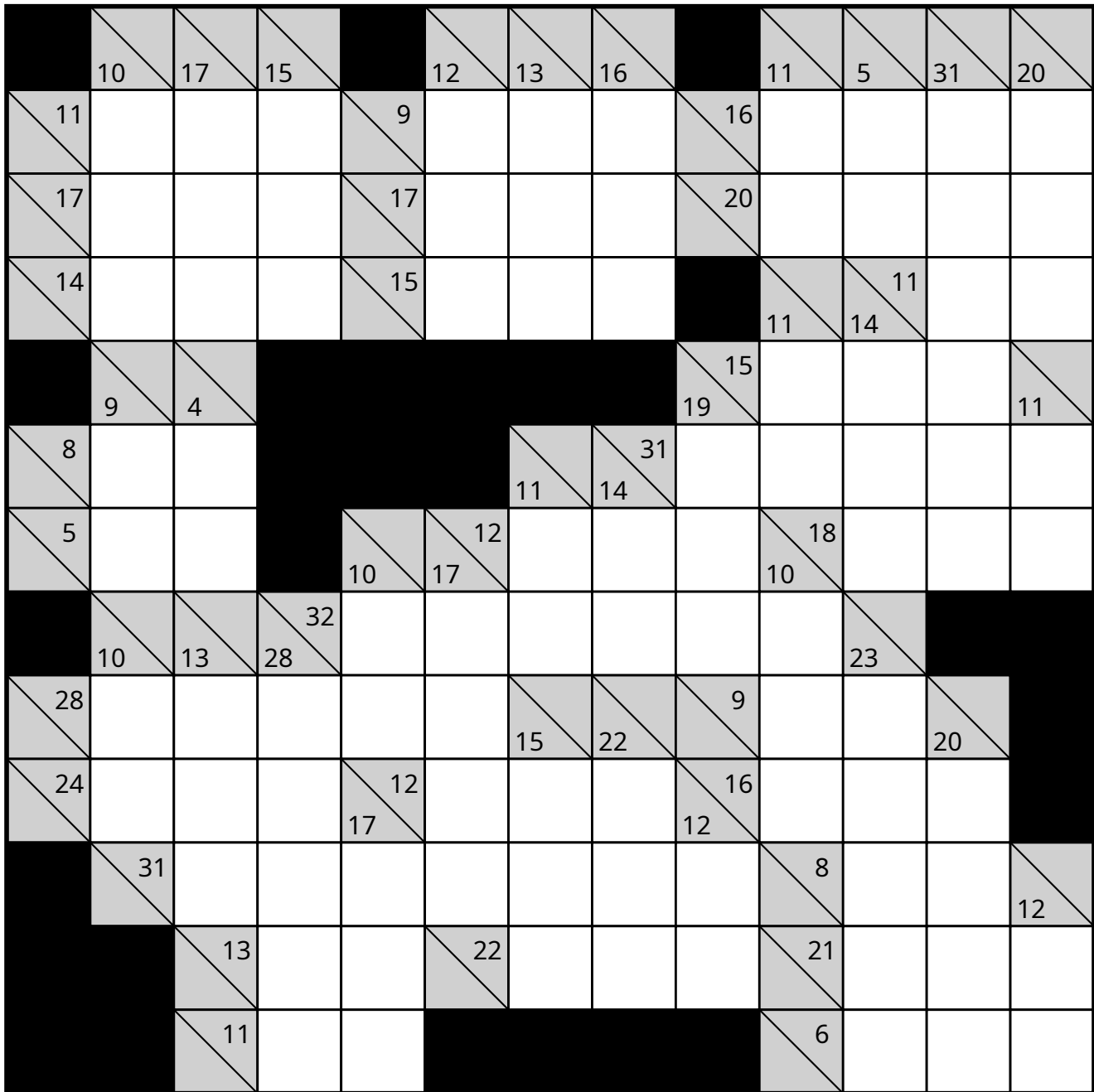
Expert – Puzzle 197 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



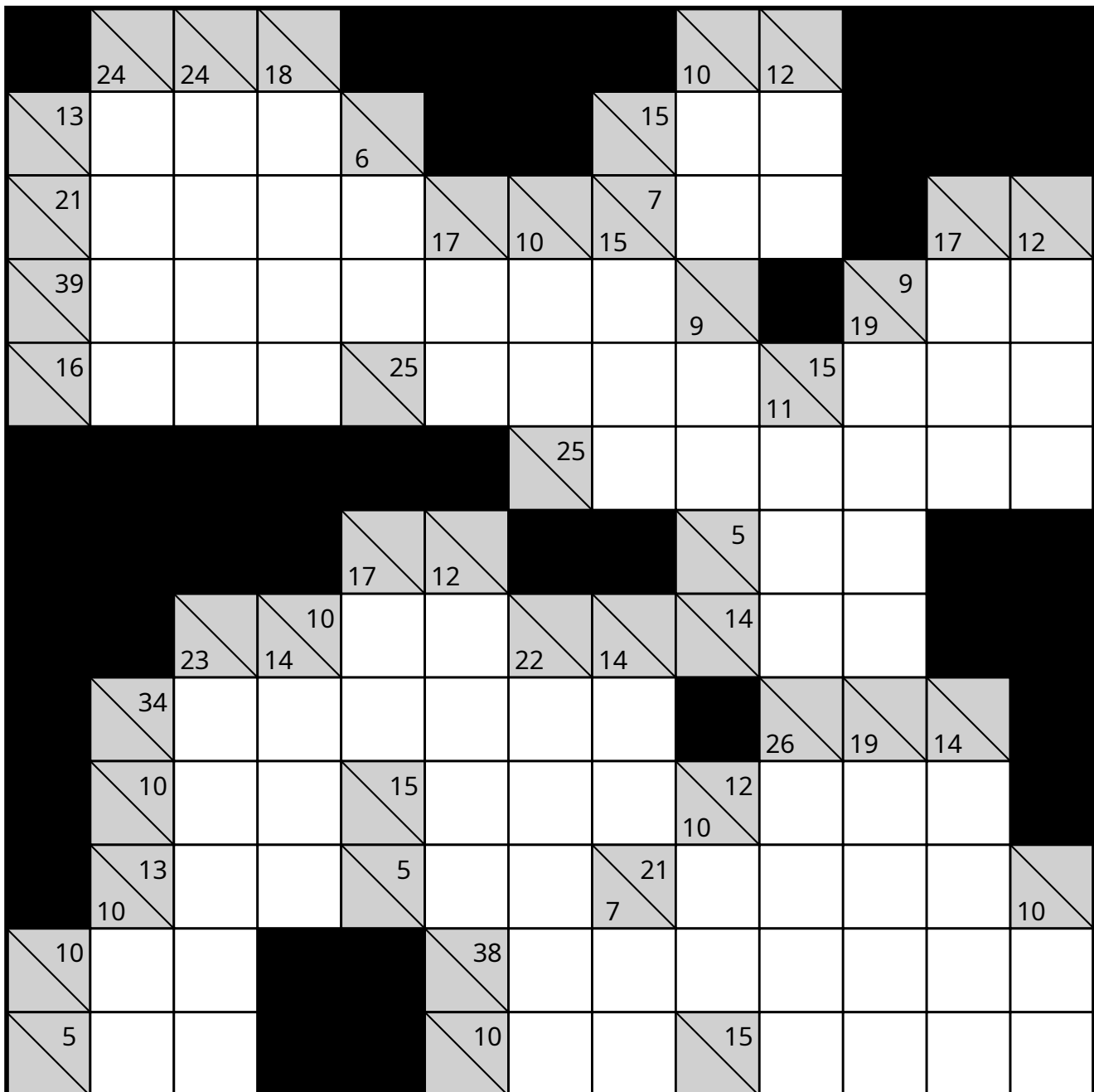
Expert – Puzzle 198 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



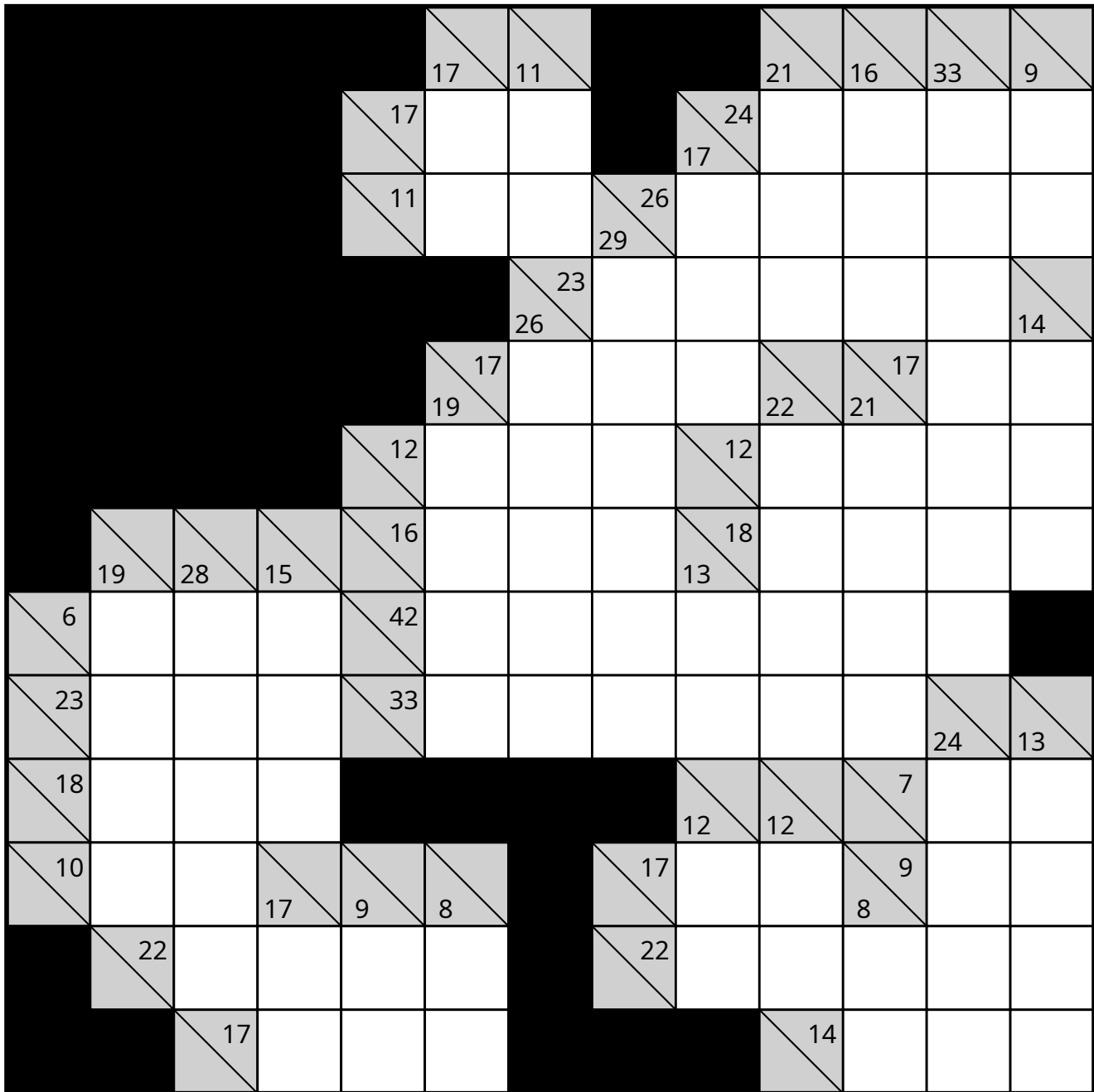
Expert – Puzzle 199 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



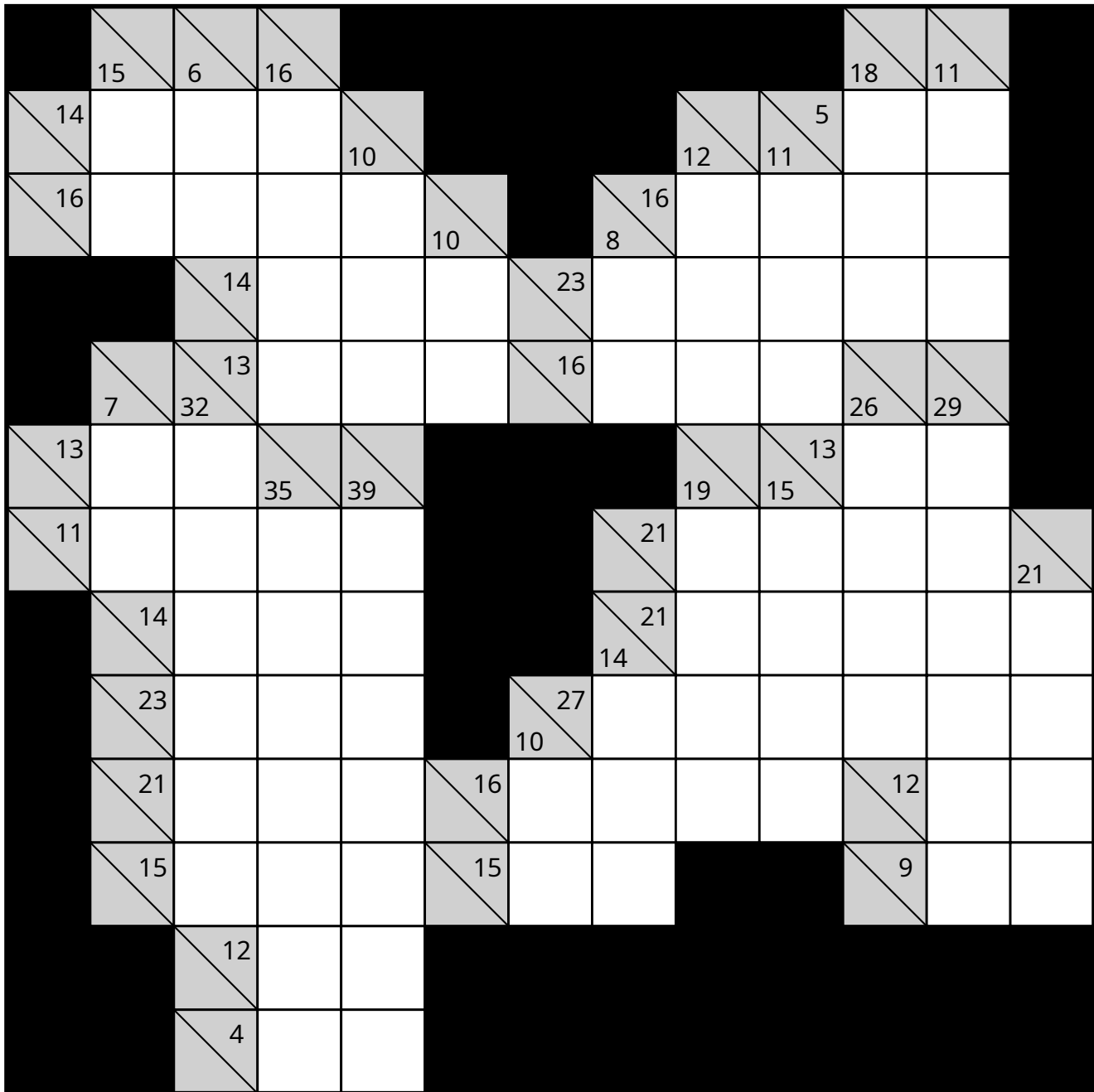
Expert – Puzzle 200 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



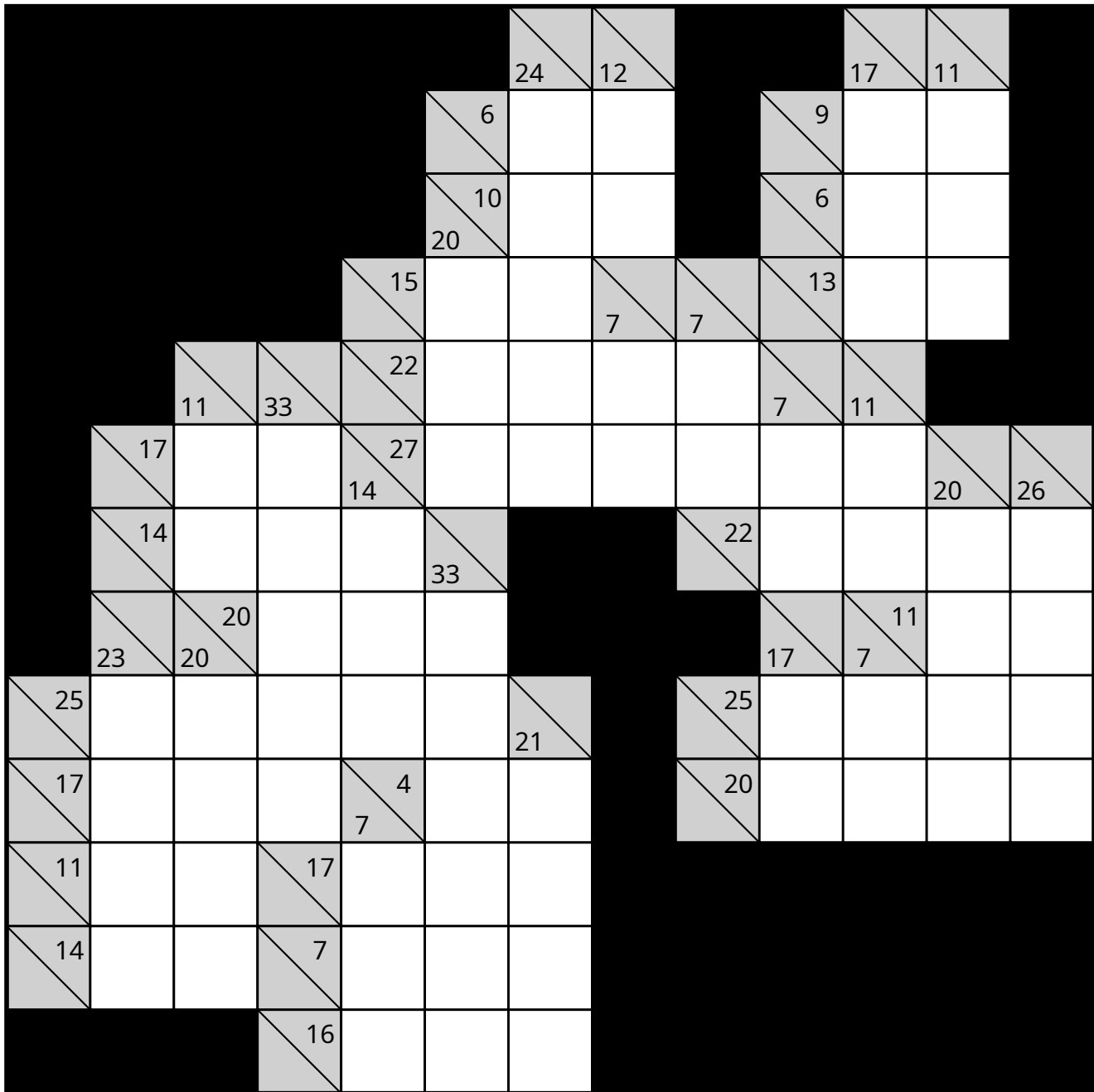
Expert – Puzzle 201 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



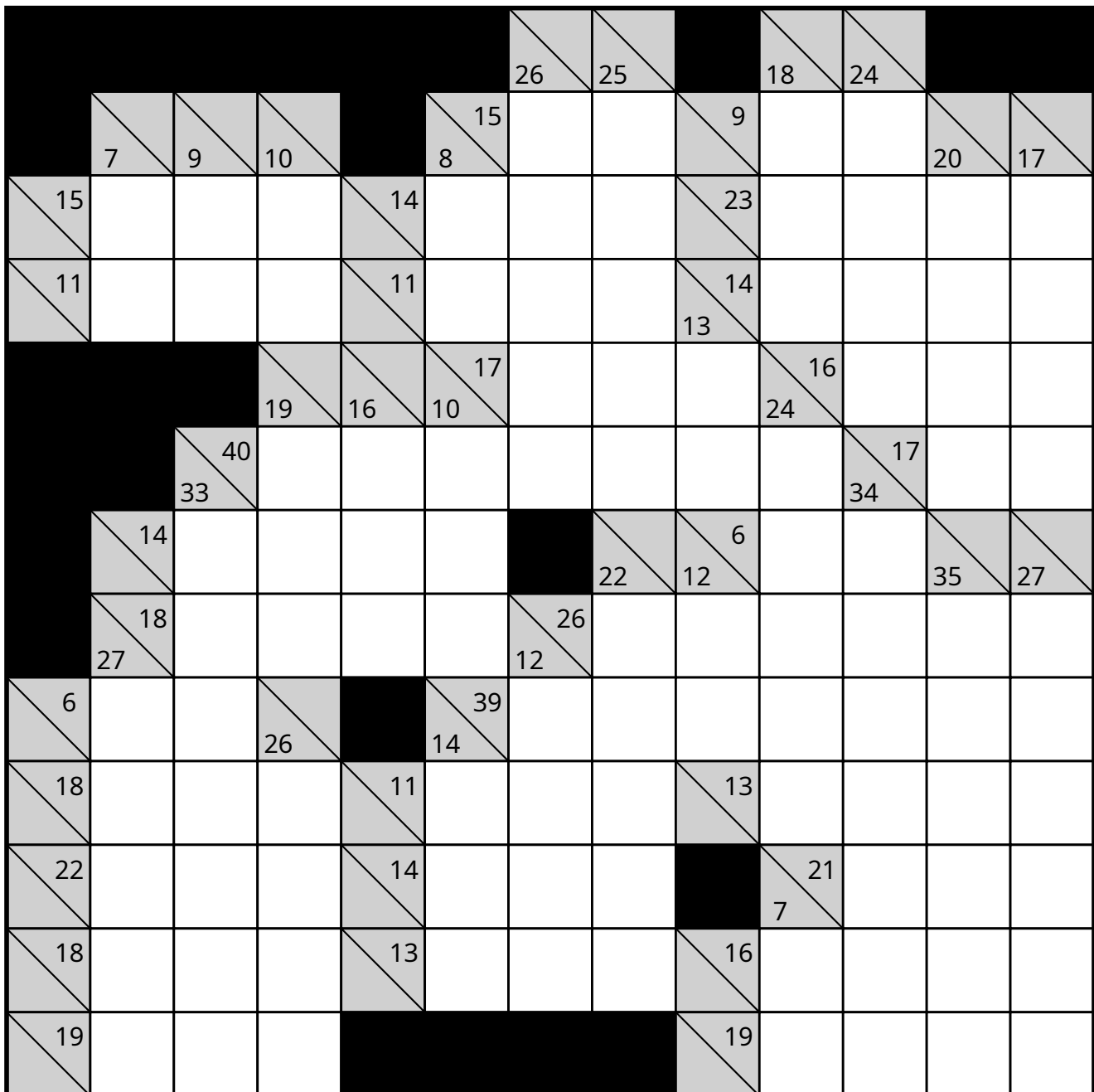
Expert – Puzzle 202 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



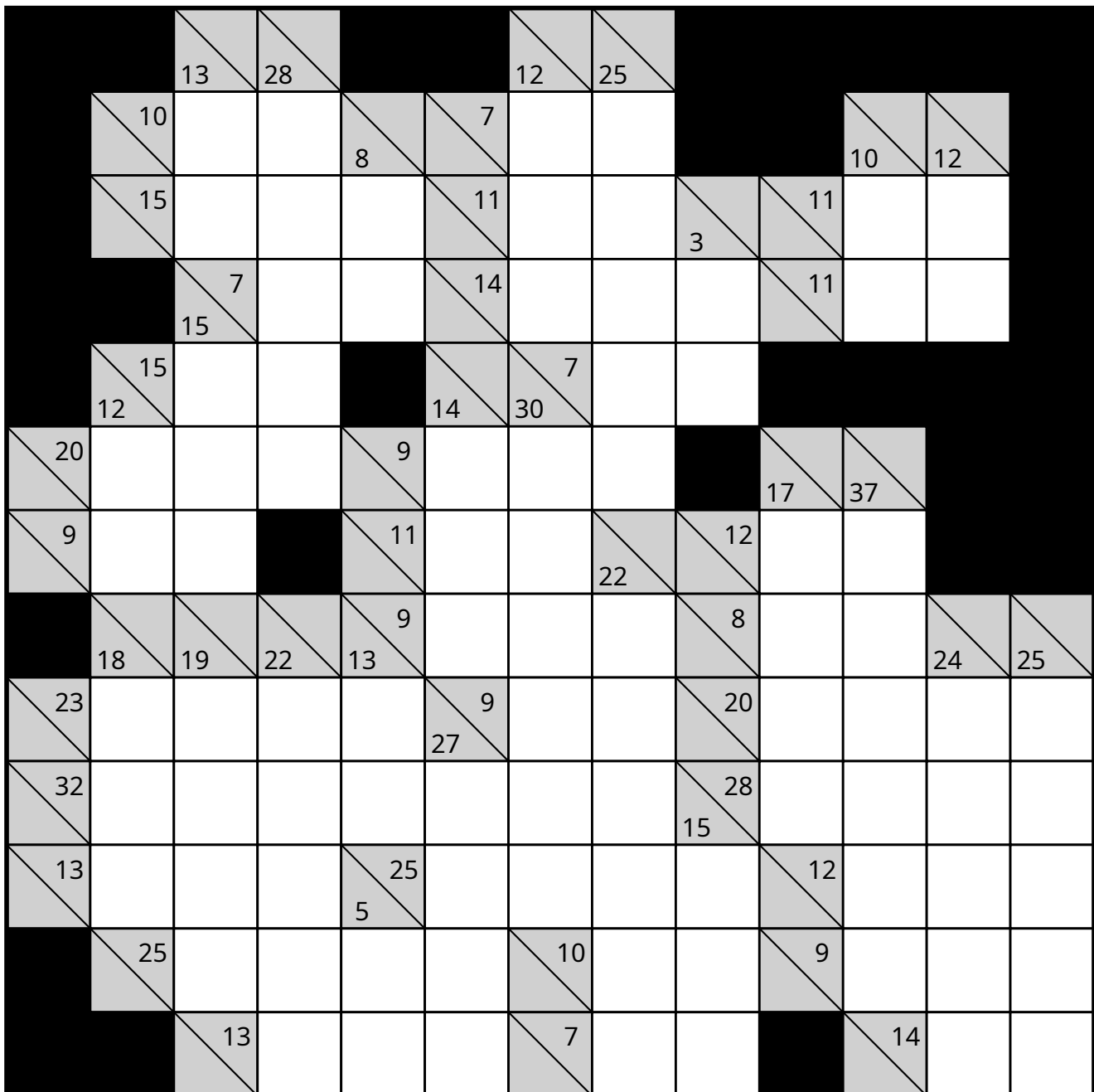
Expert – Puzzle 203 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



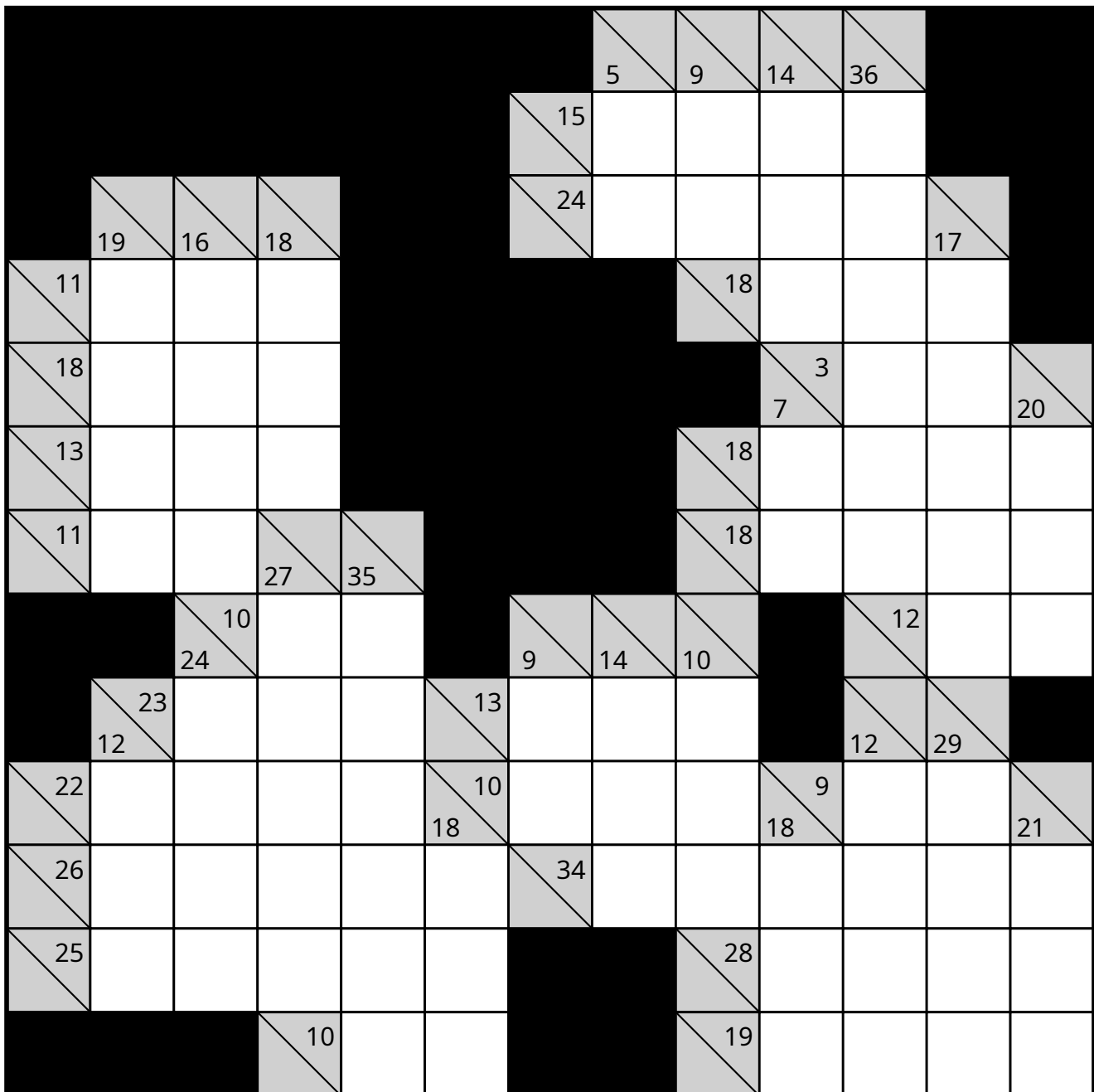
Expert – Puzzle 204 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Expert – Puzzle 205 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



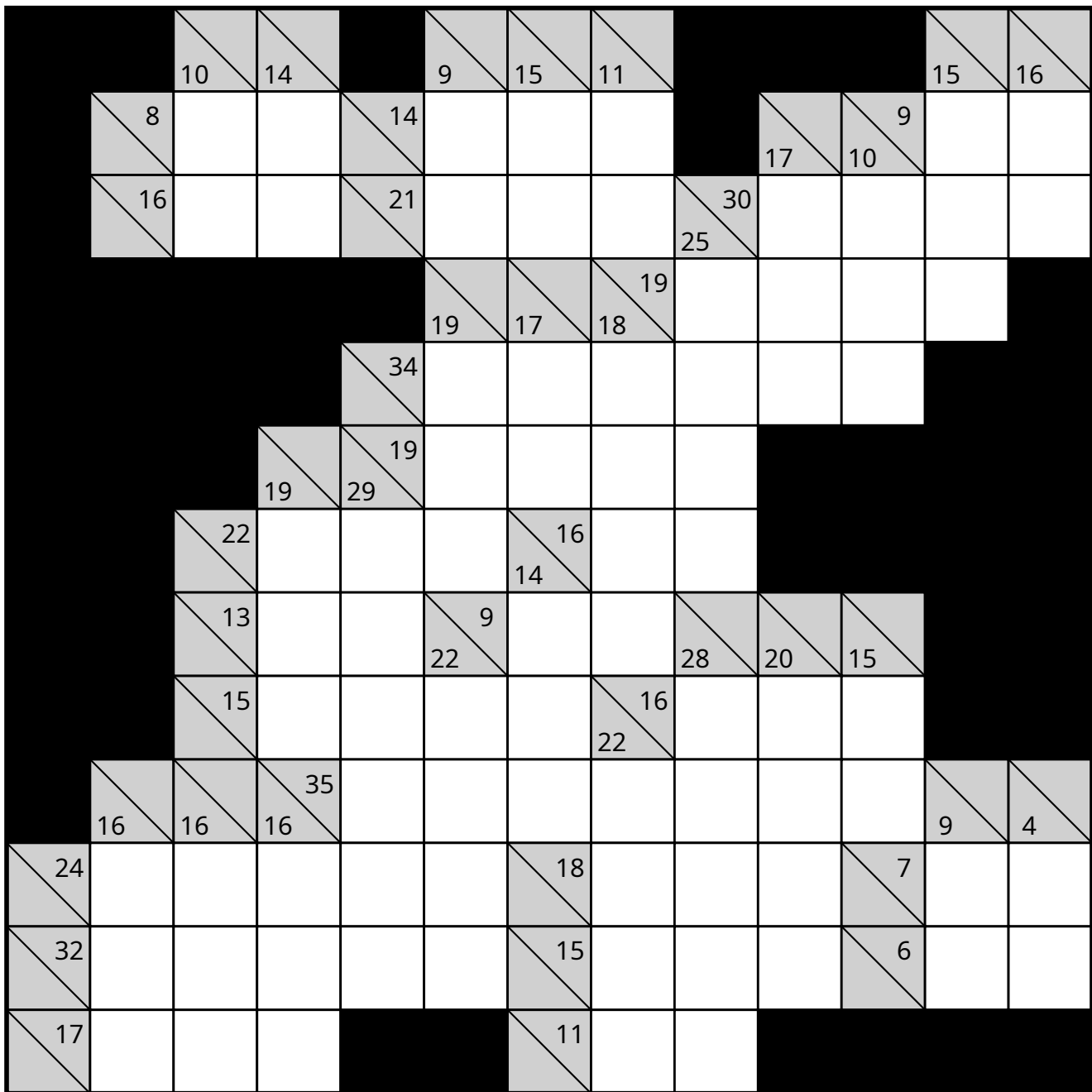
Expert – Puzzle 206 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!

	11	15	13							27	12	6
18					11	23	19		6			
11				8					15			
	10			20					9			
									11			
		17	25	12	14			12			17	22
	18				40							
14												
16					16	12	27					
31							8	10		10		
	18	22										
	18	23								25	26	16
15				21					15			
15			5			14	14	6	23			
8					17				12			
14					17				17			

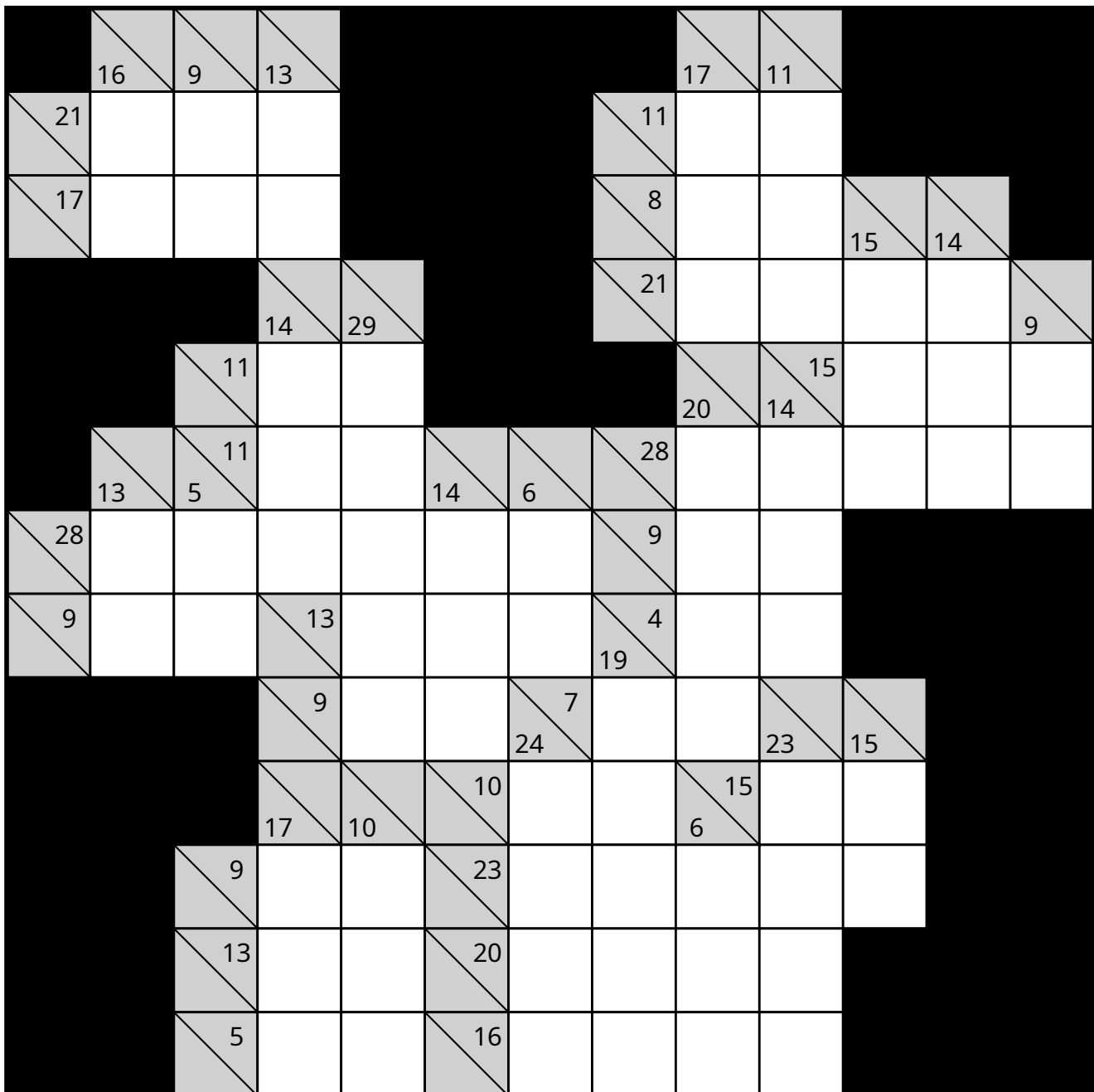
Expert – Puzzle 207 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



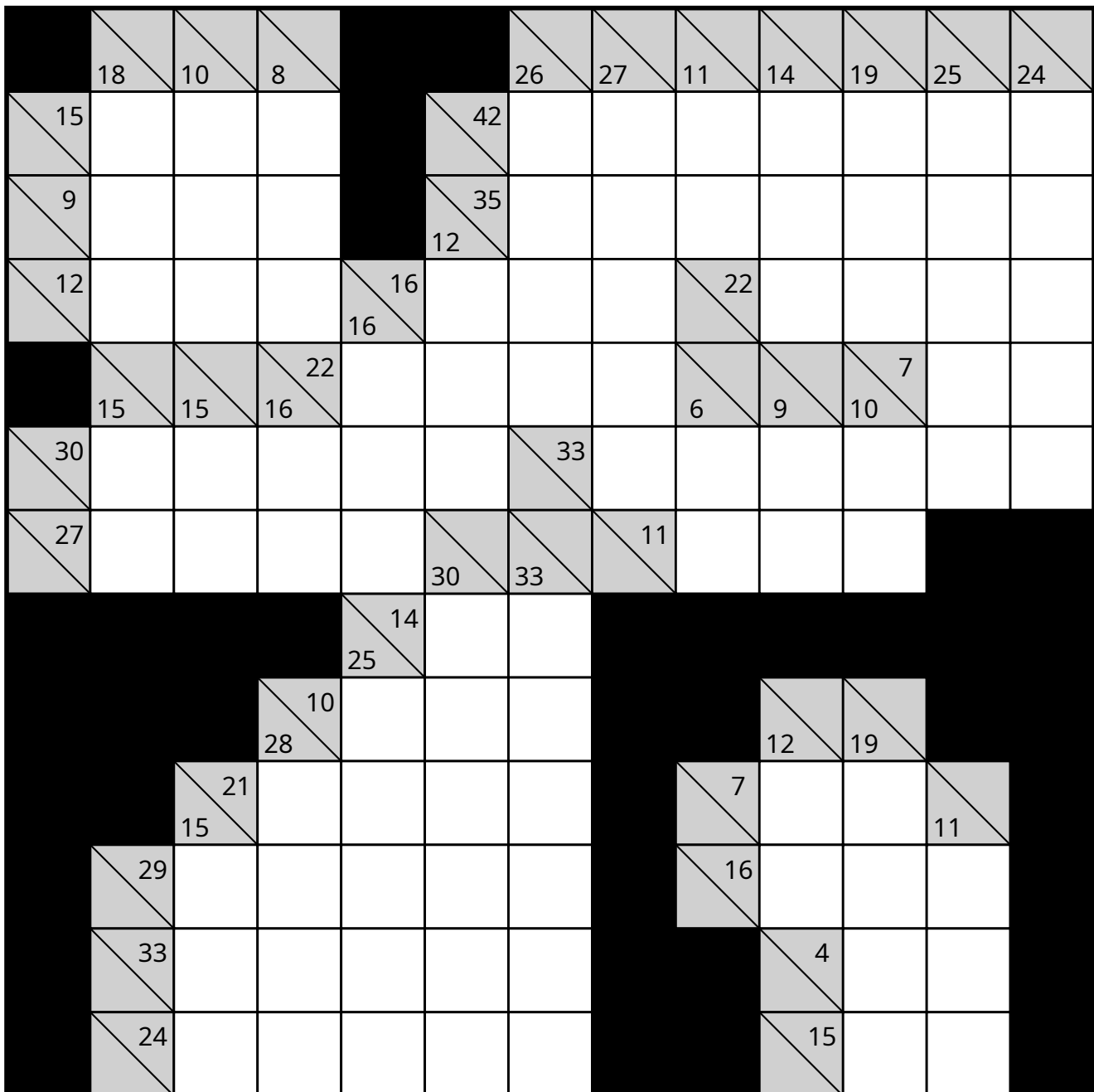
Expert – Puzzle 208 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



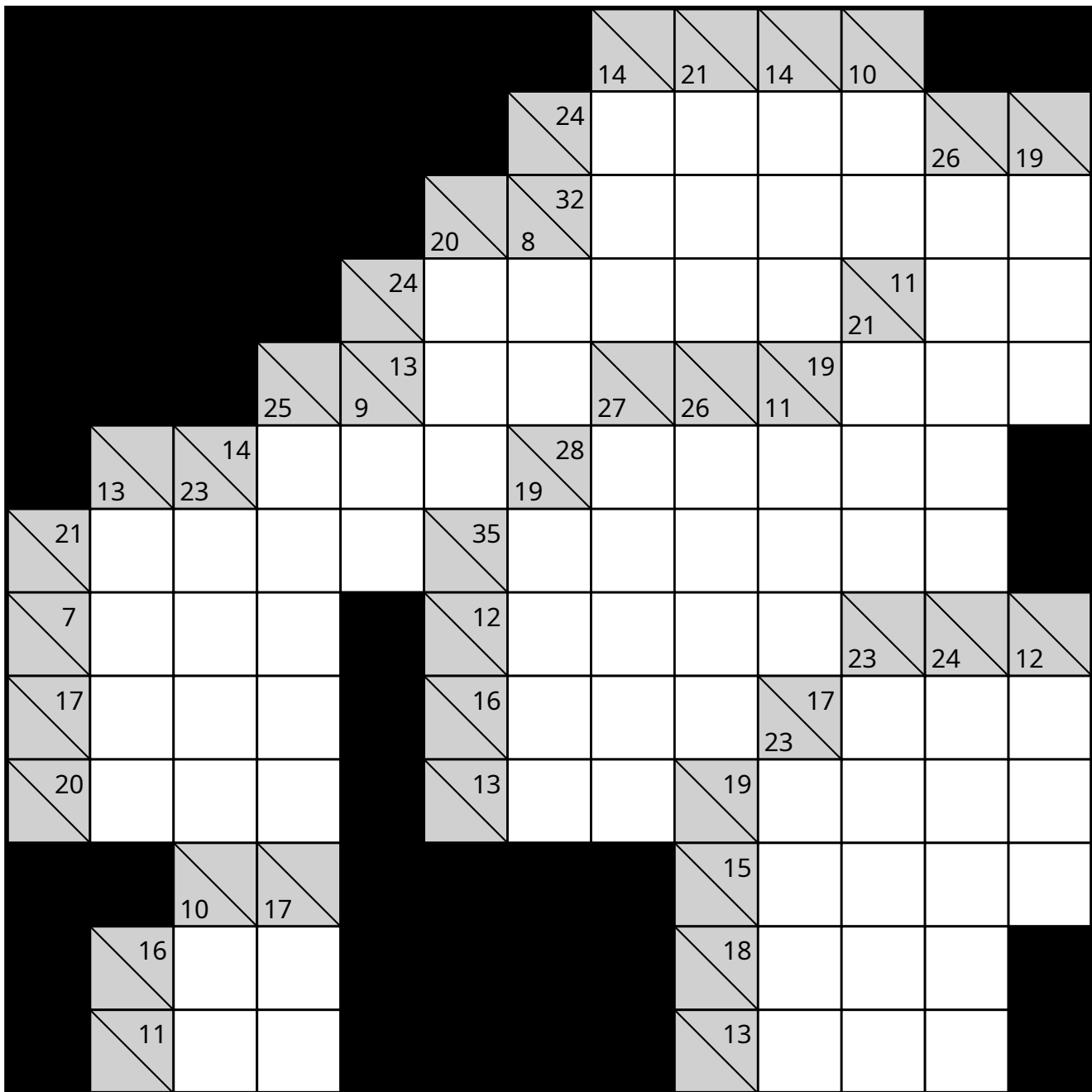
Expert – Puzzle 209 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



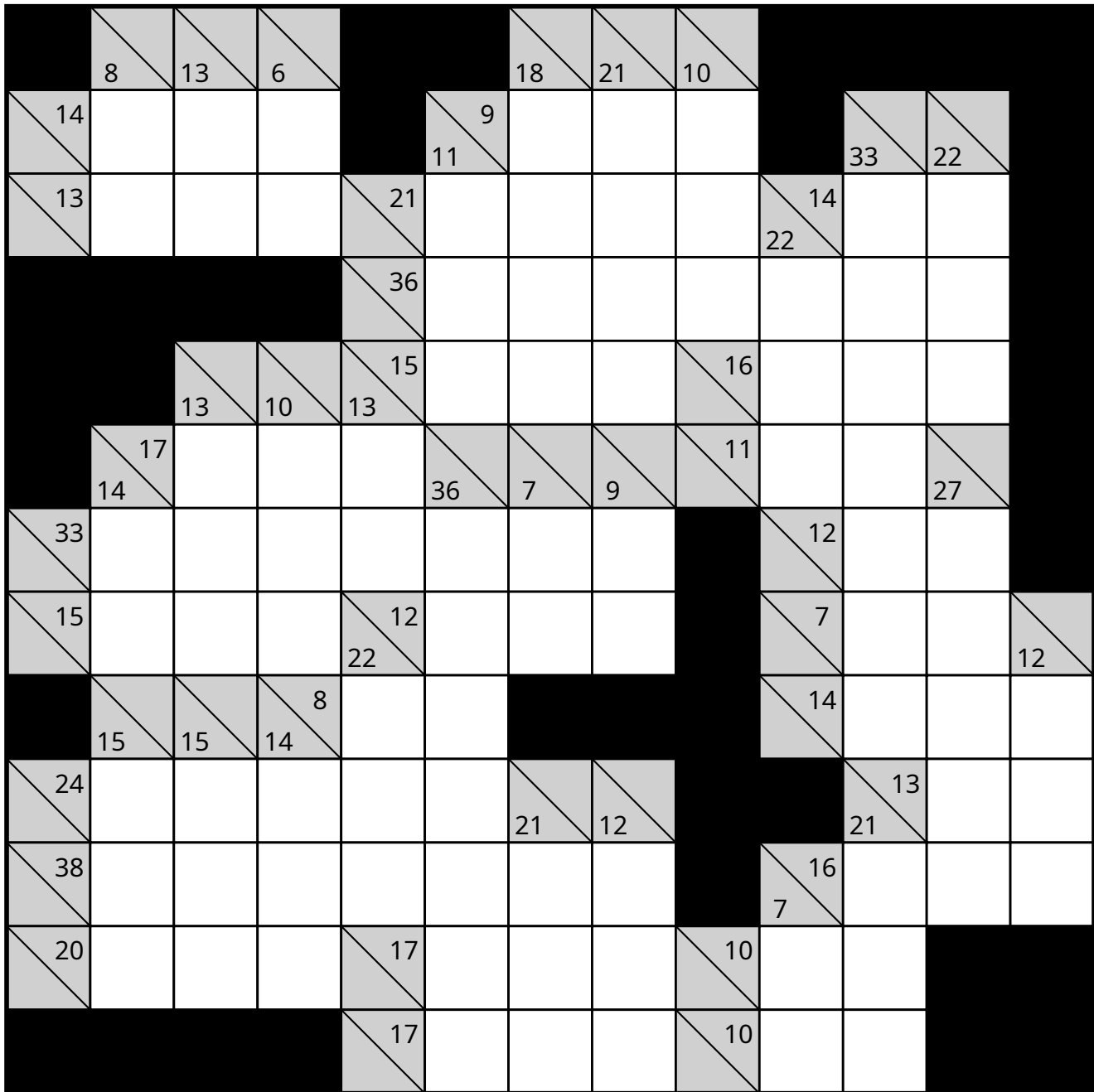
Expert – Puzzle 210 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



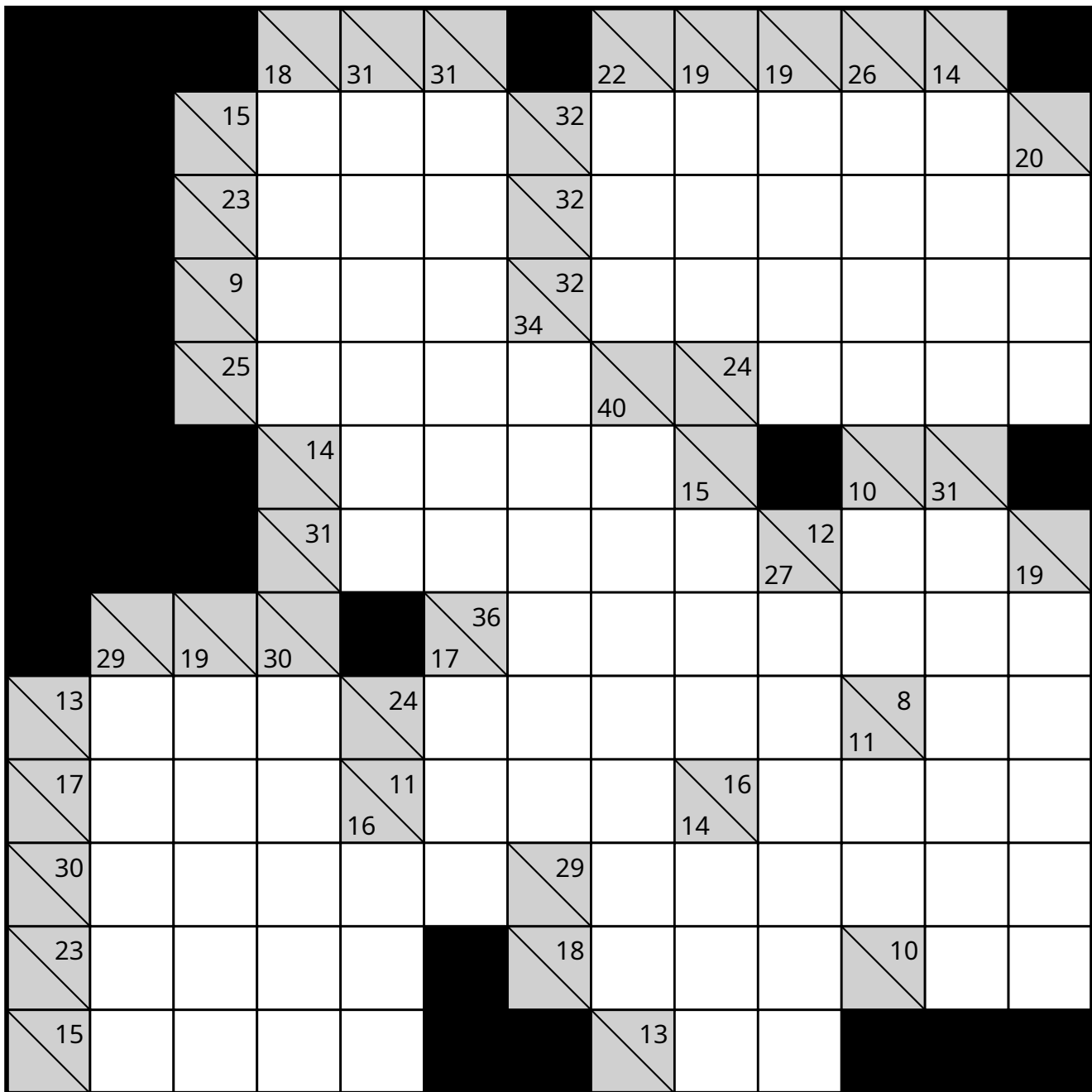
Expert – Puzzle 211 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



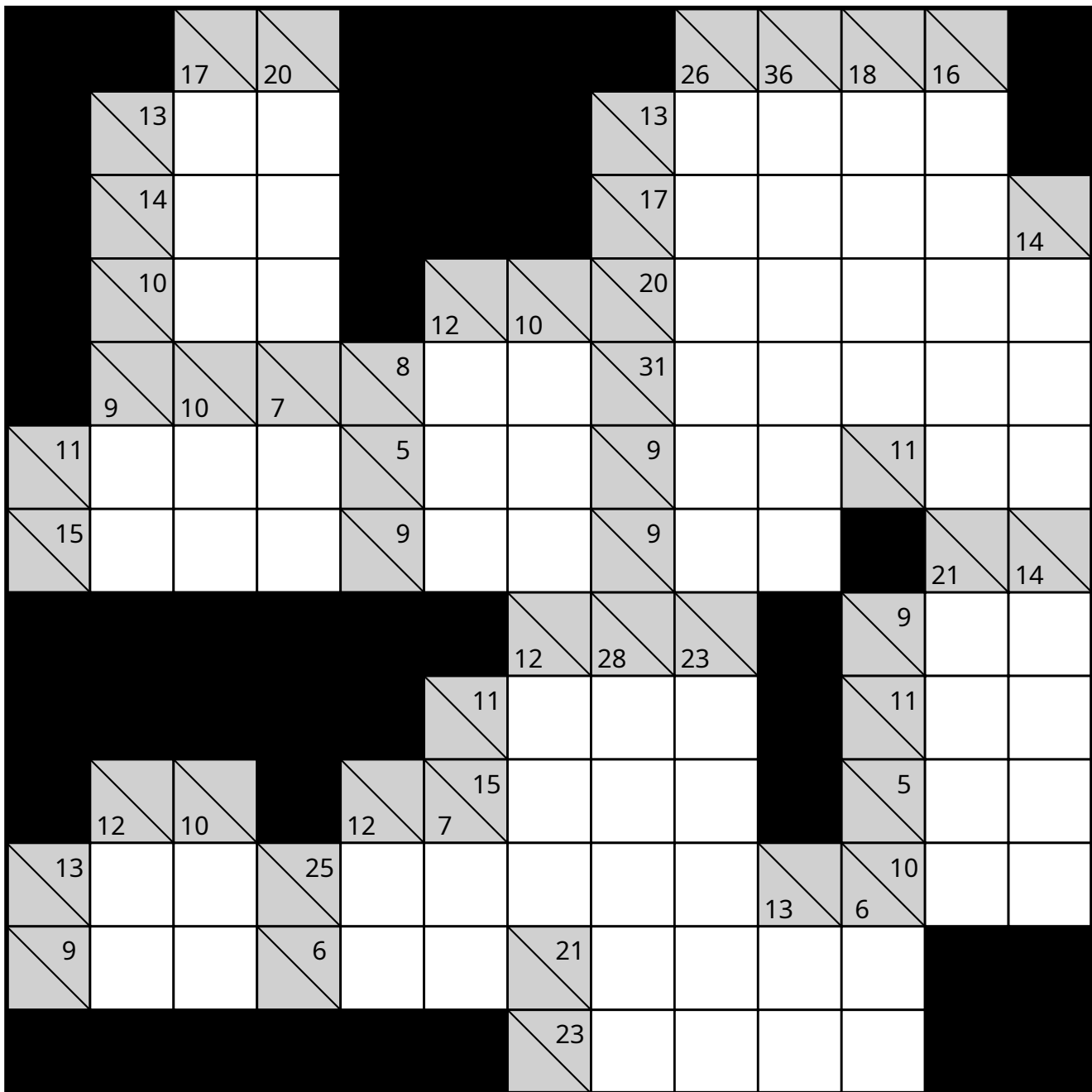
Expert – Puzzle 212 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



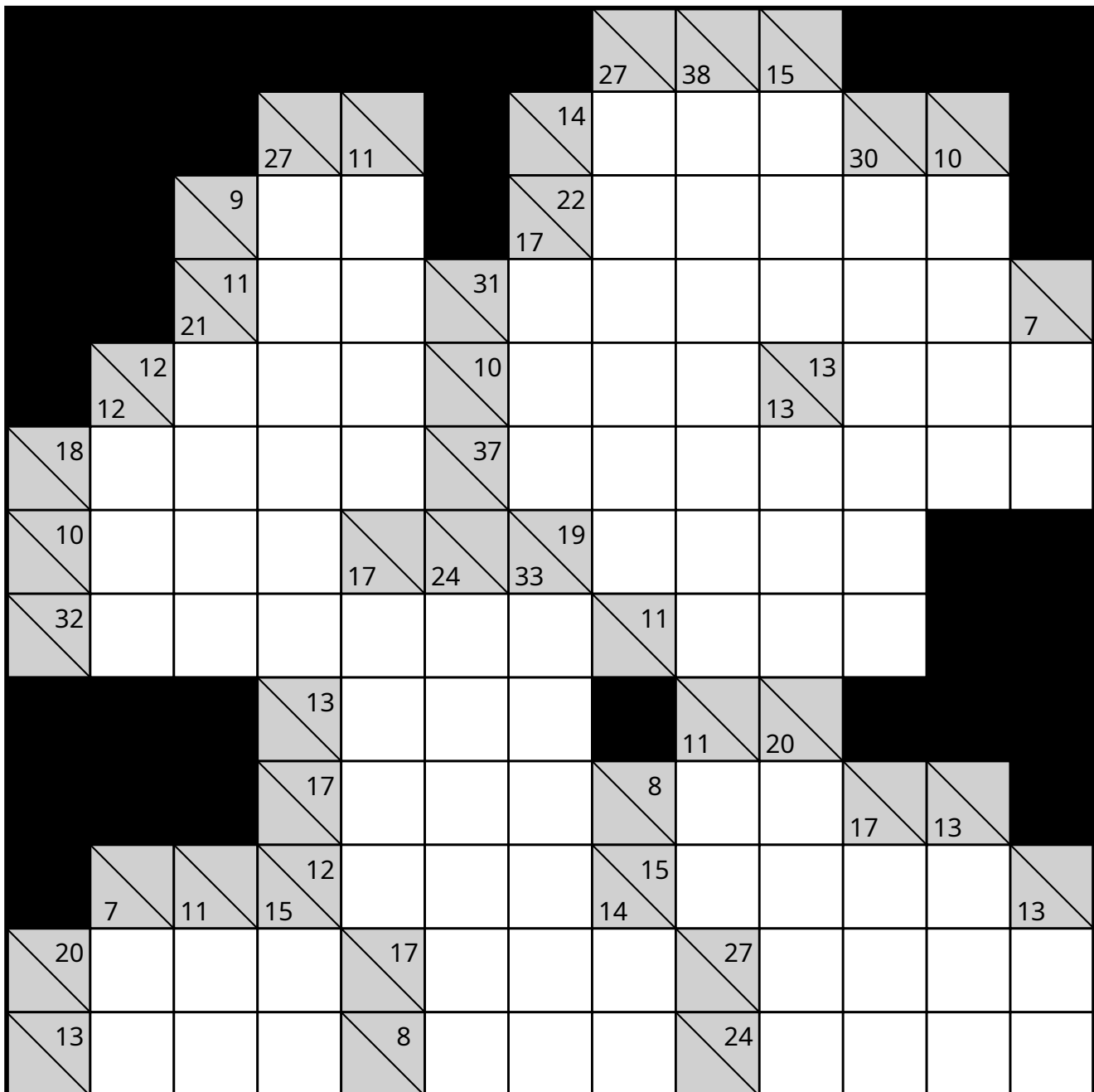
Expert – Puzzle 213 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



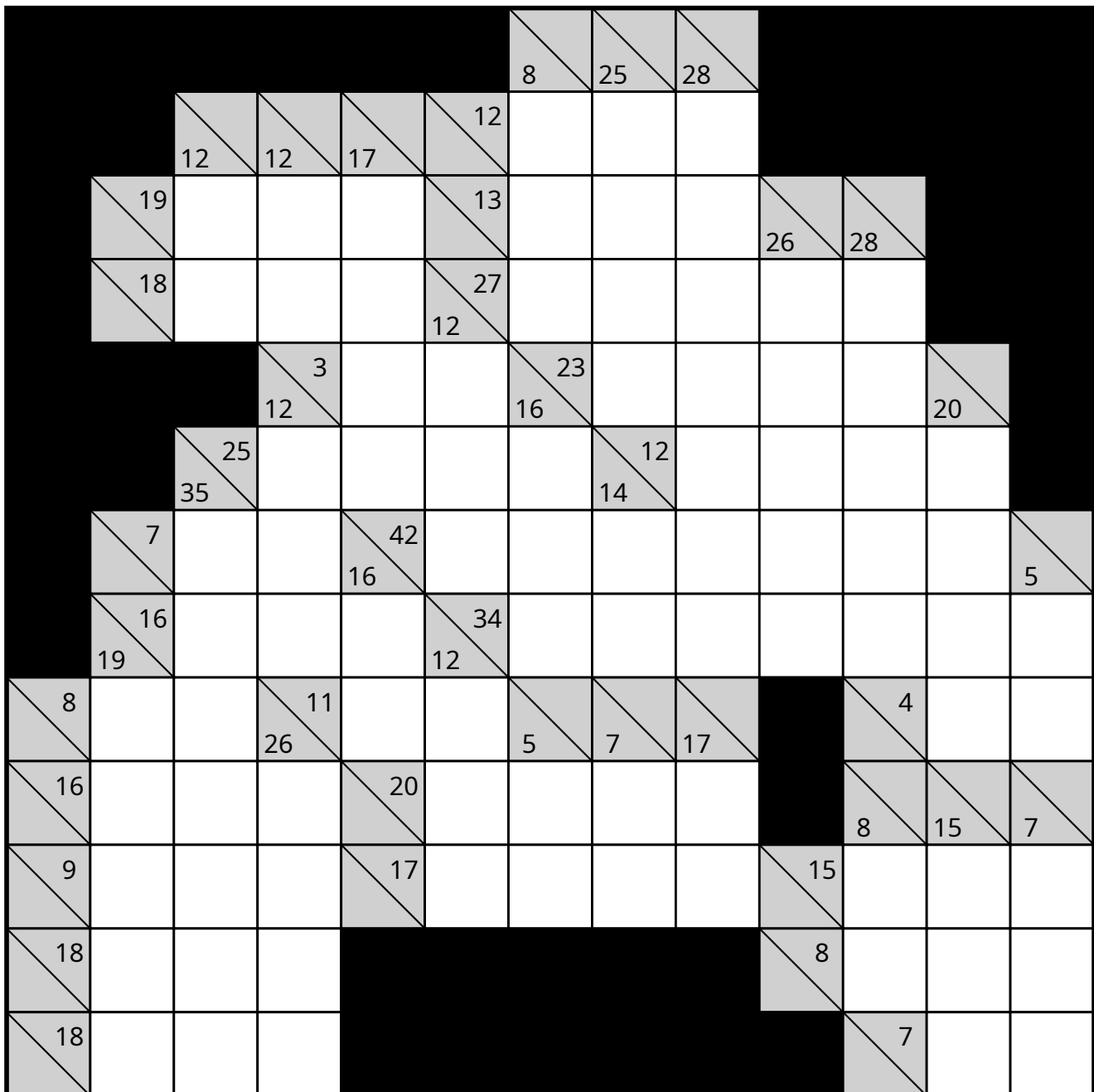
Expert – Puzzle 214 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



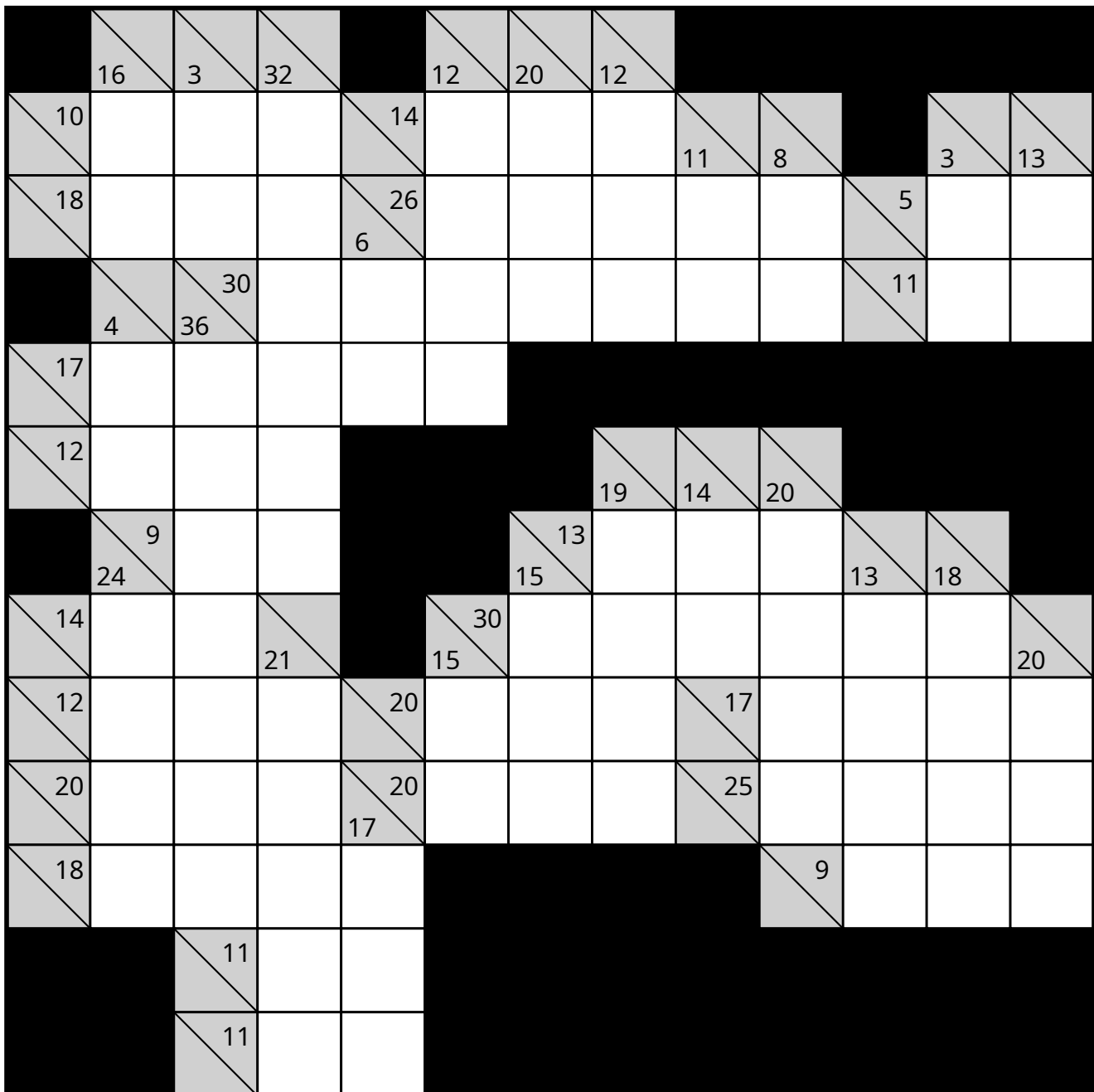
Expert – Puzzle 215 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



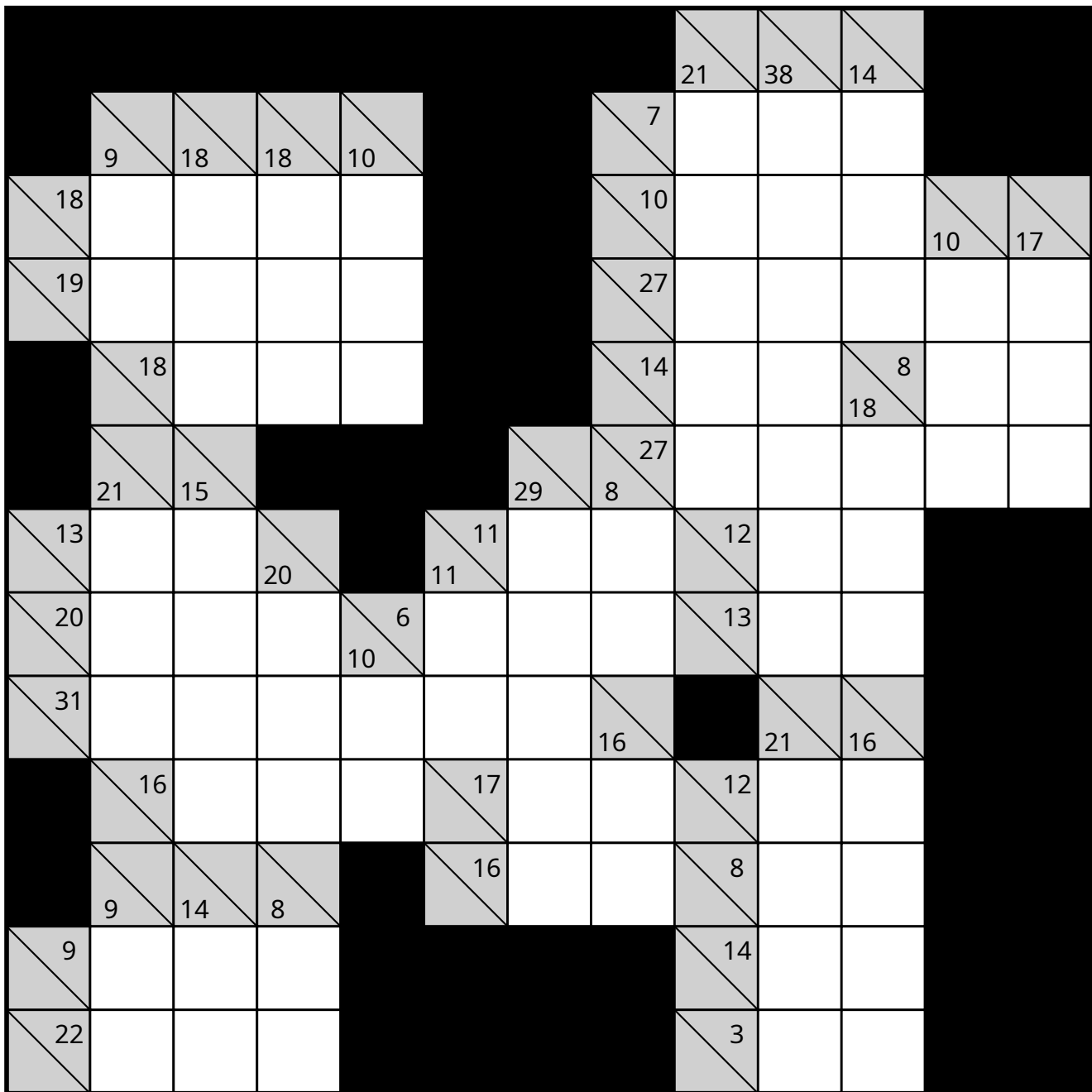
Expert – Puzzle 216 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



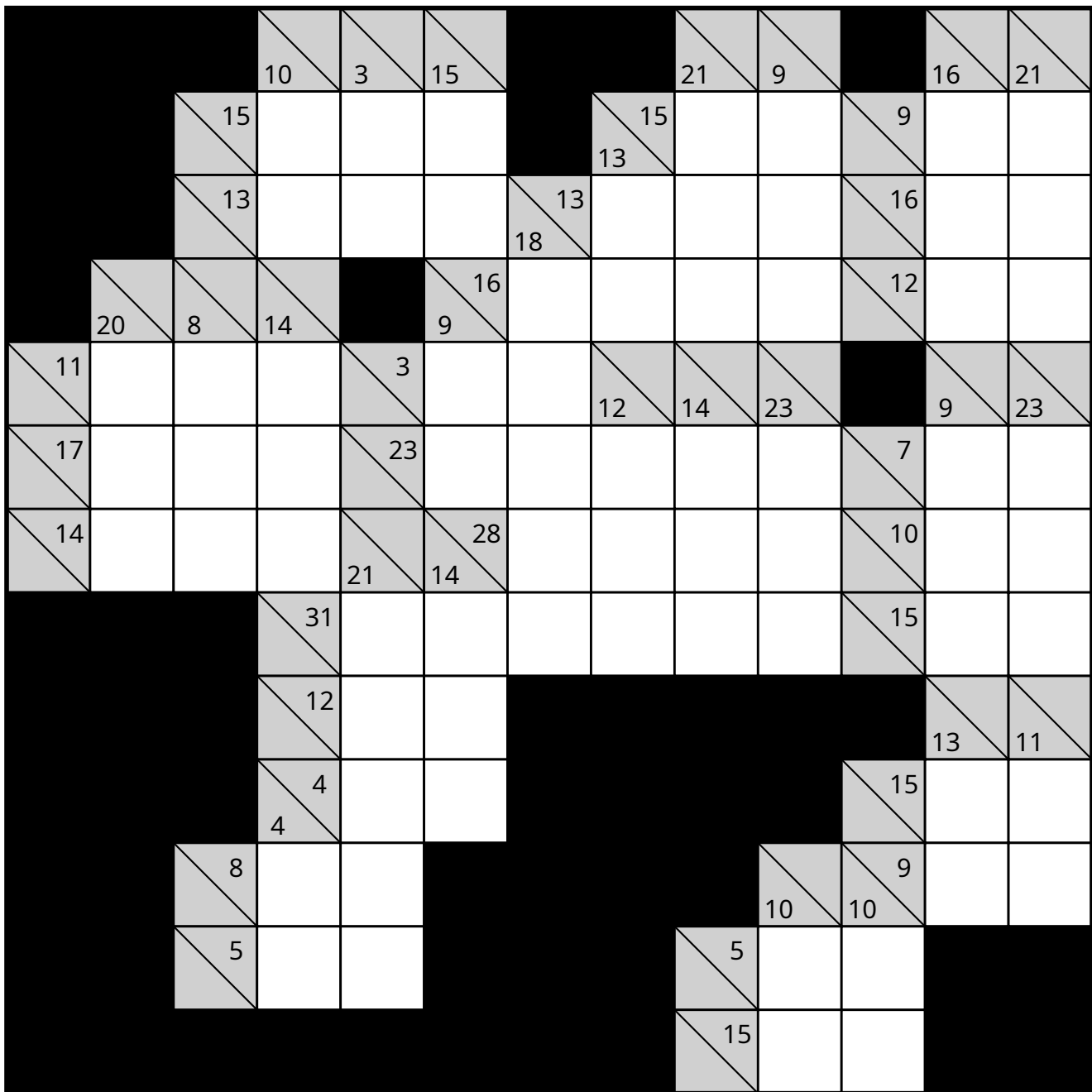
Expert – Puzzle 217 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



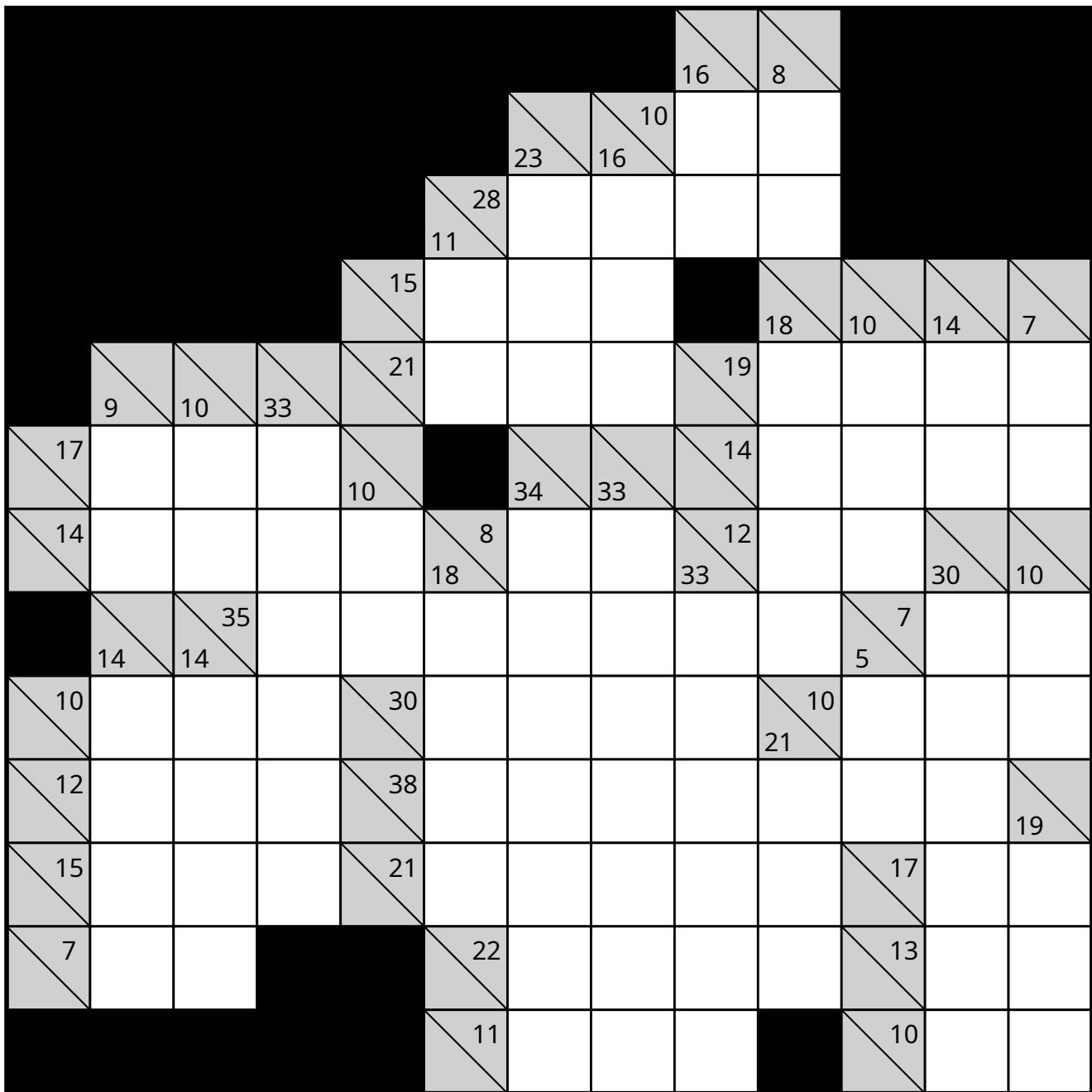
Expert – Puzzle 218 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



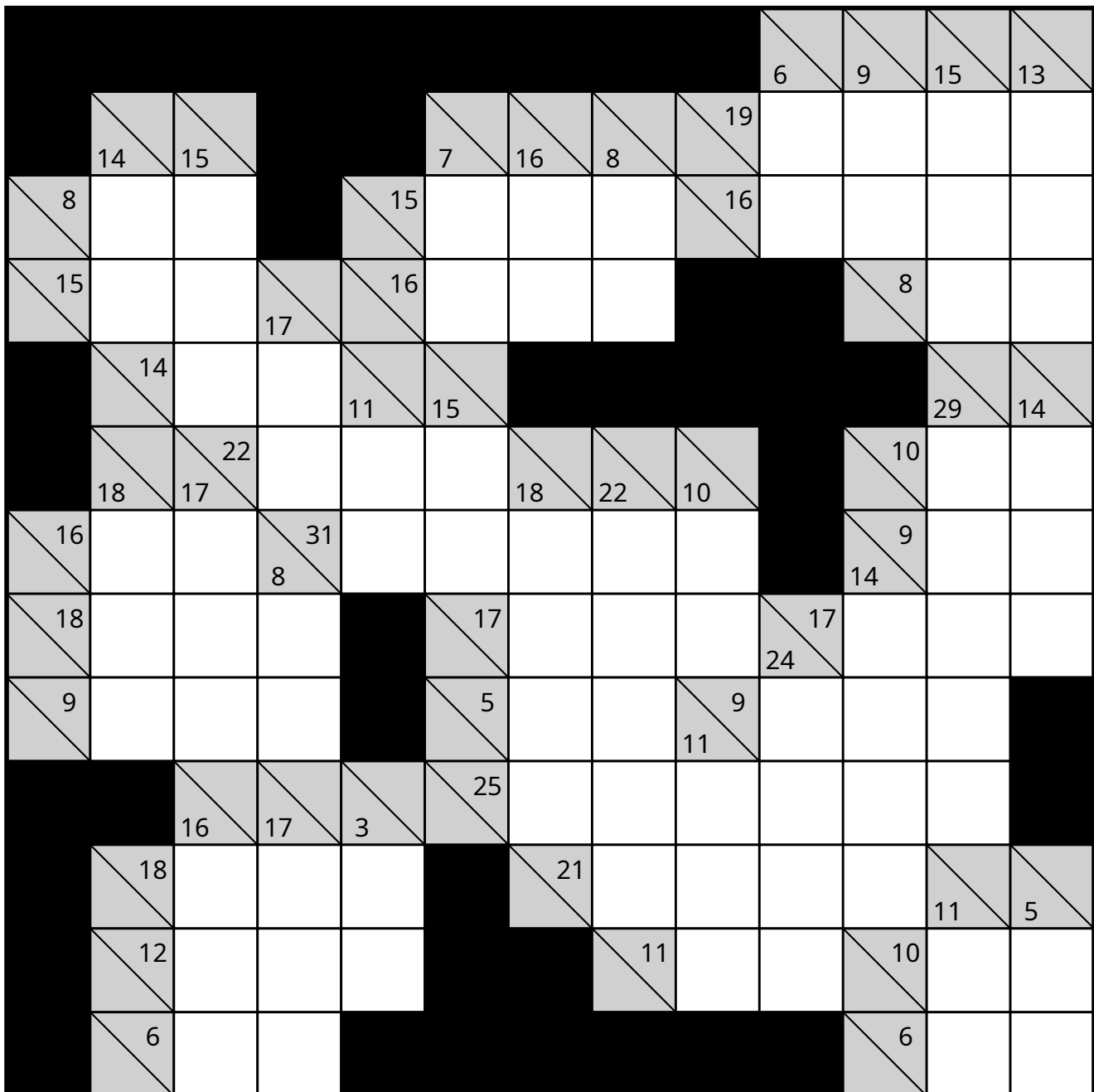
Expert – Puzzle 219 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Expert – Puzzle 220 – 13×13

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Chapter 12: Ultimate Challenges

This is the summit.

The 14×15 grids in this chapter represent the pinnacle of Kakuro difficulty. These are not puzzles to rush. They are puzzles to conquer.

Peak Difficulty

- **Maximum Complexity:** The largest grids in this book. Every cell matters.
- **Multiple Solution Paths:** There may be many valid approaches—finding the optimal one is part of the challenge.
- **Expert Reasoning Required:** Expect to use every technique simultaneously.

Final Wisdom

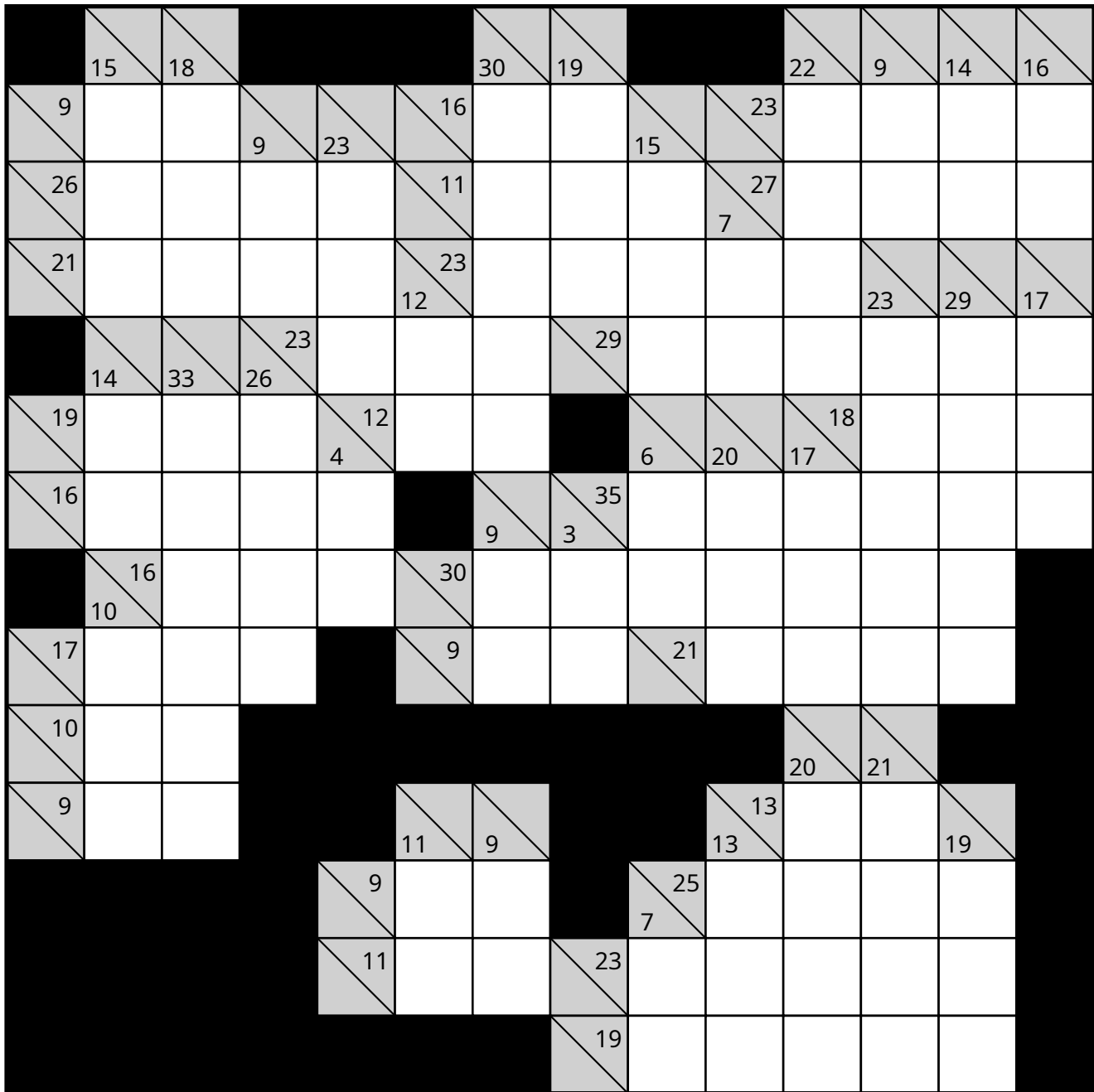
- **Patience is power.** Rushing leads to errors. Errors lead to starting over.
- **Celebrate the struggle.** Difficulty is the point. Each solved puzzle is an achievement.
- **You've earned this.** 250 puzzles have prepared you for this moment.

Only the most dedicated reach this chapter. You are one of them.

Good luck.

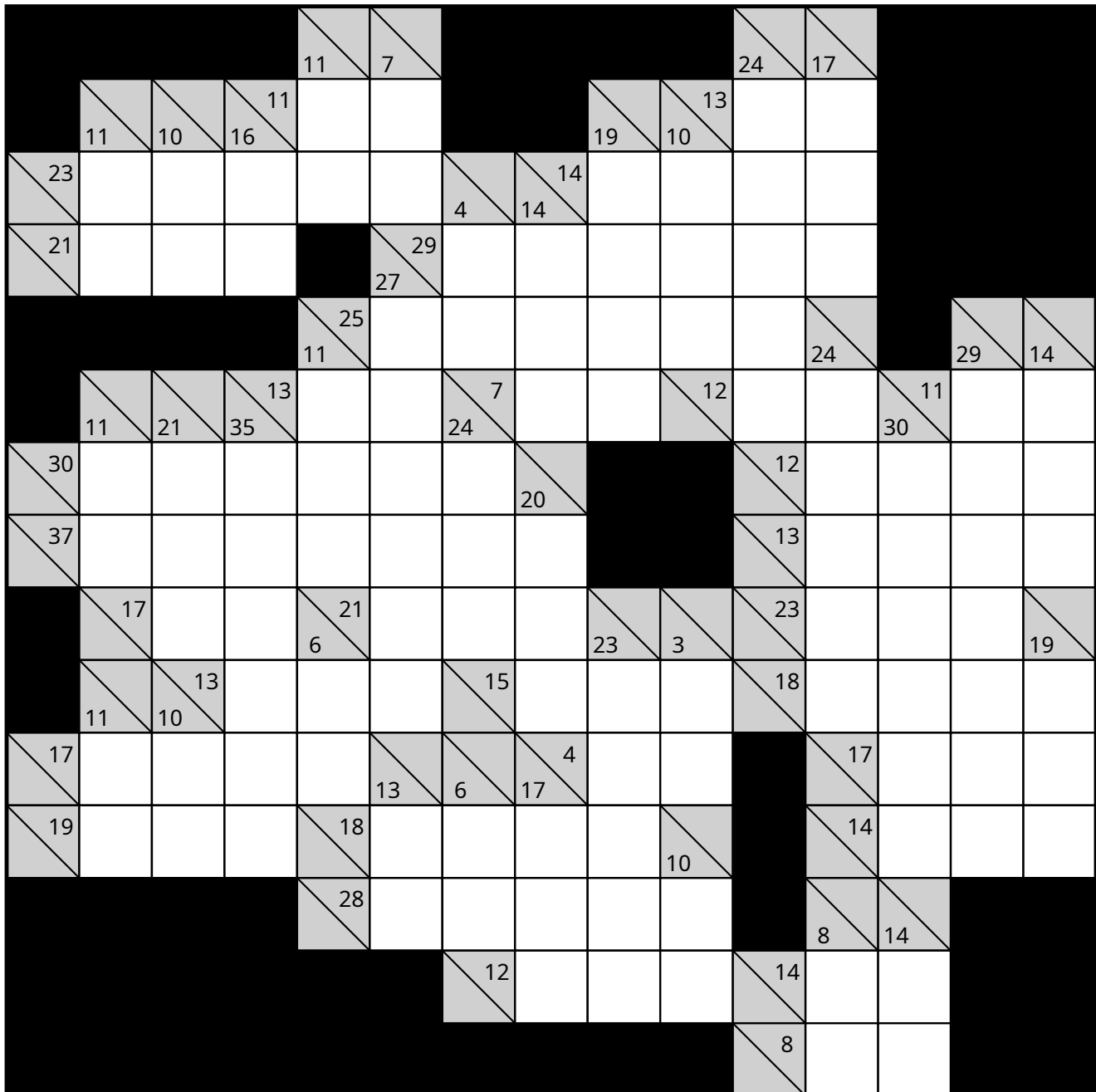
Expert – Puzzle 221 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



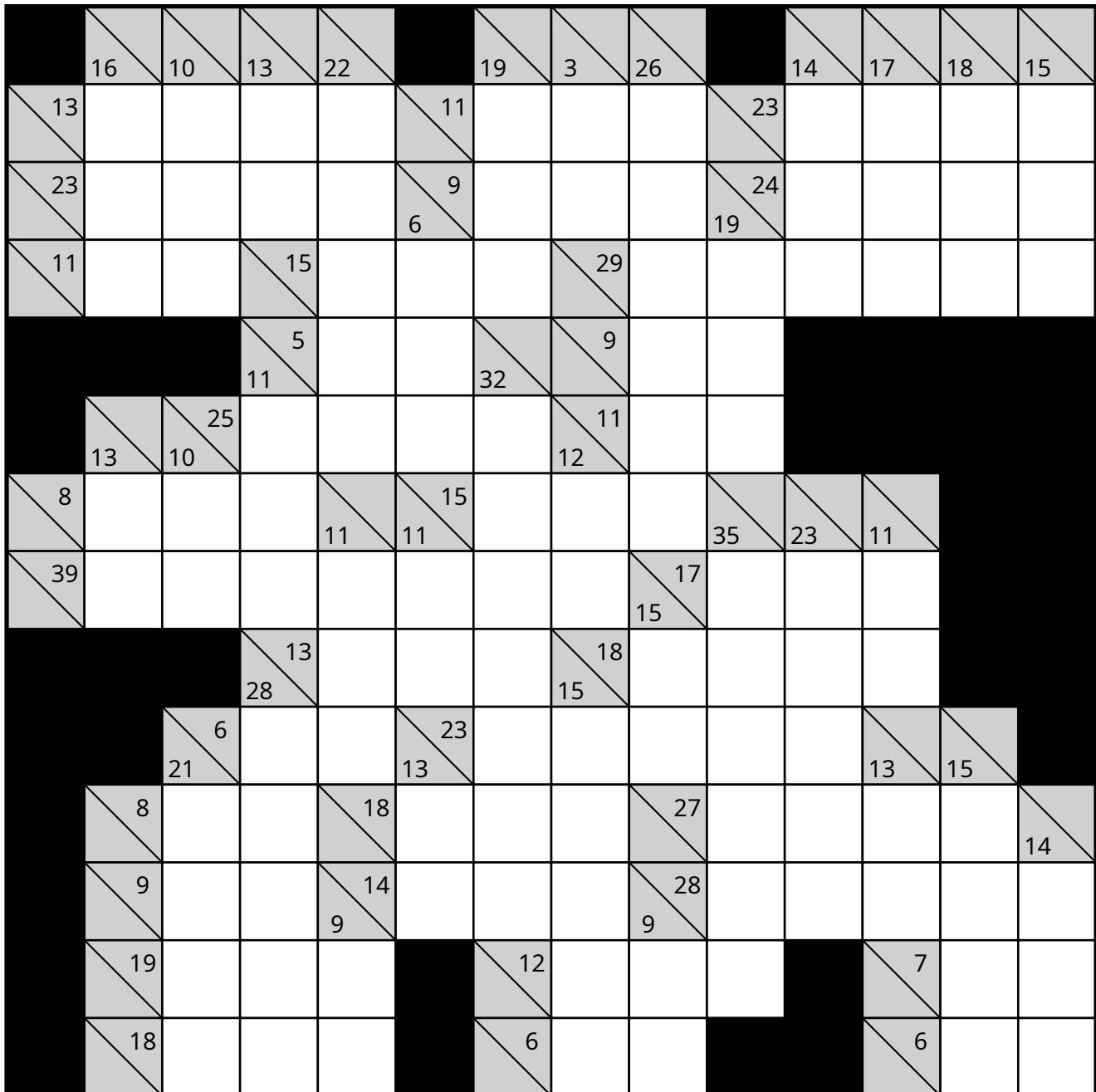
Expert – Puzzle 222 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



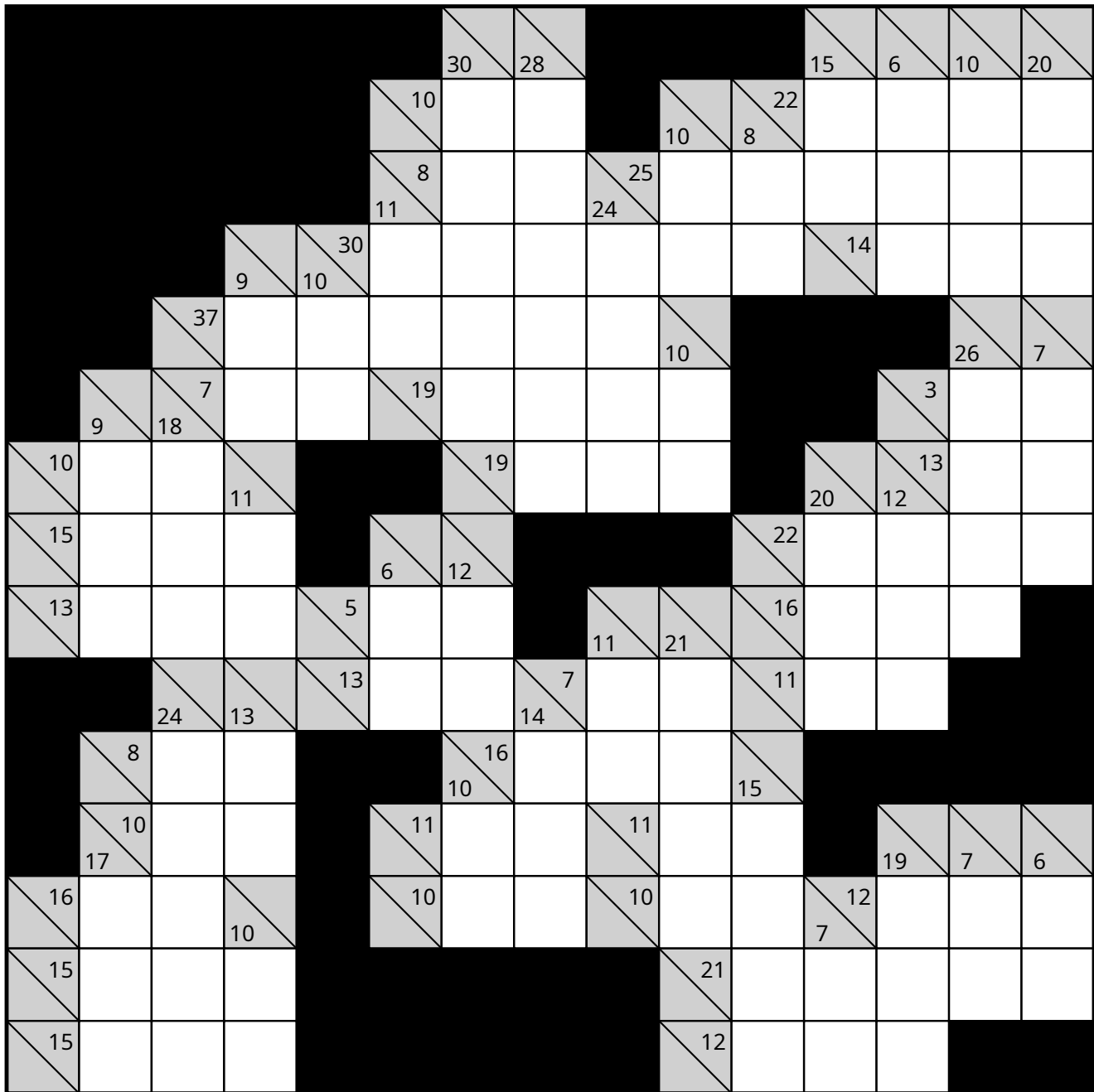
Expert – Puzzle 223 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



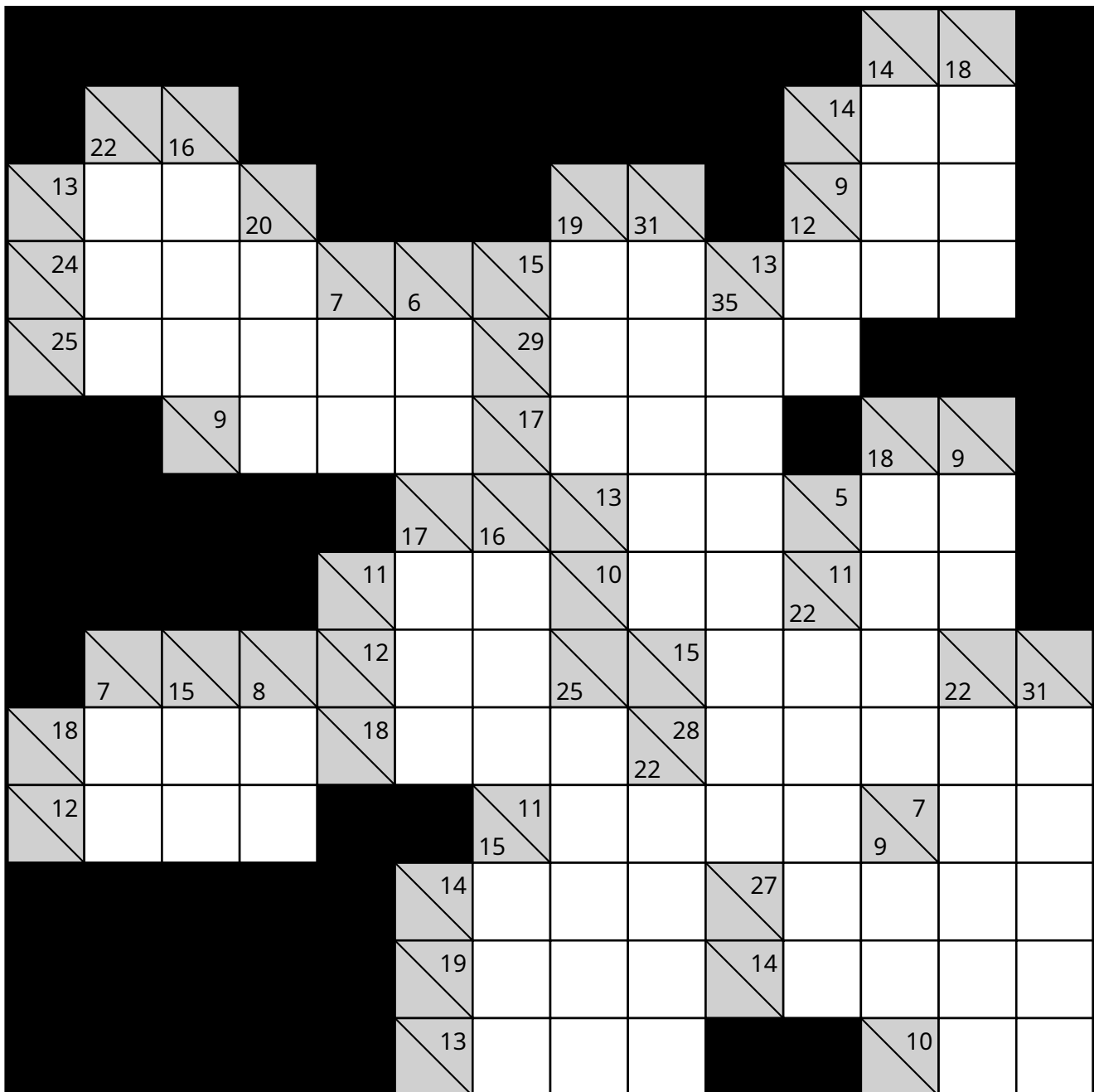
Expert – Puzzle 224 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



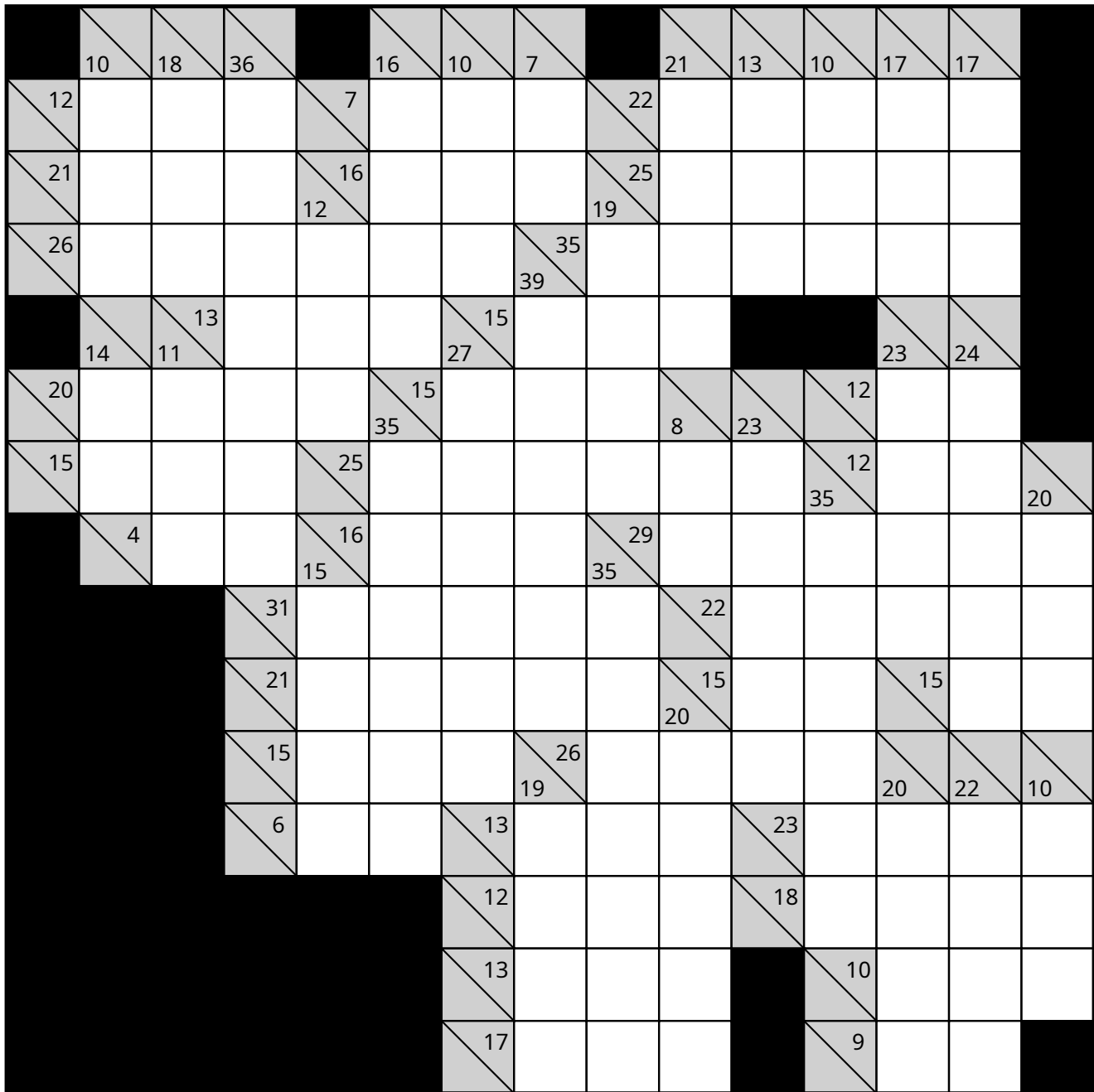
Expert – Puzzle 225 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



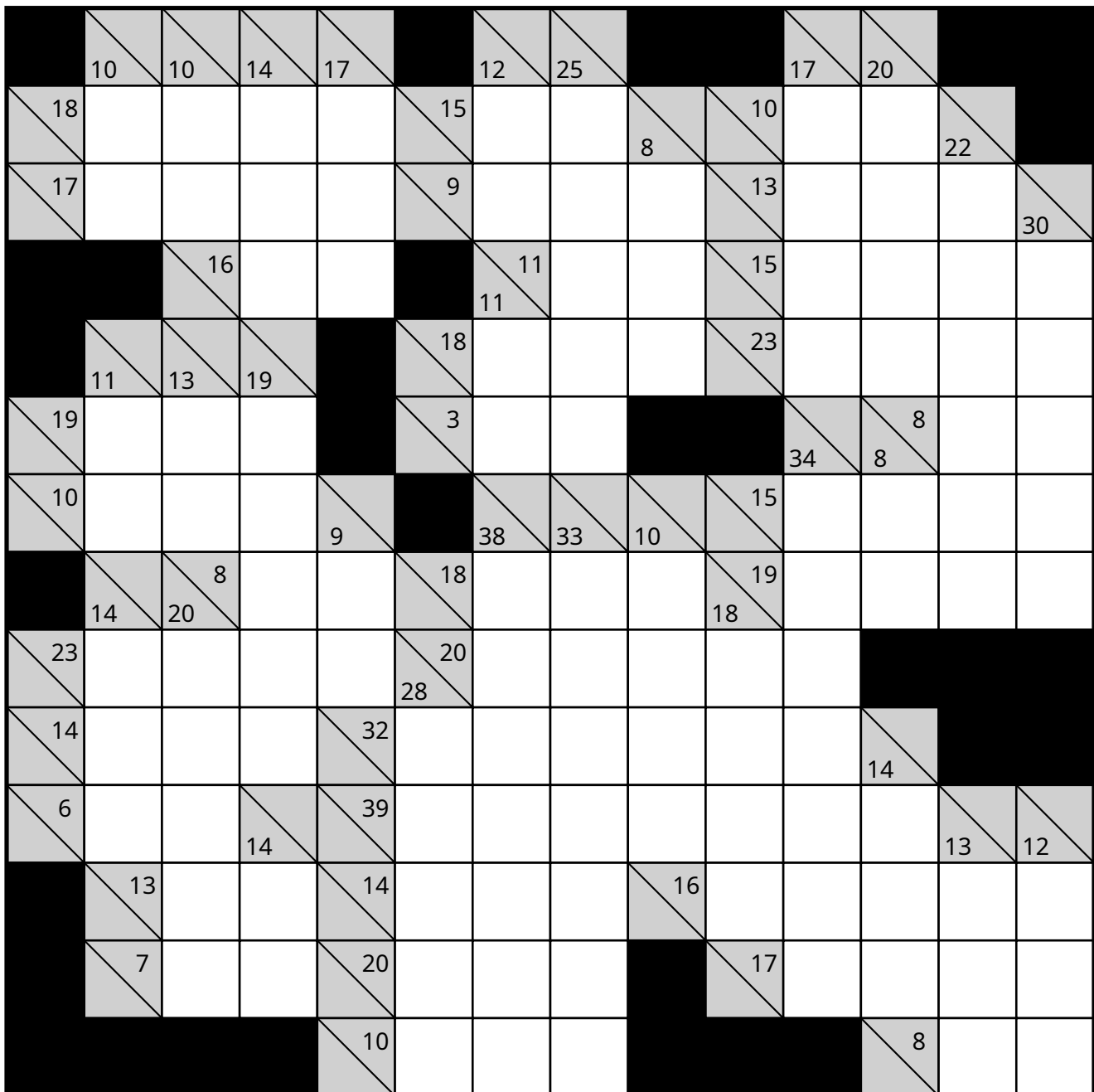
Expert – Puzzle 226 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



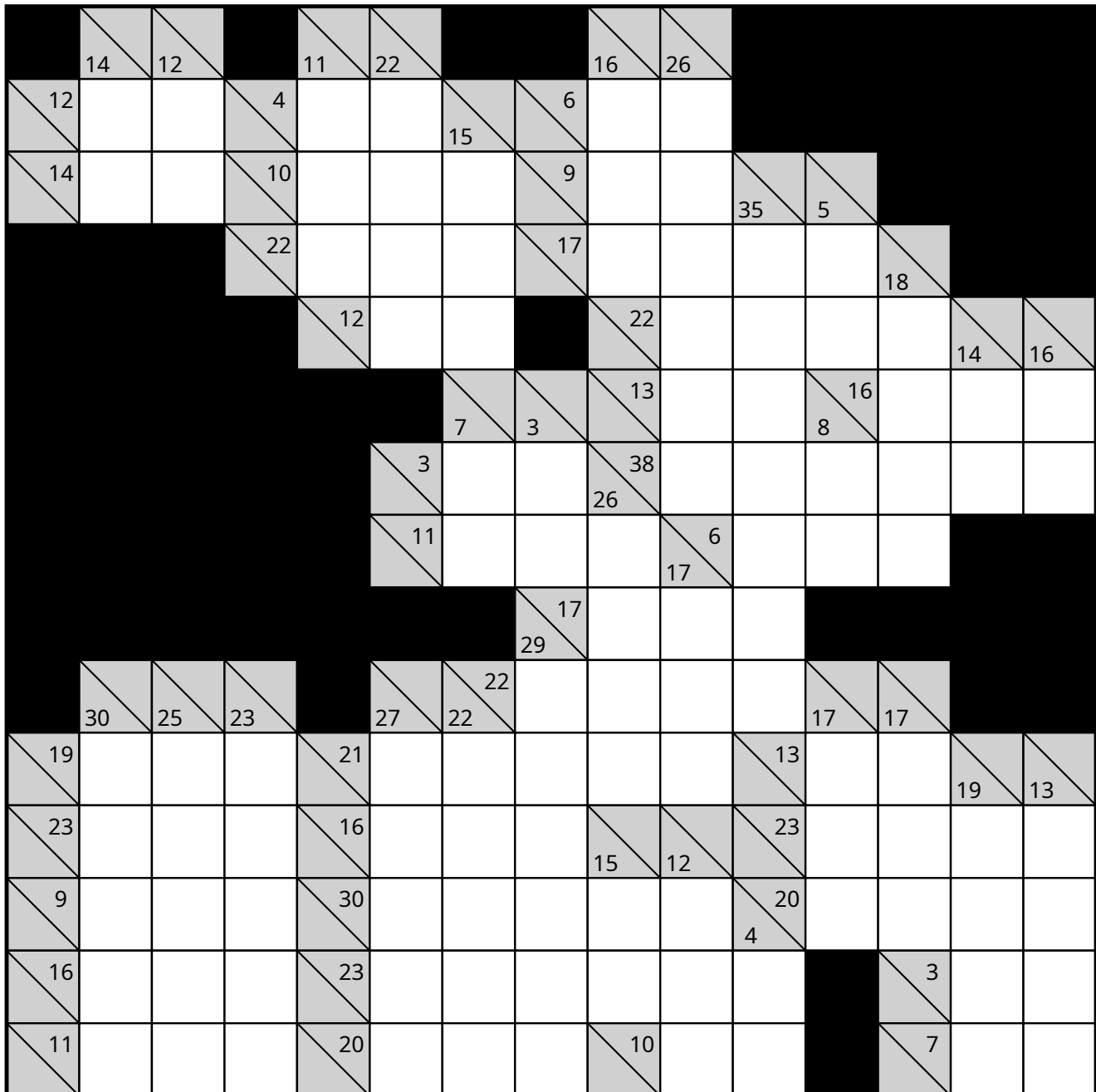
Expert – Puzzle 227 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



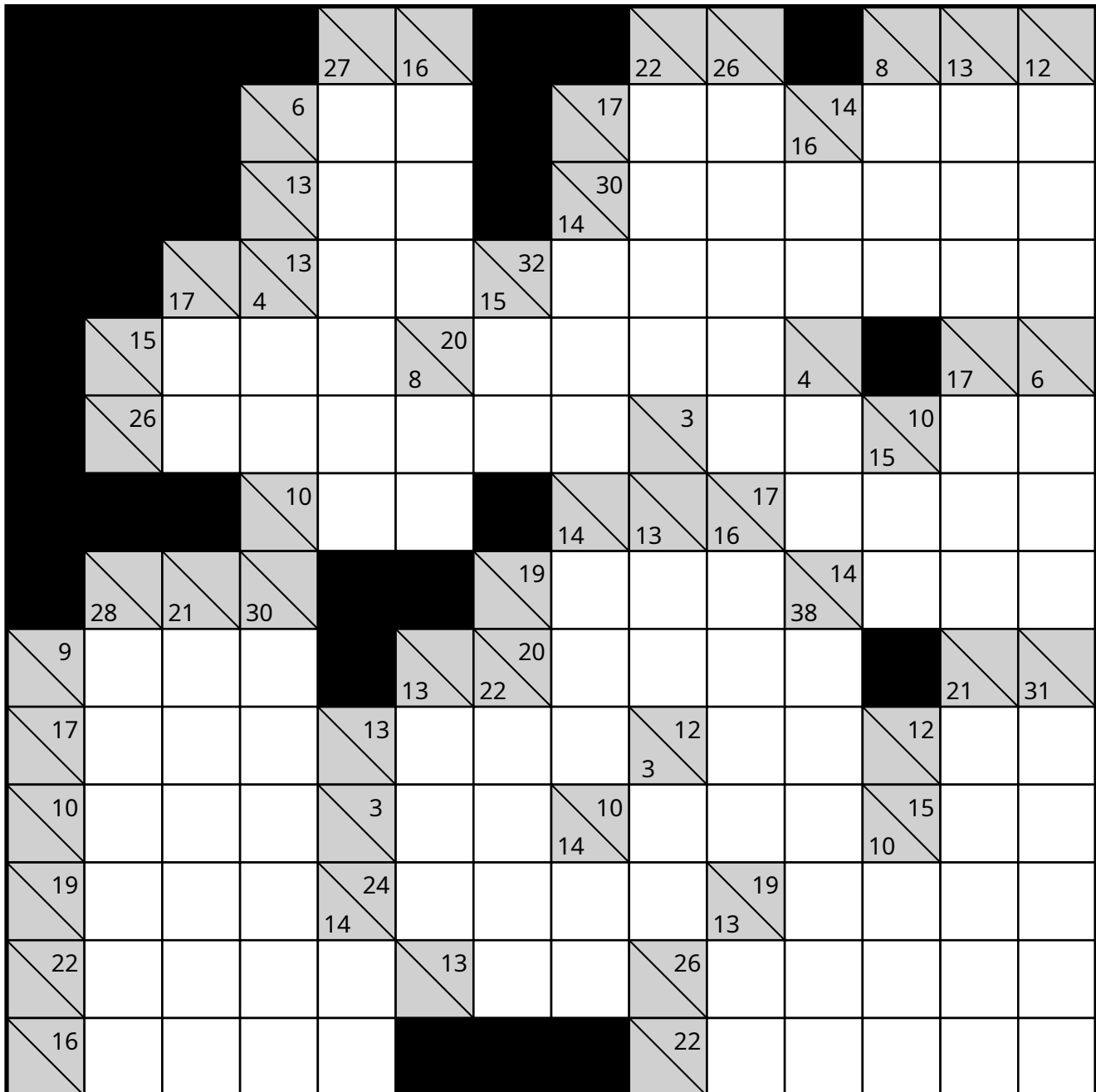
Expert – Puzzle 228 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



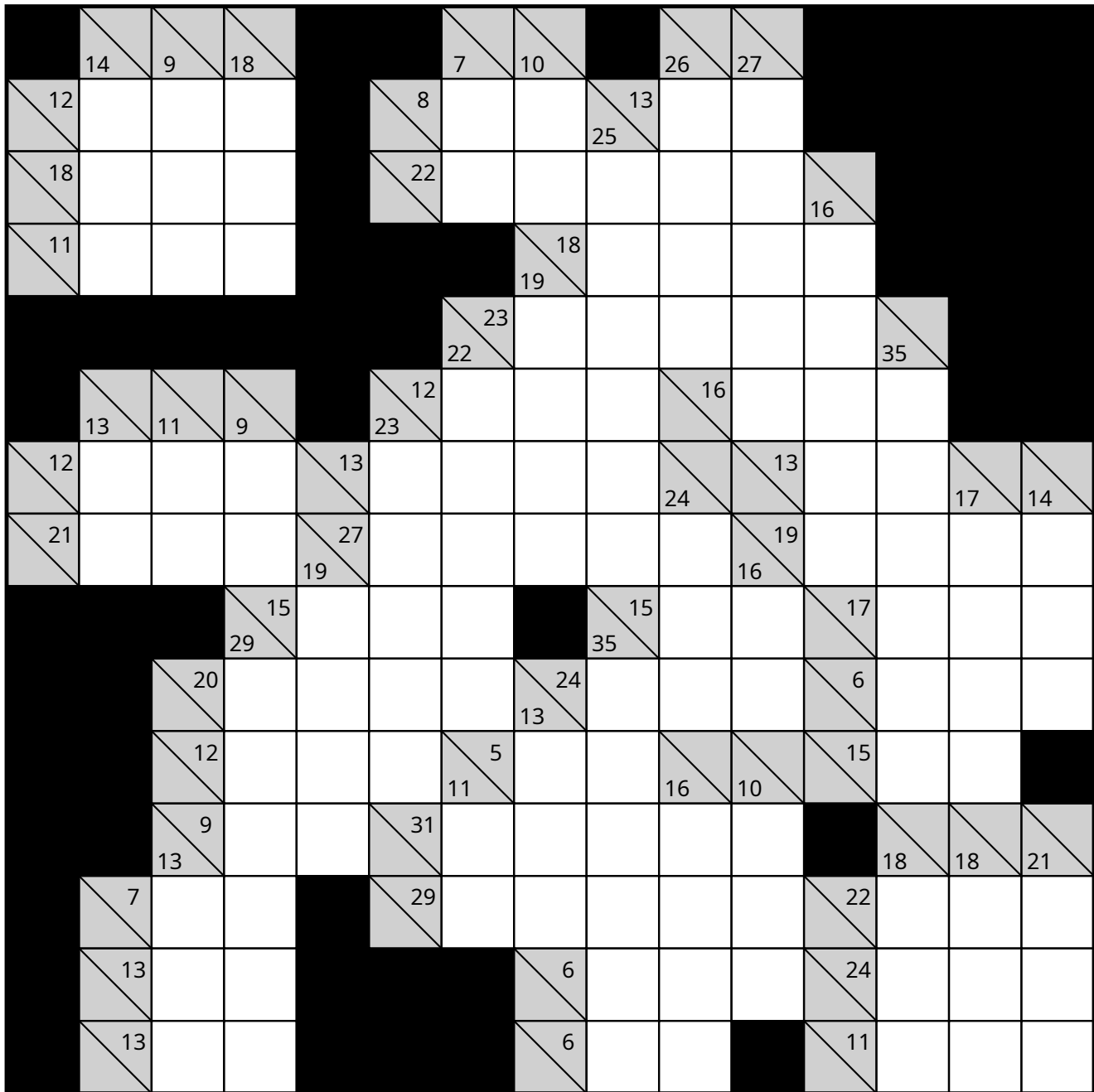
Expert – Puzzle 229 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



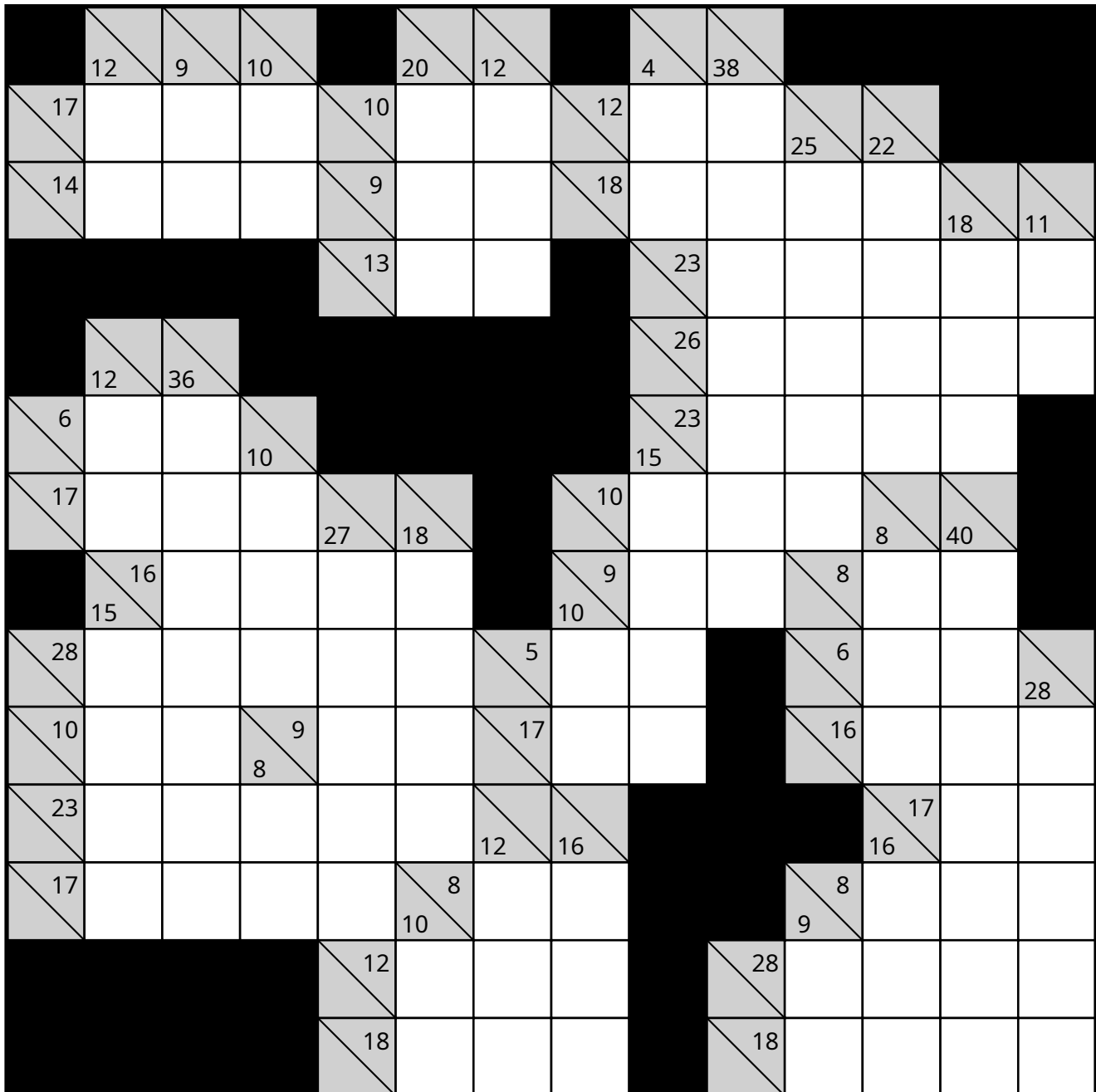
Expert – Puzzle 230 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



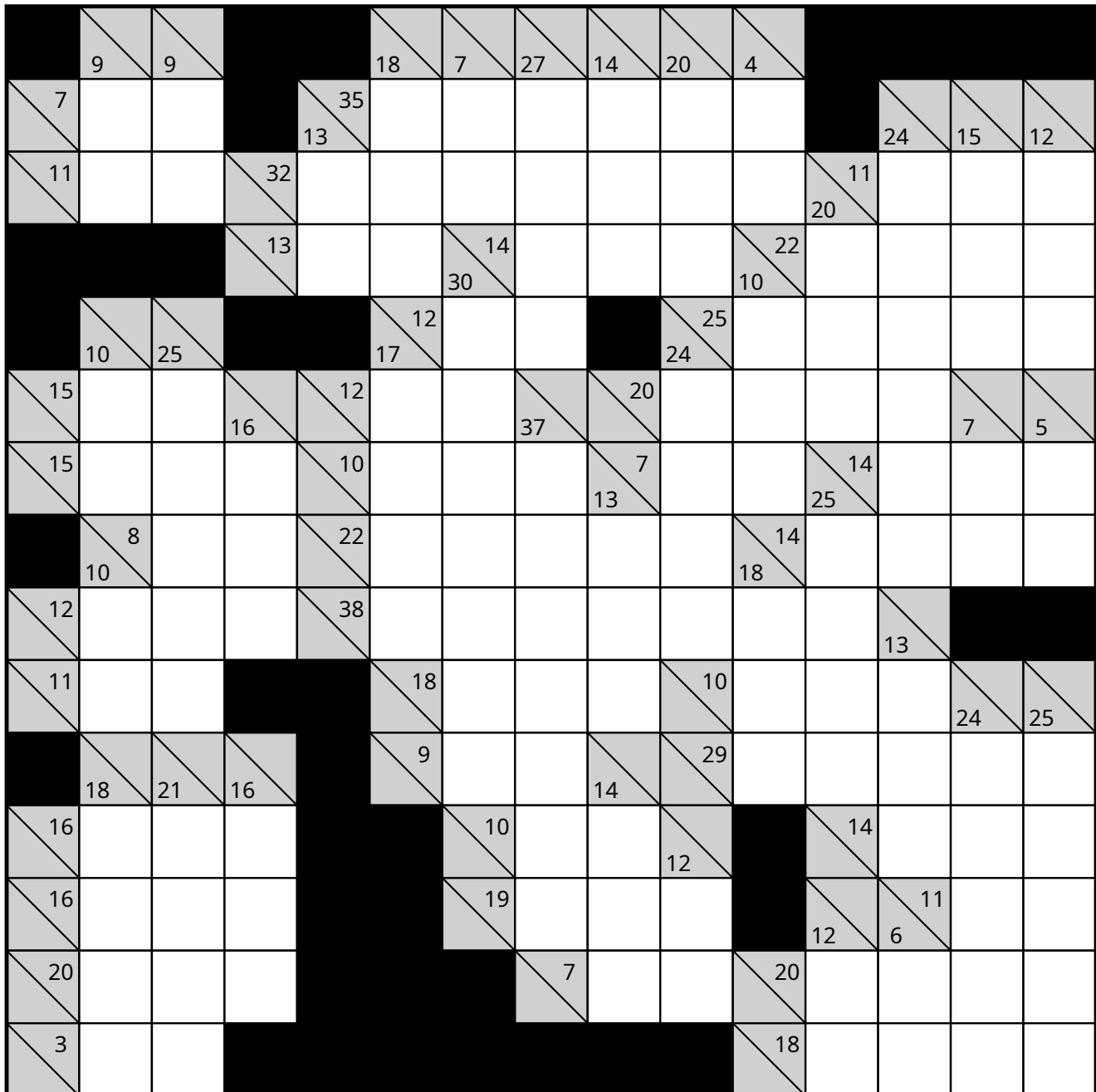
Expert – Puzzle 231 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



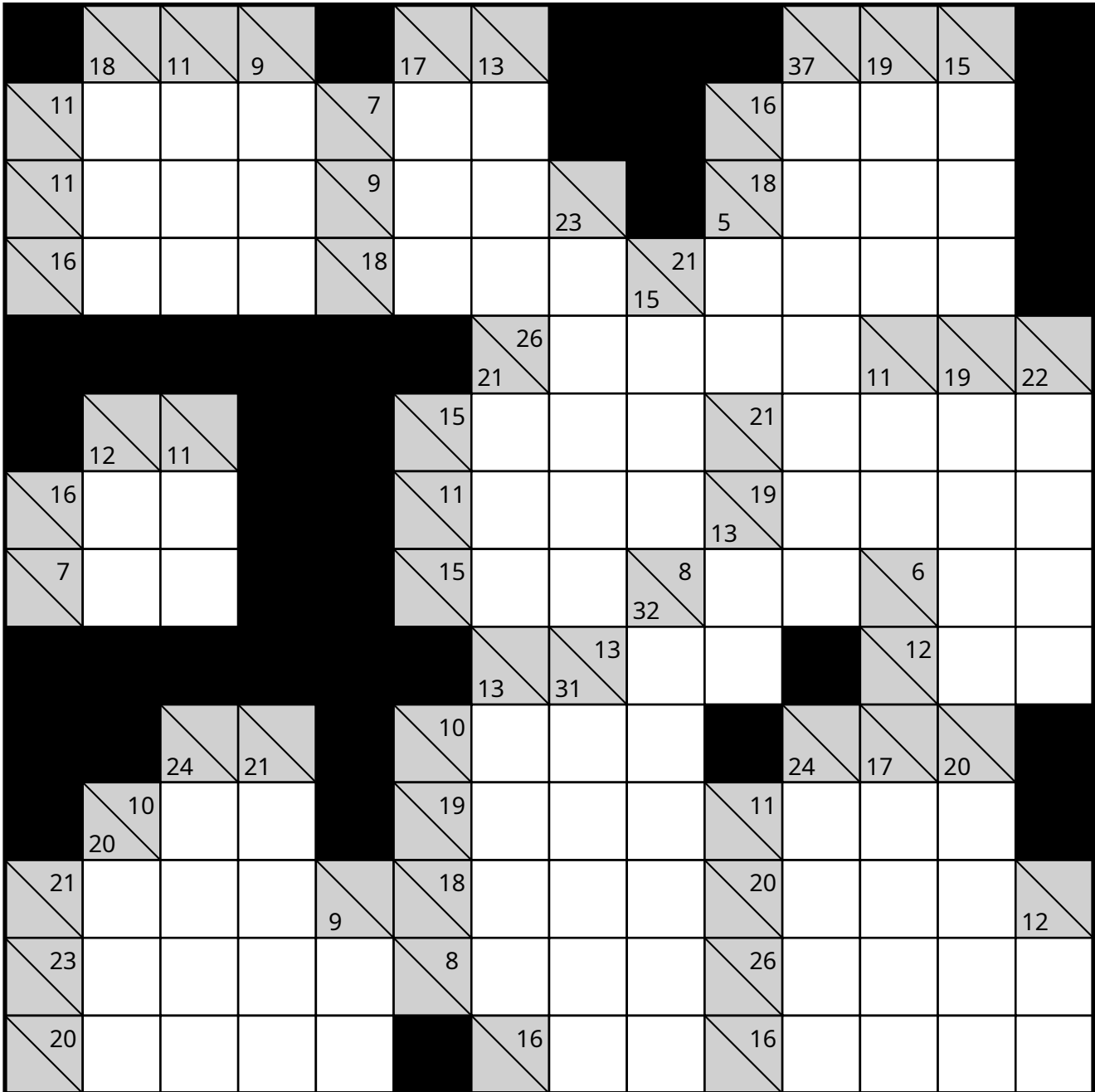
Expert – Puzzle 232 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



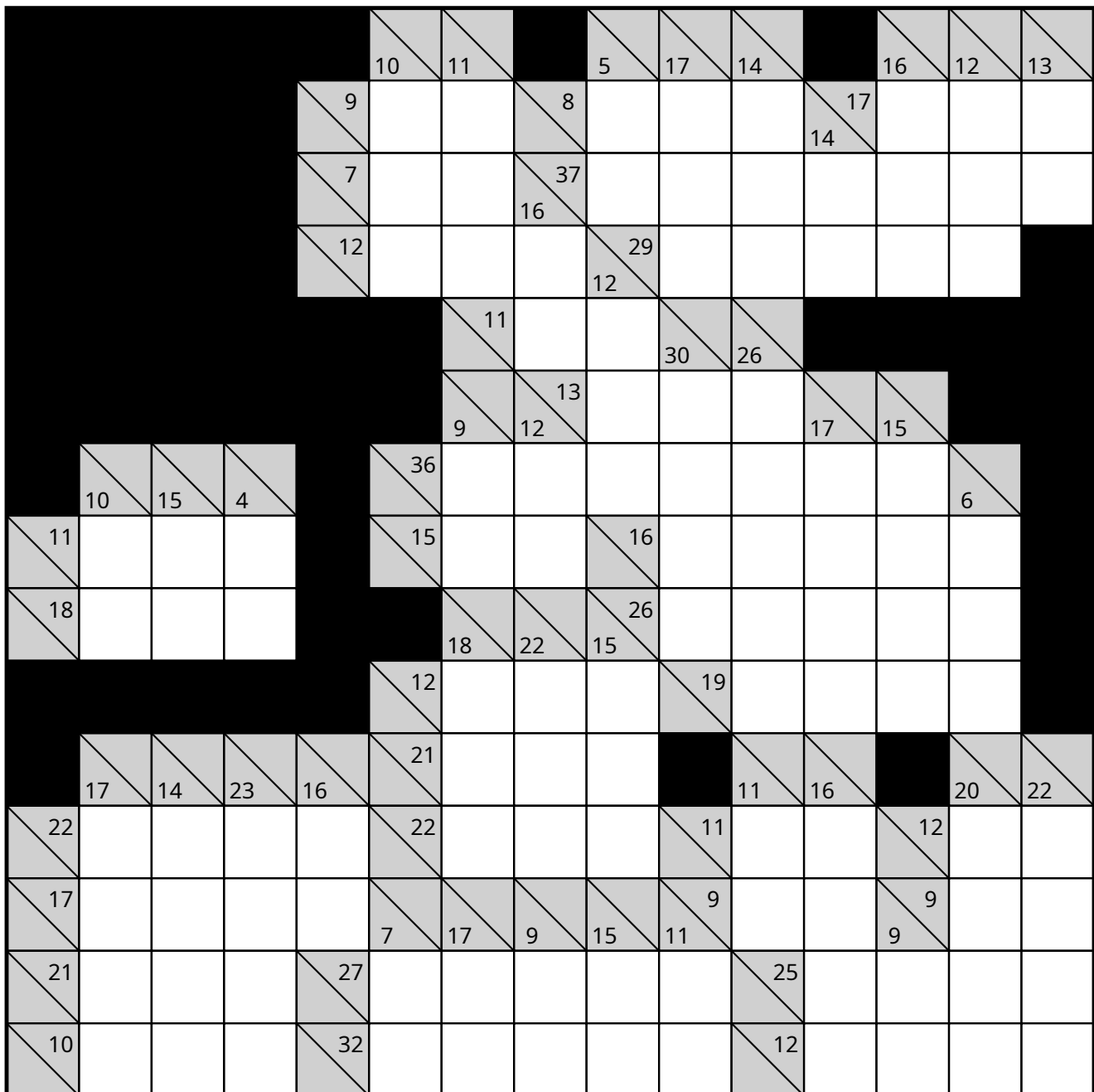
Expert - Puzzle 233 - 14x14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



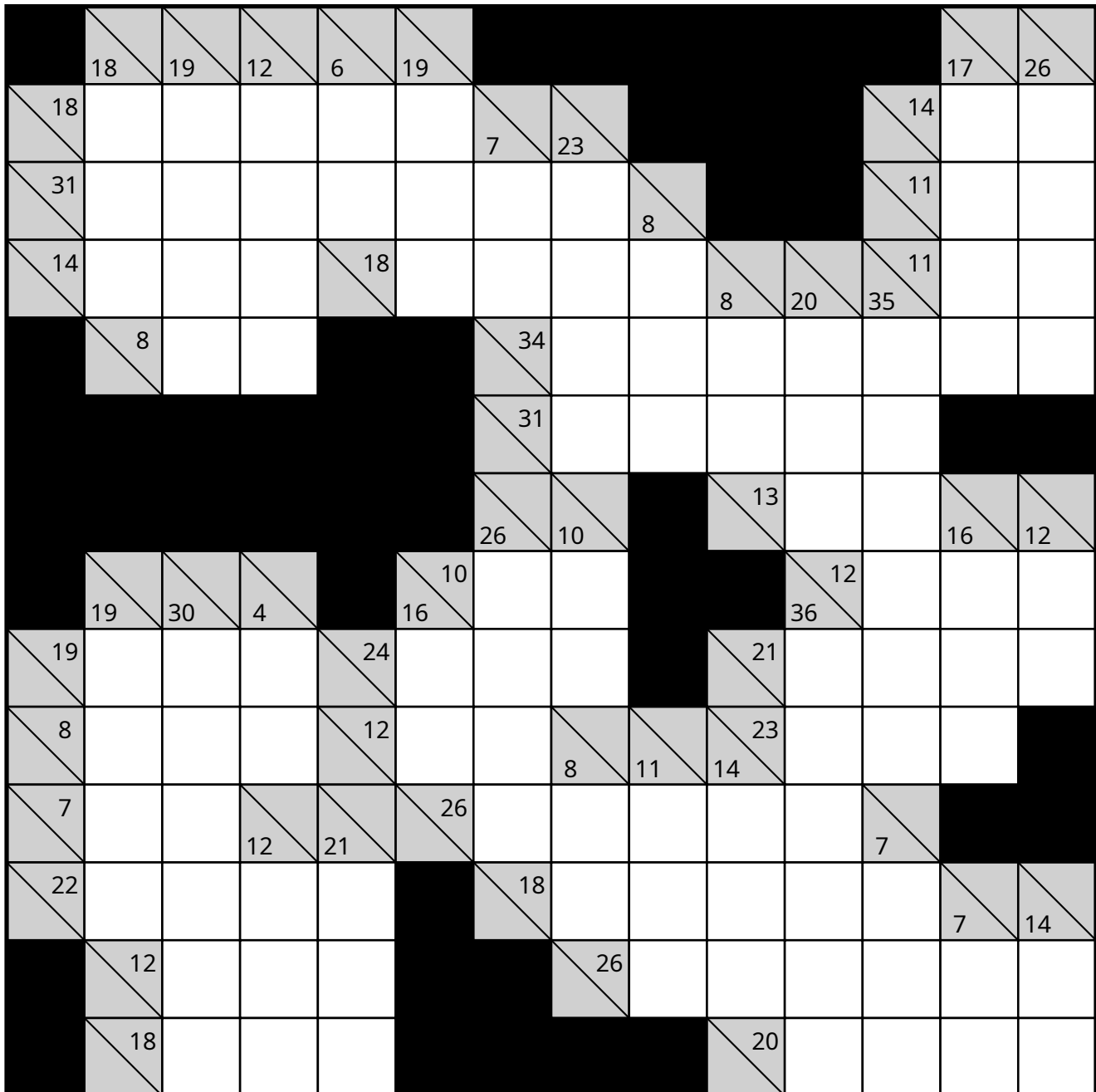
Expert – Puzzle 234 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



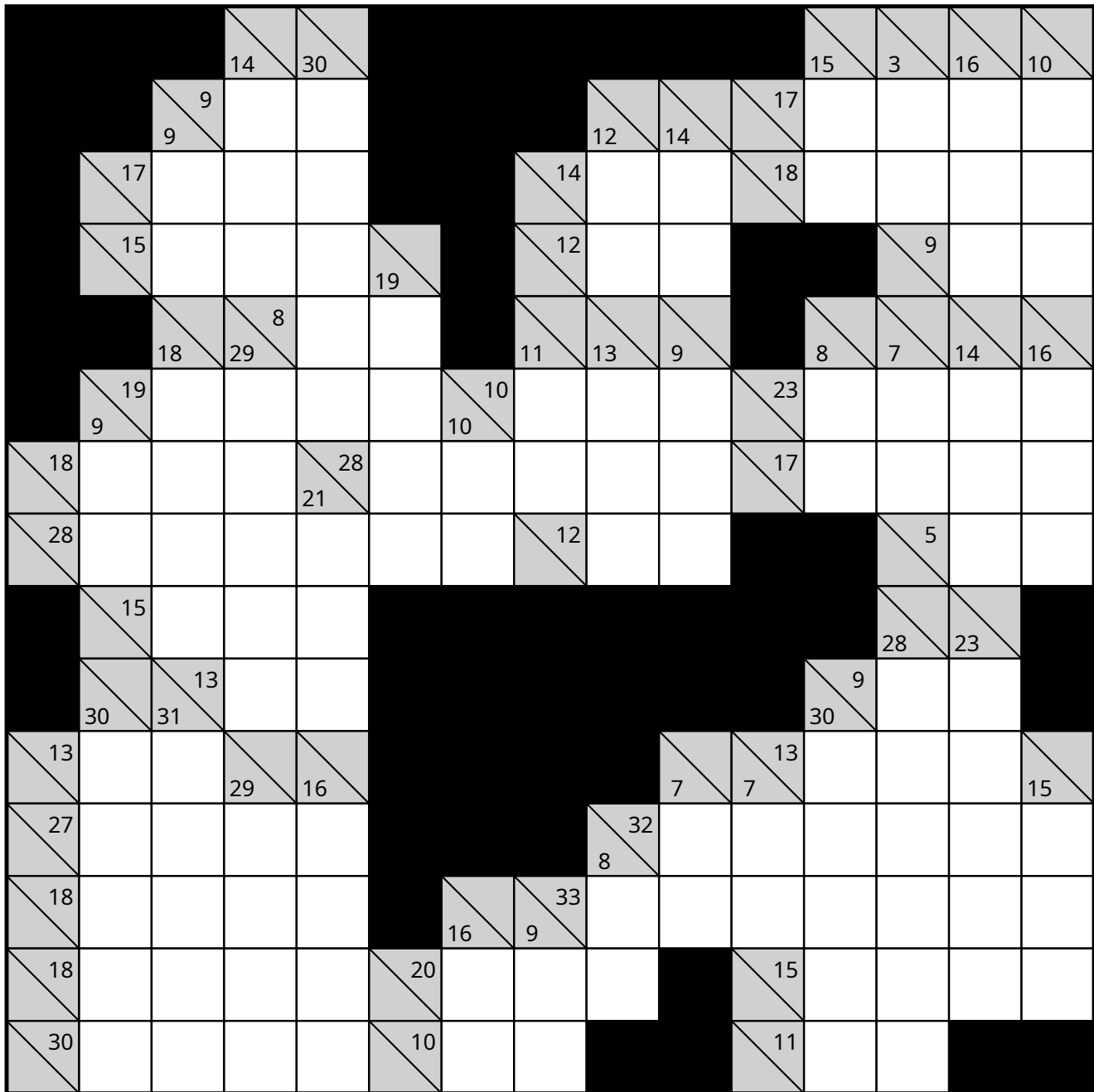
Expert – Puzzle 235 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



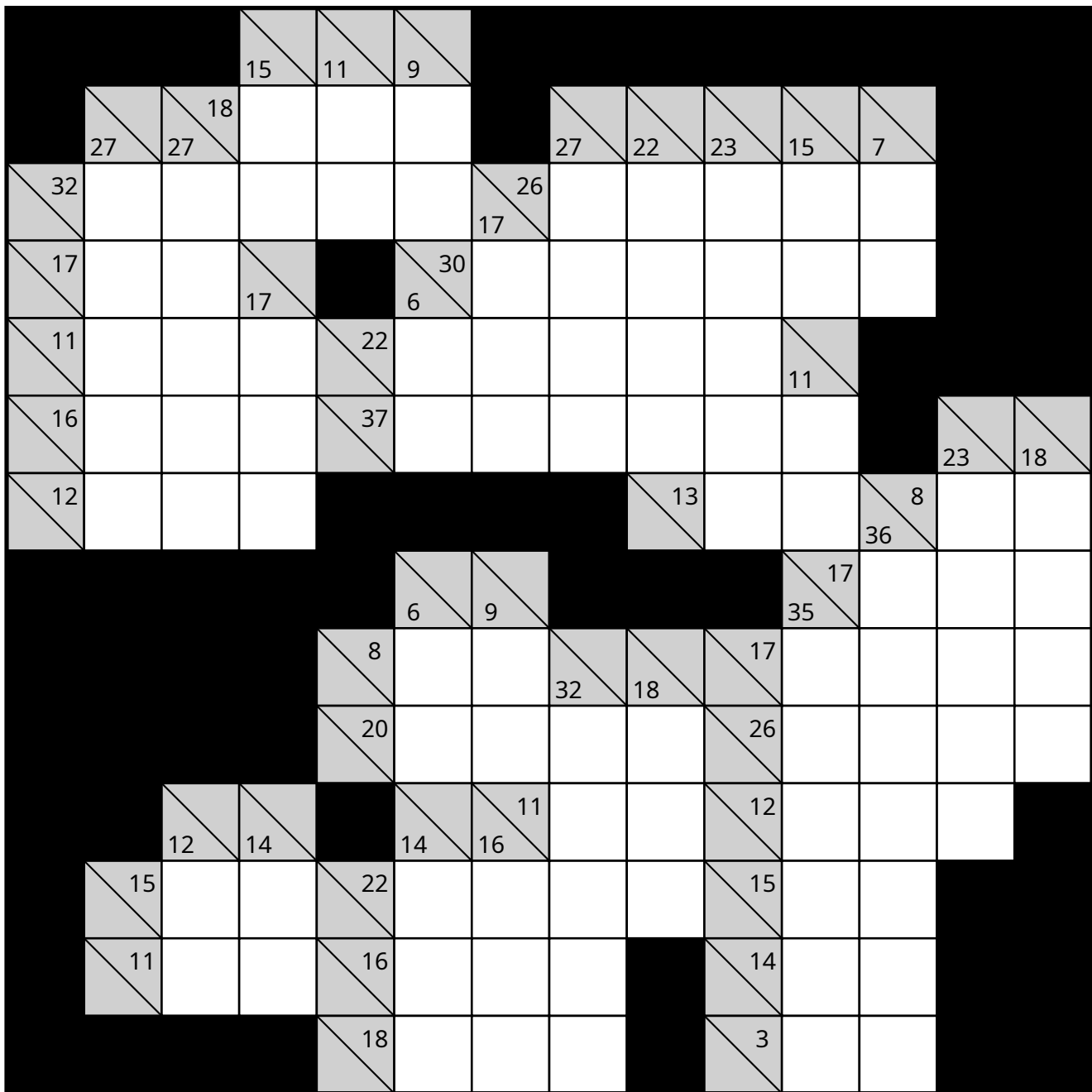
Expert – Puzzle 236 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



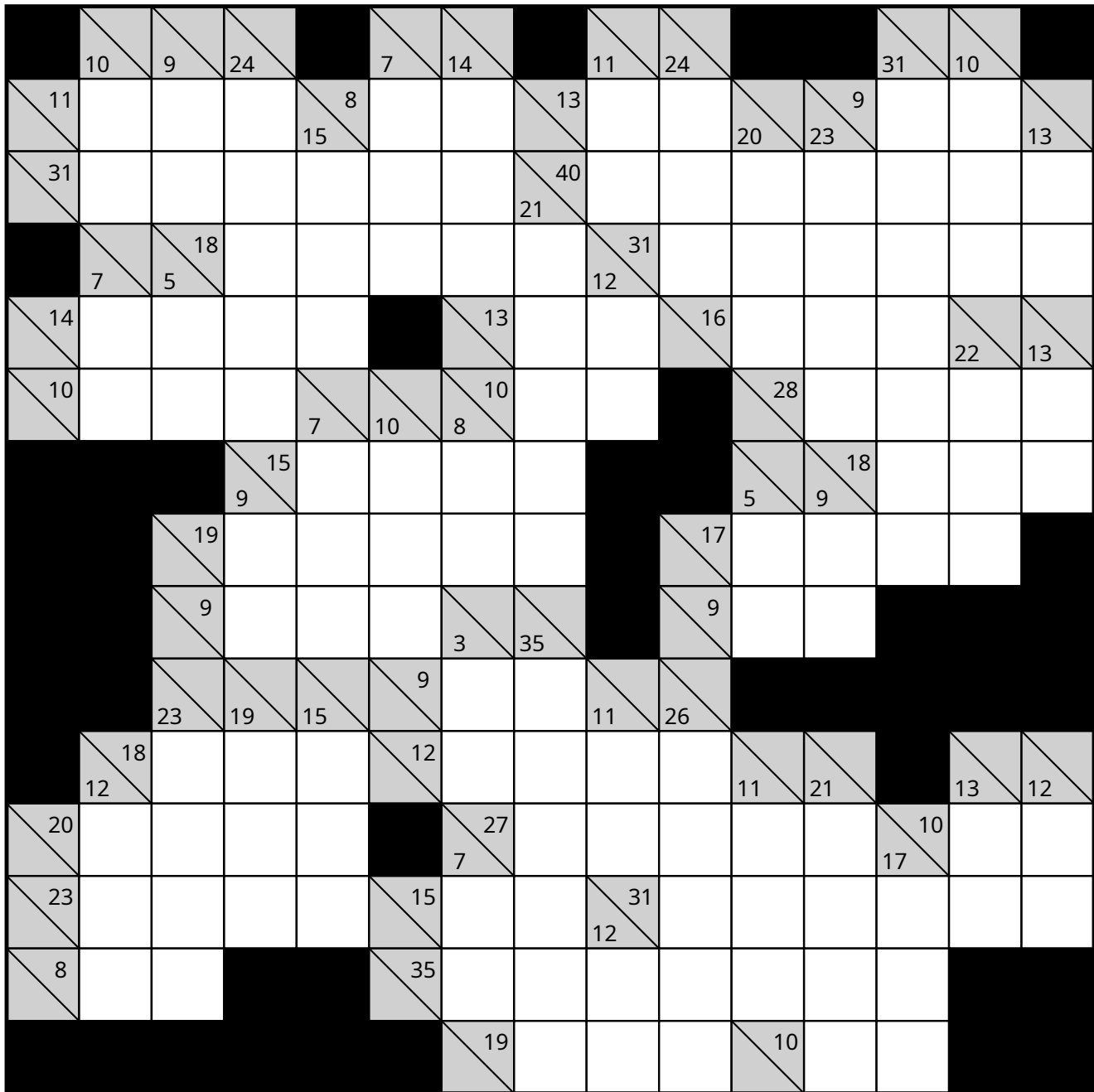
Expert – Puzzle 237 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



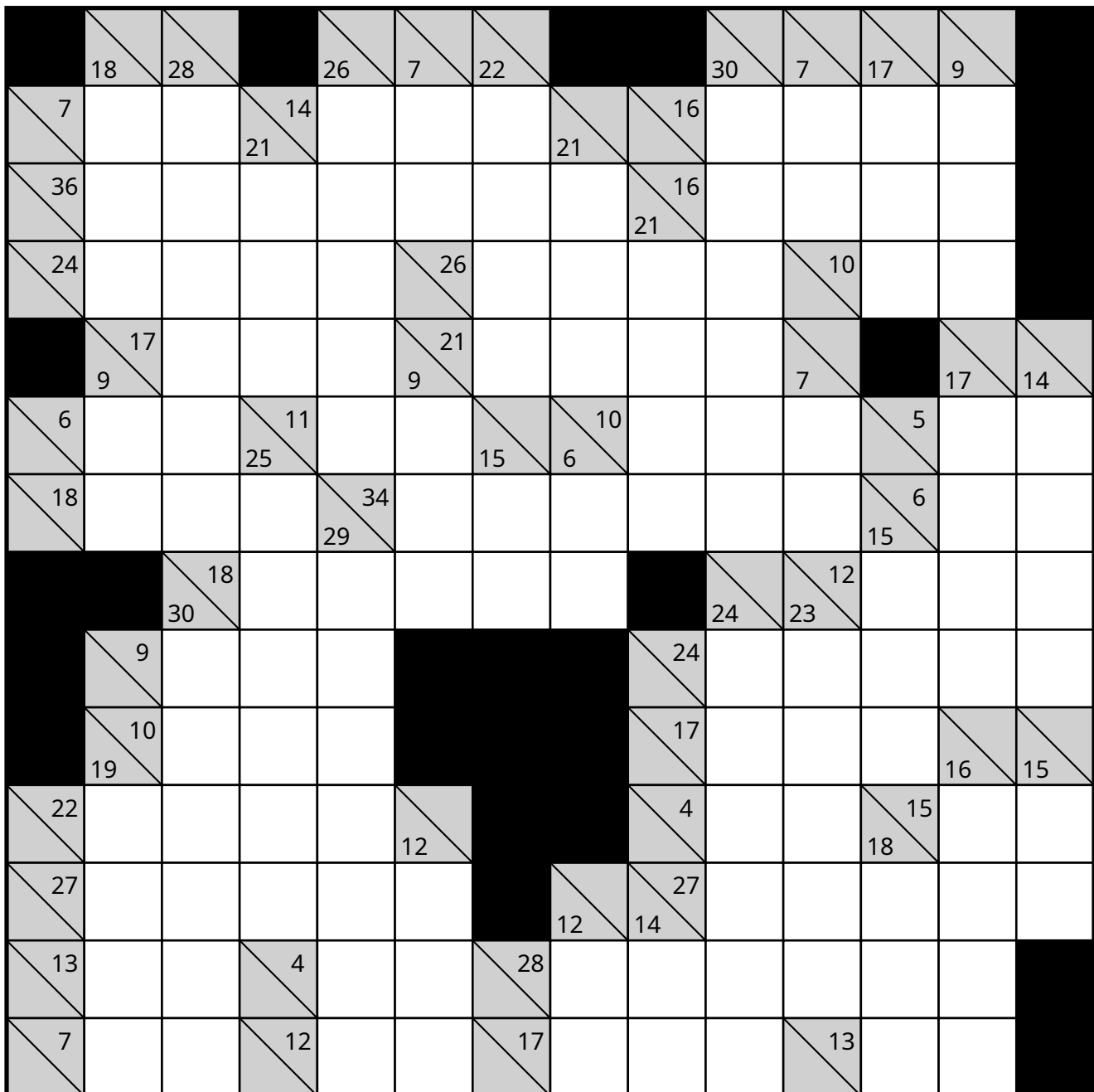
Expert – Puzzle 238 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



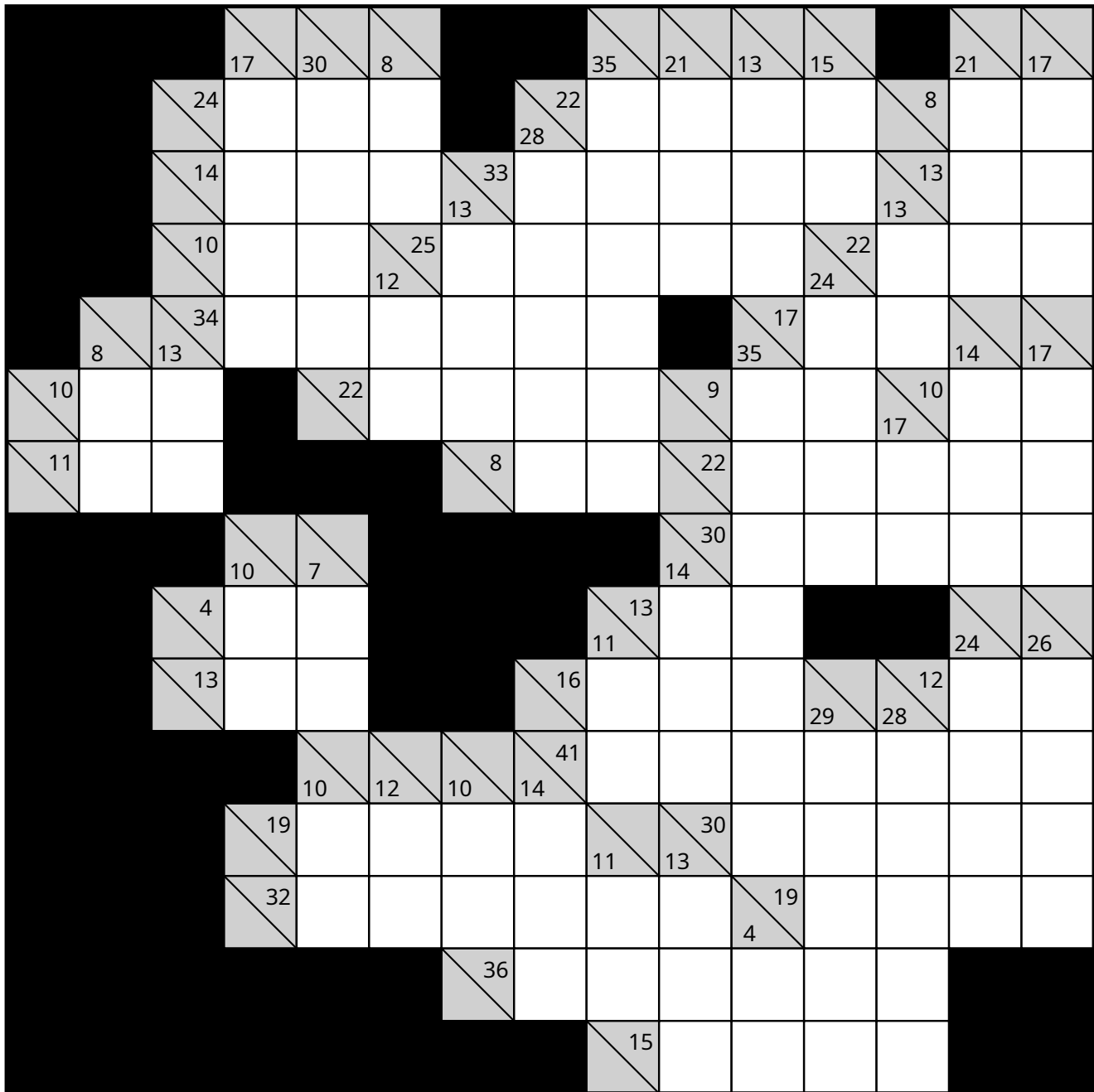
Expert – Puzzle 239 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



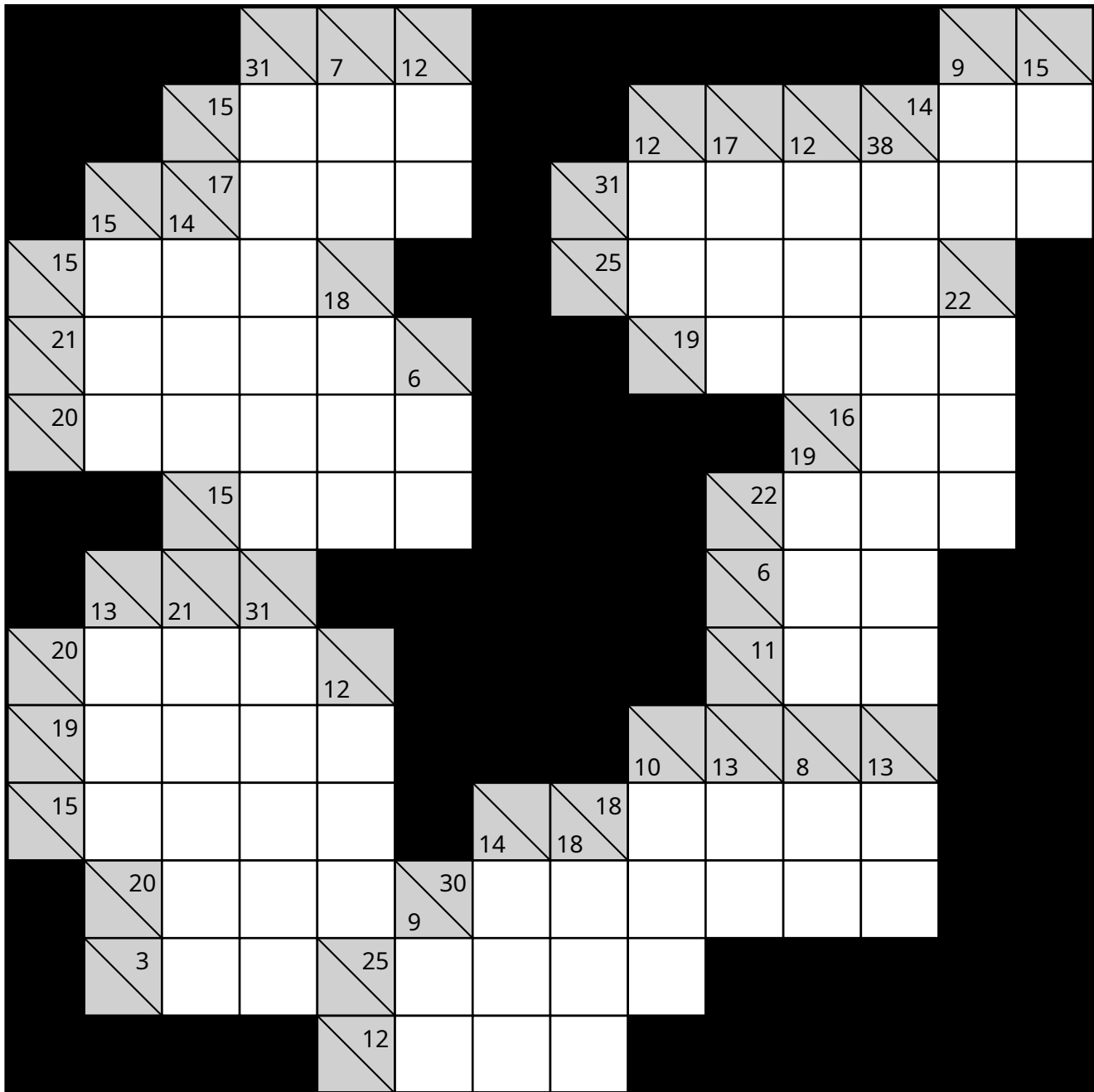
Expert – Puzzle 240 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



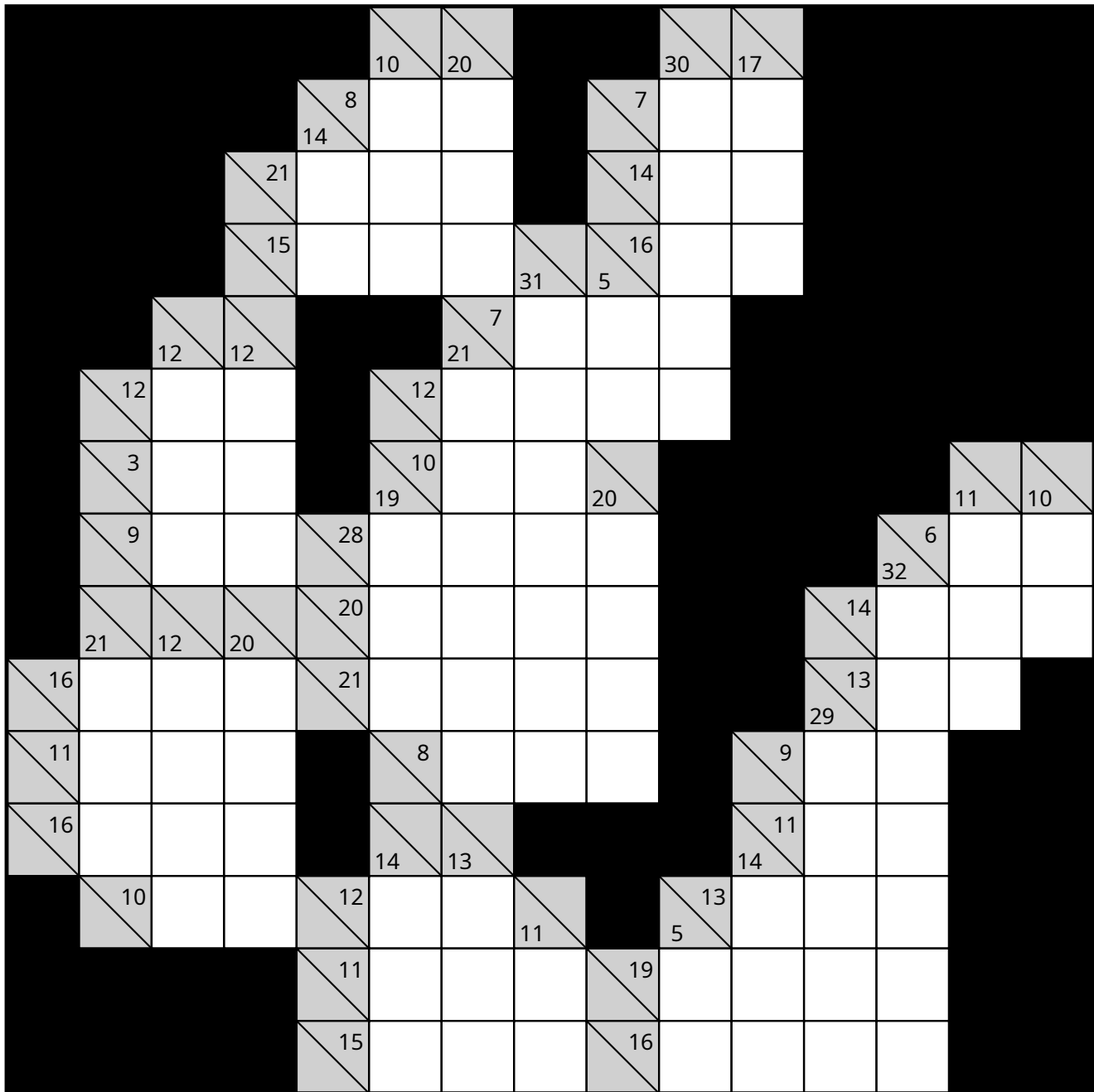
Expert – Puzzle 241 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



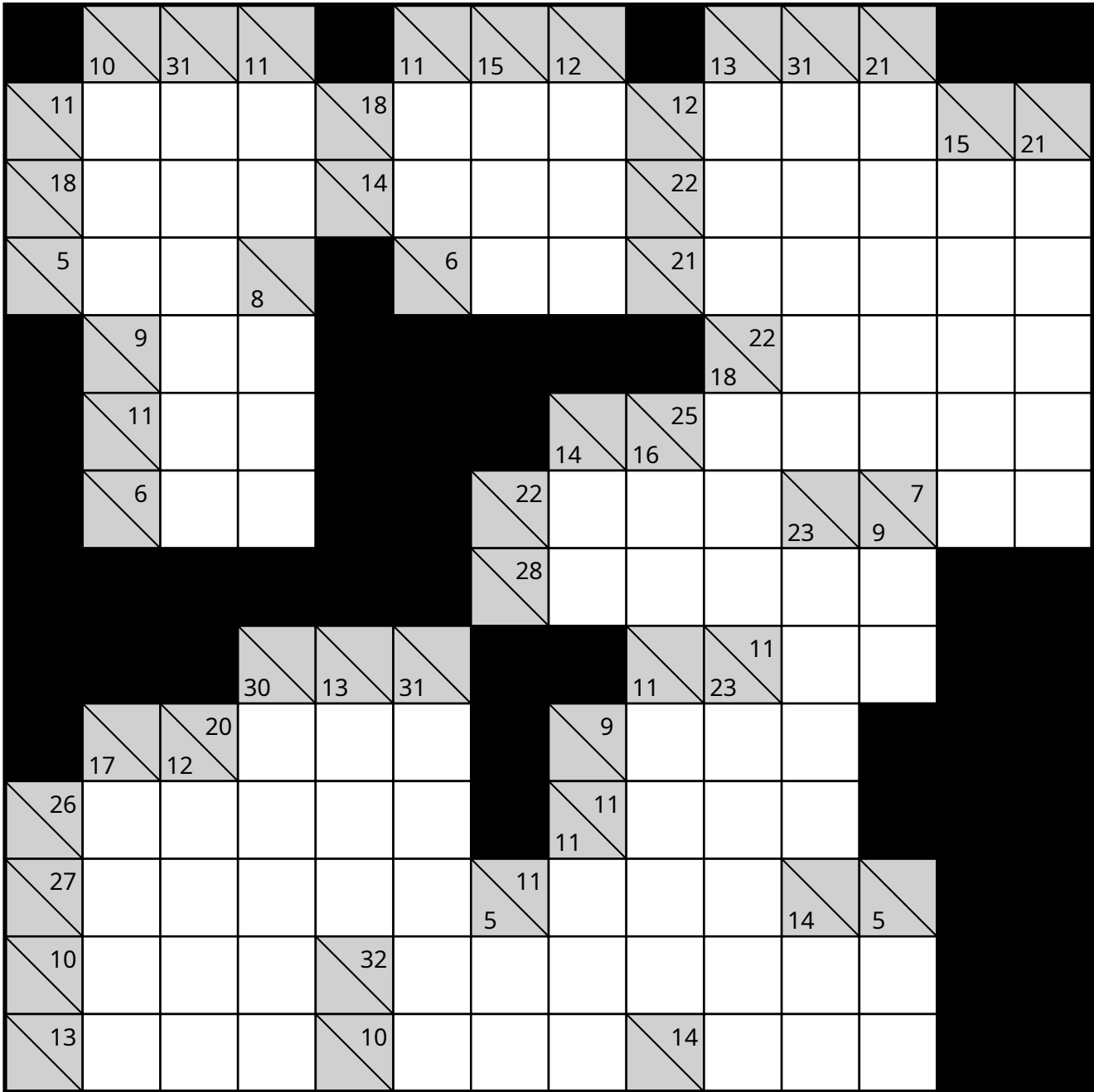
Expert – Puzzle 242 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



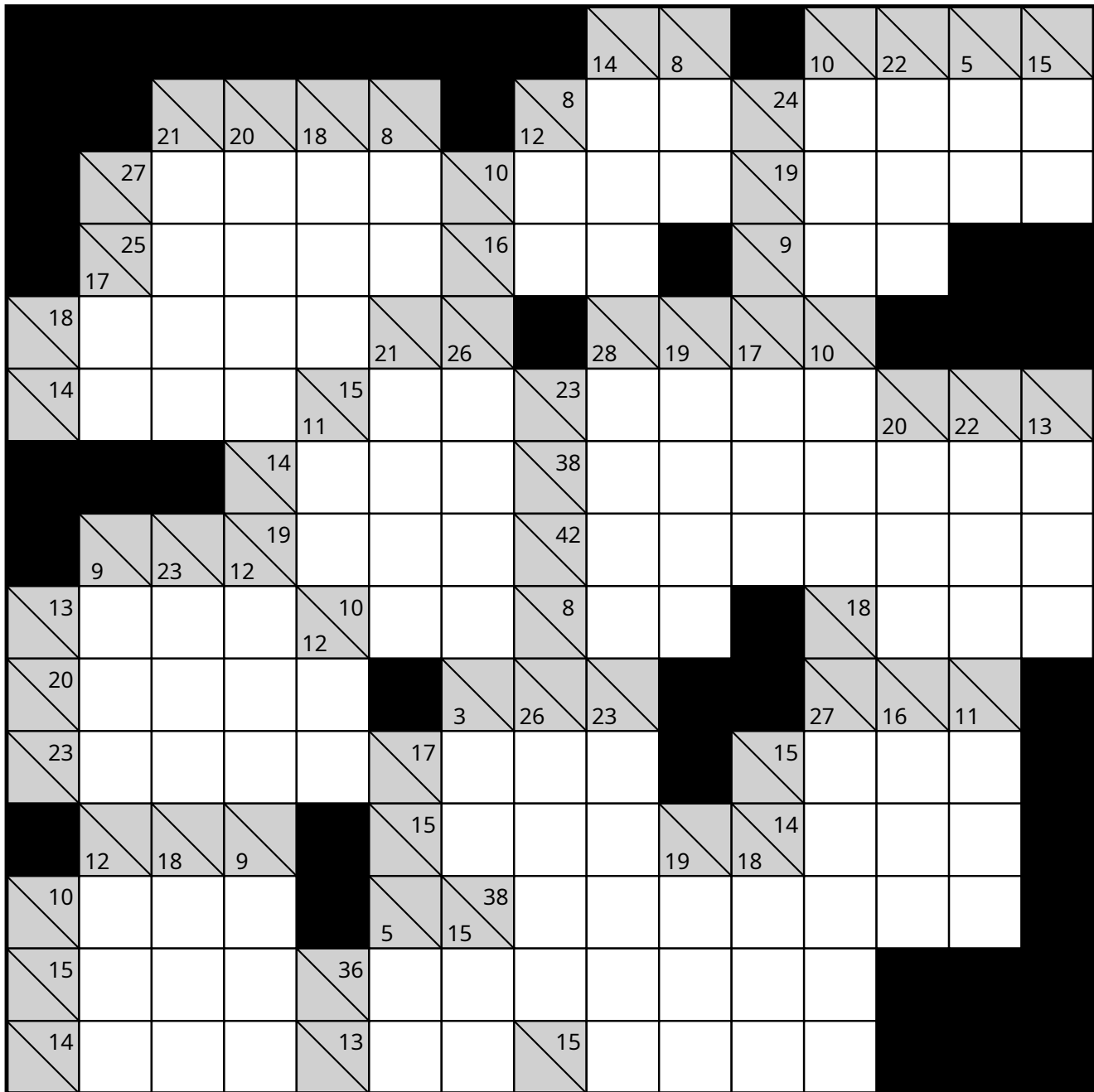
Expert - Puzzle 243 - 14x14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



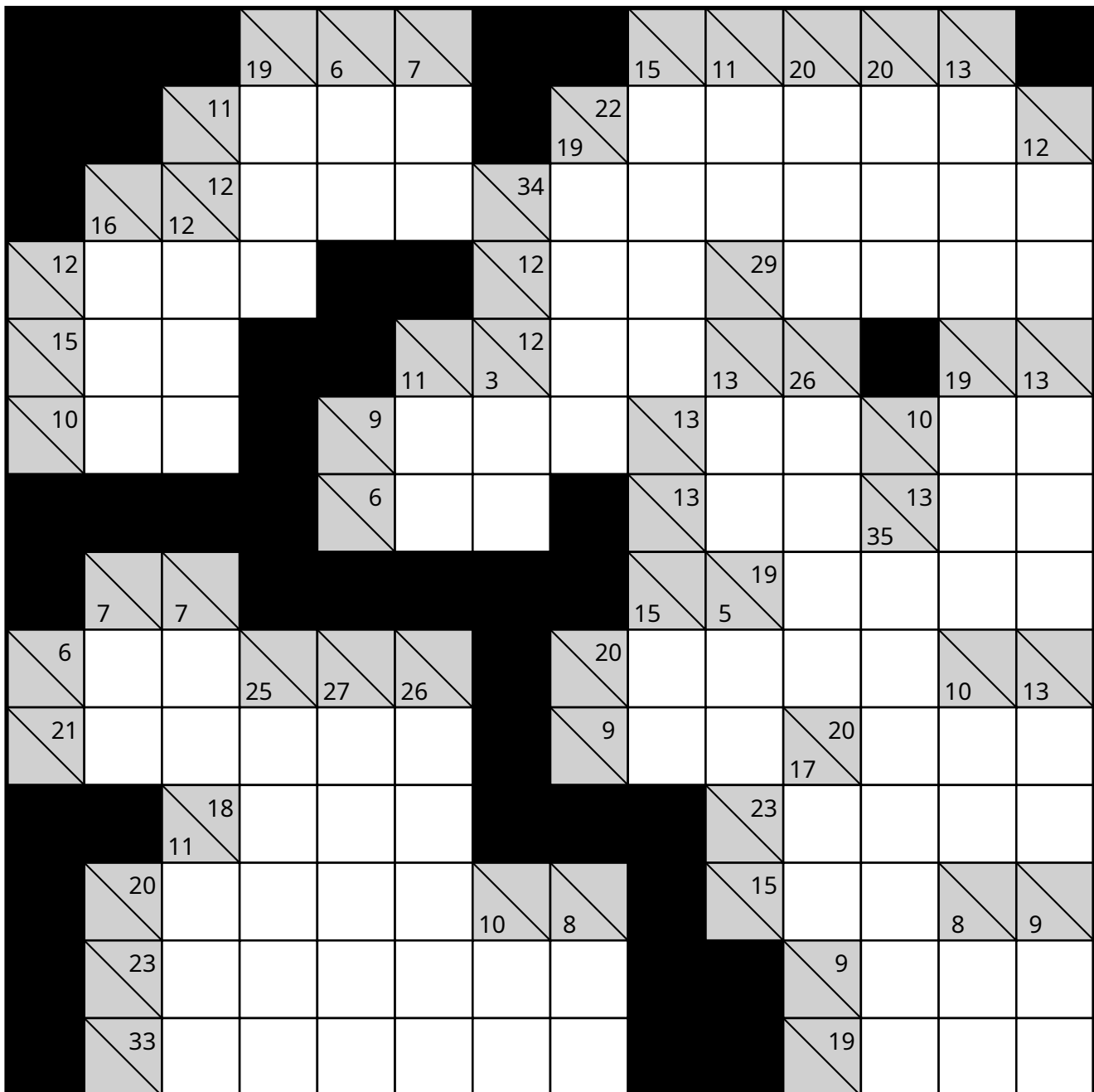
Expert – Puzzle 244 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



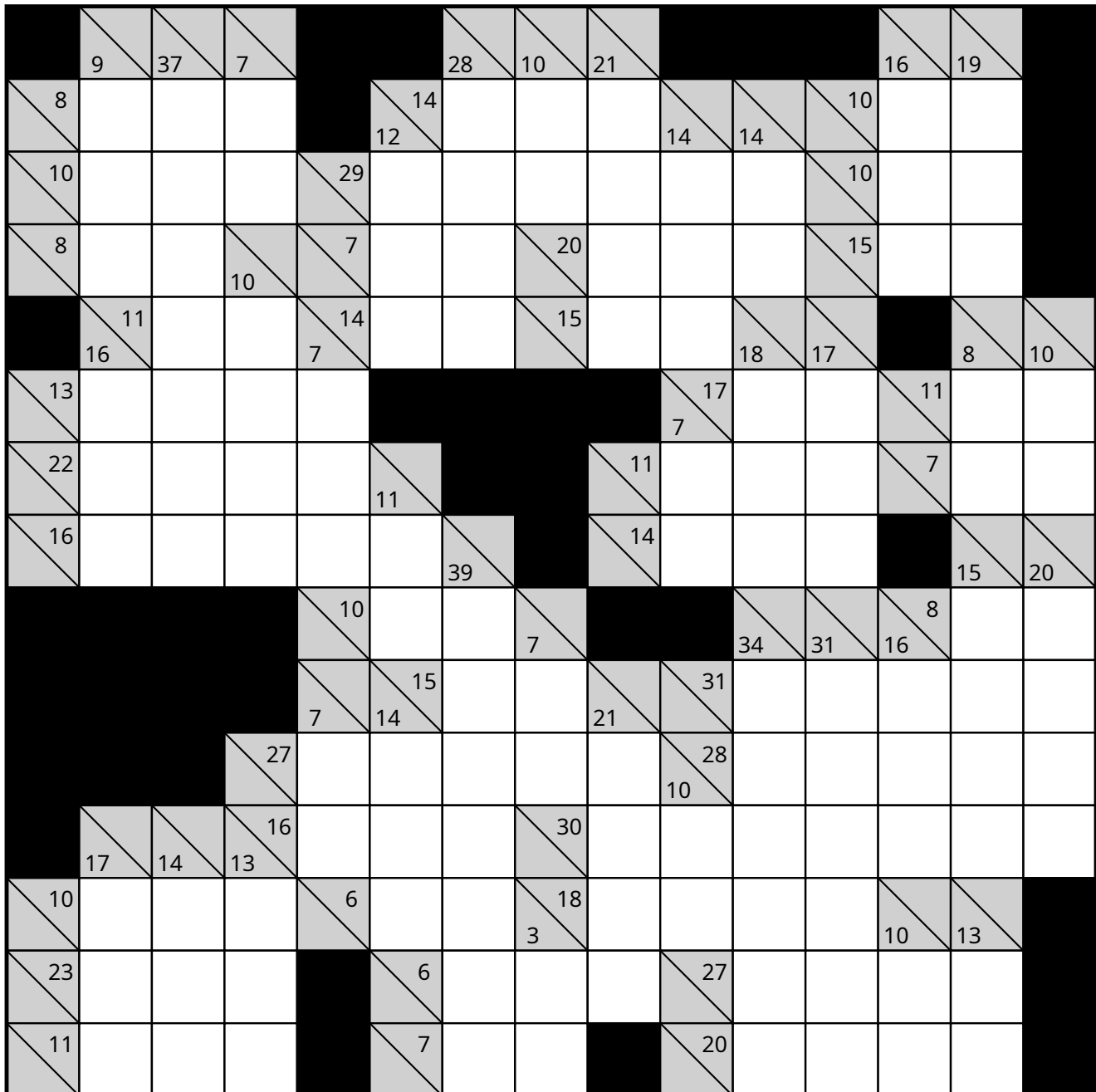
Expert – Puzzle 245 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



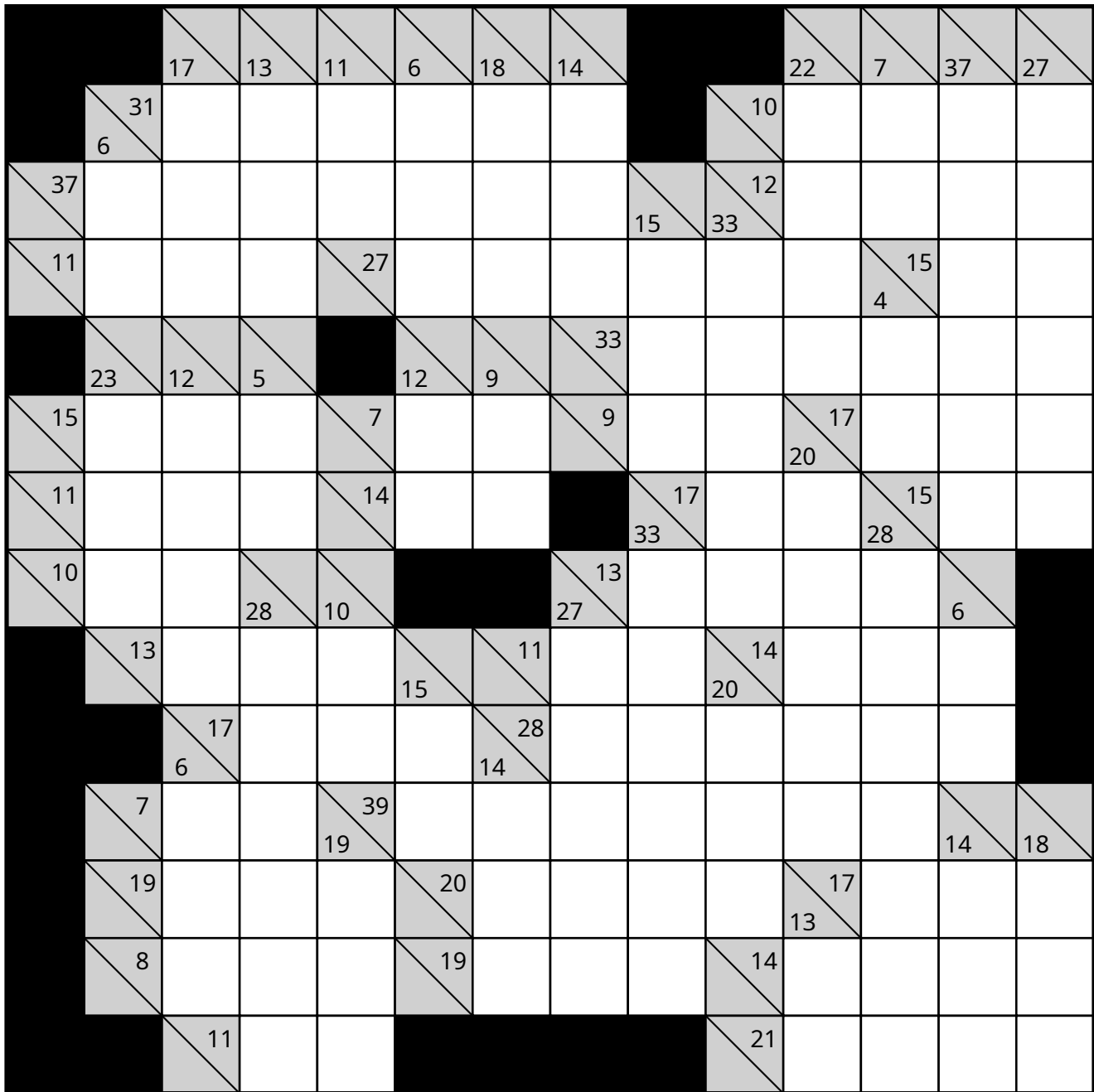
Expert – Puzzle 246 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



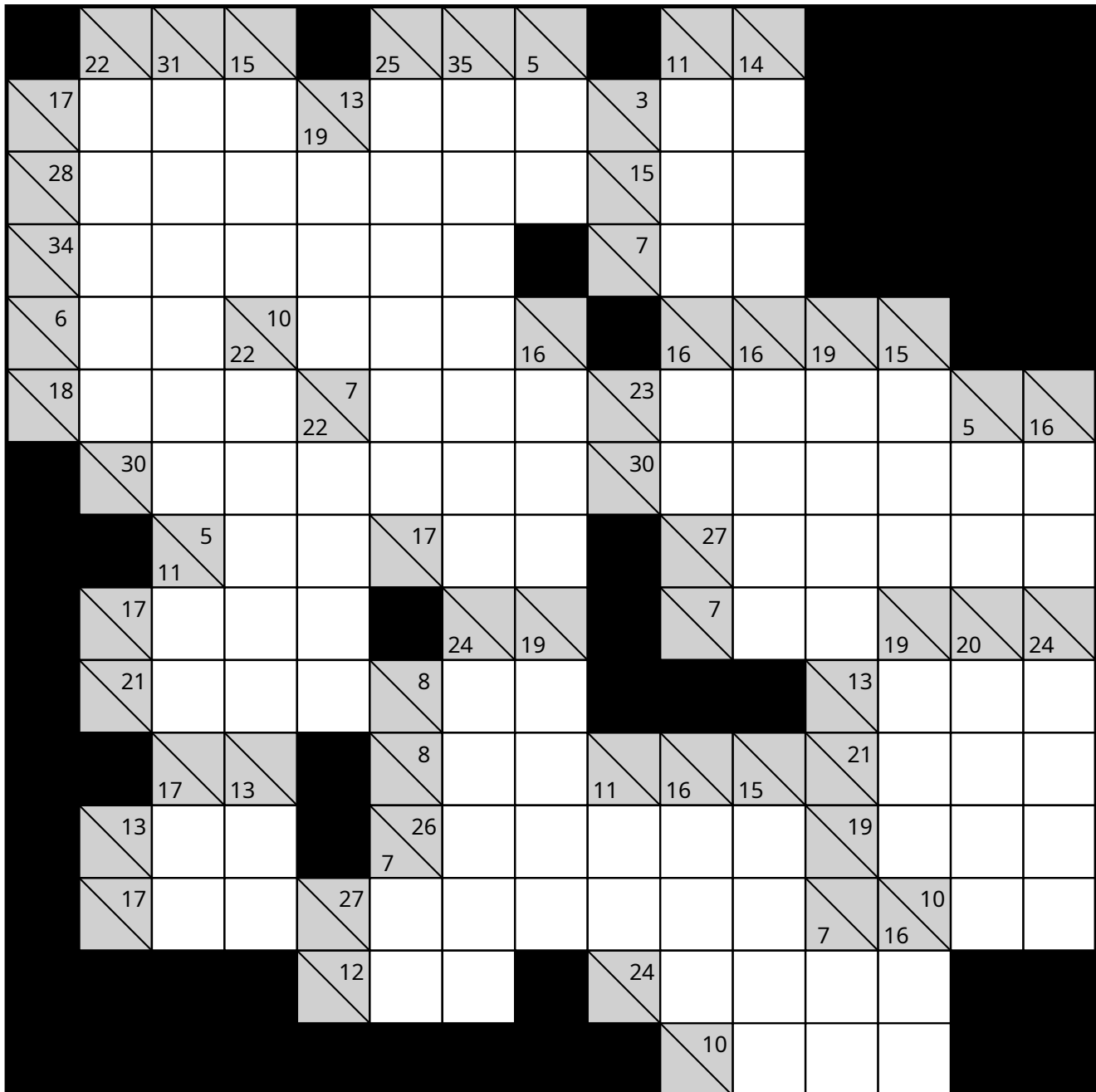
Expert – Puzzle 247 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



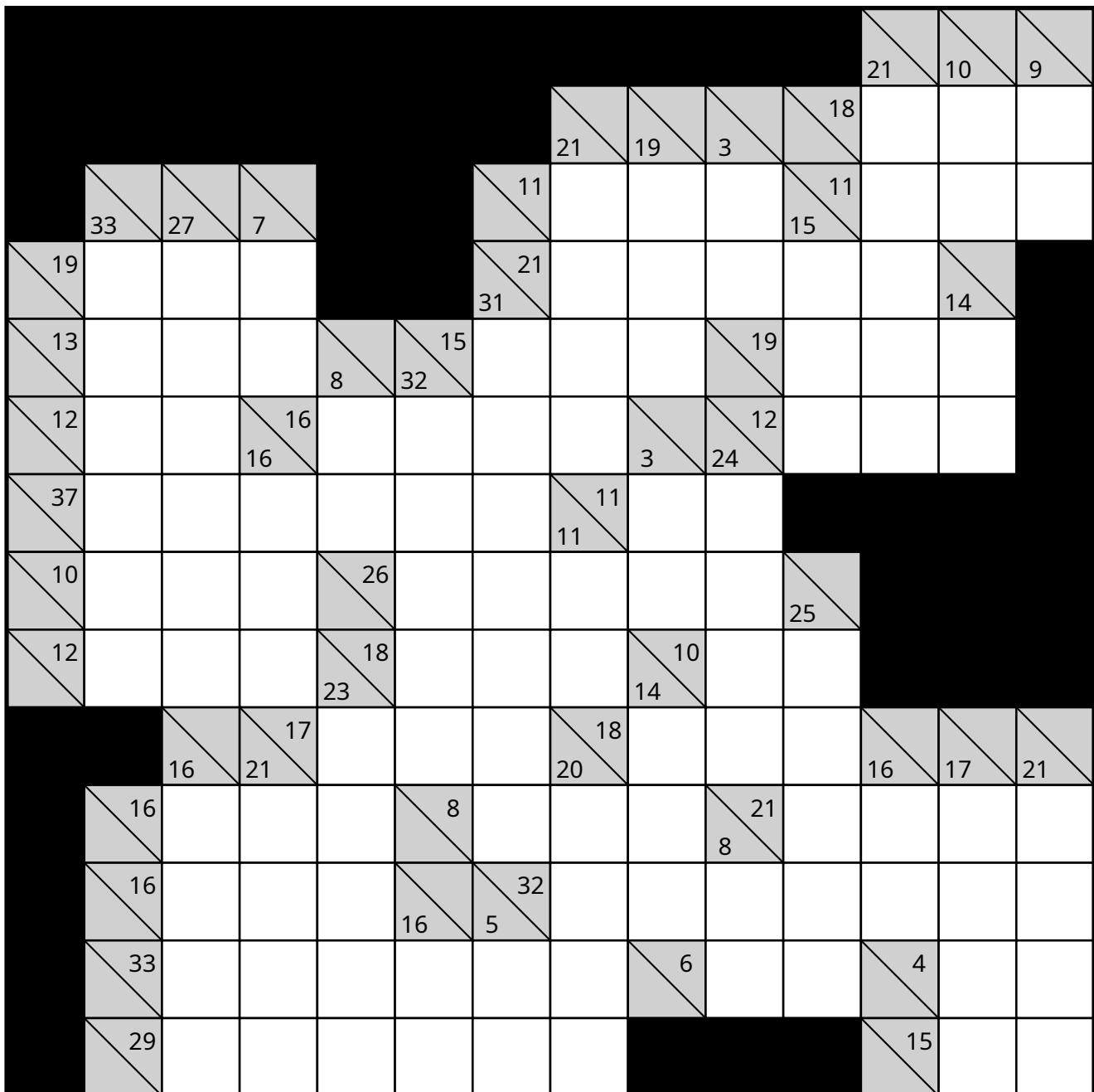
Expert – Puzzle 248 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



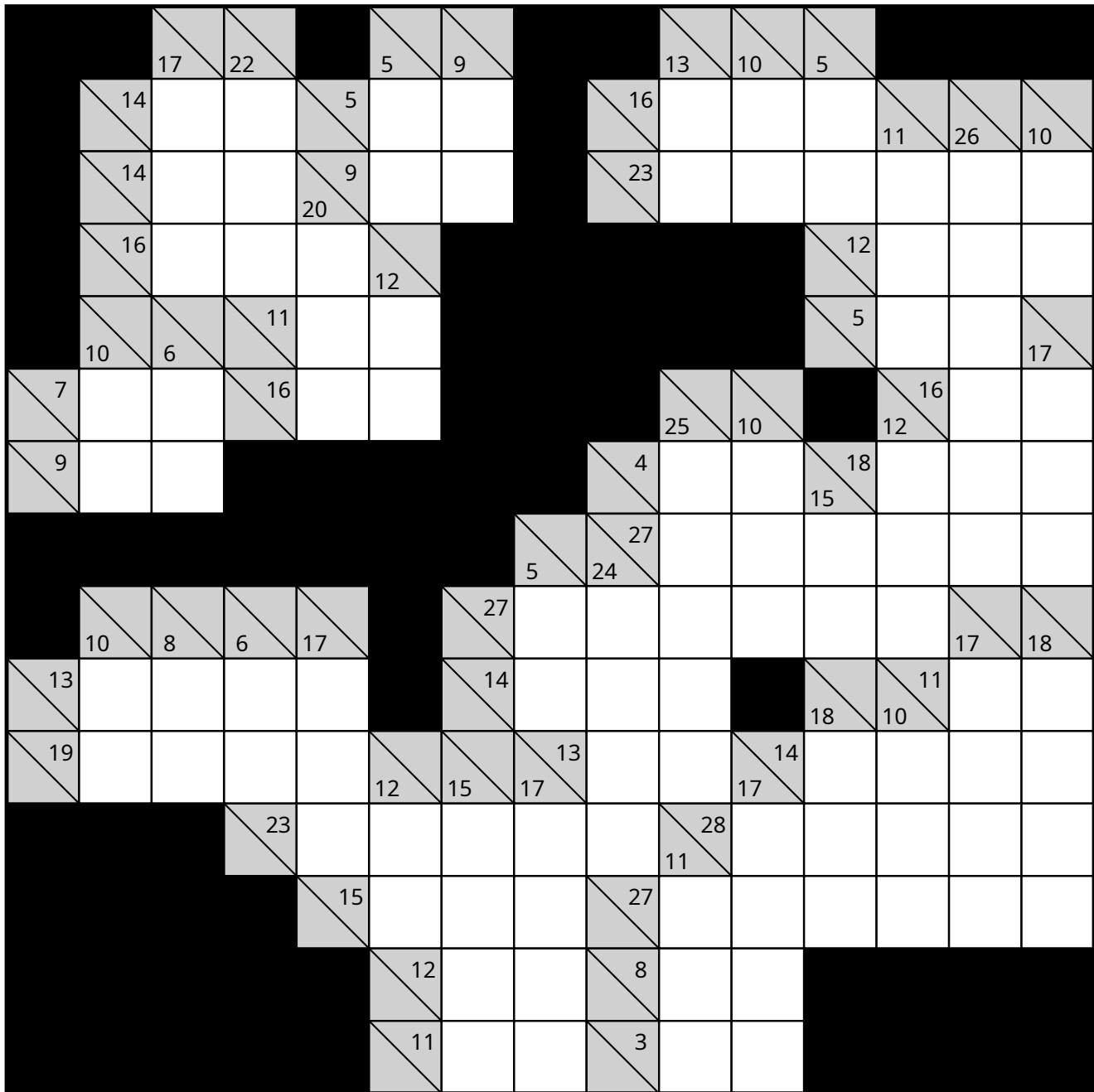
Expert – Puzzle 249 – 14×14

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Expert – Puzzle 250 – 15×15

- Fill each white cell with a digit from 1 to 9.
- Each horizontal or vertical run must sum to its clue number.
- No digit may repeat within any single run.
- Use logic—no guessing required!



Solutions

#1

	10	14		29	14
15	9	6	5	3	2
9	1	8	7	4	3
		18	3	6	9
		14	6	5	7
		23	8	6	9

#2

	10	13	26		
20	7	8	5		
12	3	1	8	9	19
	15	4	3	1	7
		15	1	6	8
		15	9	2	4

#3

	26	20	31	16	23
31	6	5	9	3	8
23	3	1	6	4	9
27	4	3	5	9	6
19	8	7	4		
16	5	4	7		

#4

	25	22	32	11	18
29	8	3	7	2	9
22	5	2	8	6	1
23	2	1	9	3	8
16	4	9	3		
18	6	7	5		

#5

	7	11	22	17	8
22	5	7	6	3	1
19	2	4	1	5	7
	9	11	4	3	1
18	5	4	7	2	
22	4	7	5	6	

#6

	5	27	29	15	8
22	3	2	4	6	7
26	2	6	8	9	1
	15	9	6		
	12	3	9		
	9	7	2		

#7

		21	15	16	
		21	5	9	7
		18	3	6	9
	15	14			
	18	6	8	4	
	12	9	1	2	
		12	5	7	

#8

	22	9			
13	9	4			
9	6	3	20	16	15
19	7	2	6	1	3
		22	5	9	8
		19	9	6	4

#9

	27	28	26	16	14
29	3	4	5	8	9
24	9	5	1	7	2
26	6	9	7	1	3
12	5	3	4		
20	4	7	9		

#10

		21	9	10	
		23	8	6	9
		10	6	3	1
	11	11			
	14	4	3	7	8
	15	7	8	11	8
			6	1	5

#11

		17	25		
		5	2	3	
		7	5	2	15
	22	2	6	9	5
	24	3	4	7	9
			14	4	1

#12

	25	31		33	22
10	9	1	14	8	6
23	2	7	9	4	1
17	1	6	3	5	2
30	7	8	1	9	5
34	6	9	4	7	8

#13

			11	9	
	15	17		7	8
9	2	7	5	4	1
16	6	1	9	9	11
19	7	4	1	2	5
	26	5	8	7	6

#14

		23	14		
		11	7	4	
		3	1	2	6
	12	12	3	5	4
27	5	9	8	3	2
14	7	3	4		

#15

		6	17	23	29
	22	2	5	6	9
	14	4	3	1	6
	12	10	9	2	8
11	7	4	7	5	2
11	5	6	13	9	4

#16

				22	29
	9	8	8	1	7
8	2	6	13	17	8
26	7	2	8	4	5
			13	4	7
			9	1	2
					6

#17

		35	21	14	
	14	8	1	5	13
	19	7	6	2	4
	24	5	3	7	9
	8				
16	3	9	4		
18	5	6	7		

#18

			24	11	
			8	3	5
	21	9	12	9	5
25	9	3	5	6	2
17	5	4	6	2	
18	7	2	1	8	

#19

	7	28	25	21	7
27	2	9	7	5	4
25	5	2	9	6	3
	20	8	5	7	11
19	6	5	4	1	3
13	9	4	10	2	8

#20

	16	24			
6	1	5			
13	9	4	8	18	7
25	2	8	3	7	5
22	4	7	1	8	2
		7	4	3	

#21

			22	13	
	17	18	12	7	5
5	3	2	3	2	1
21	4	3	2	5	7
23	2	9	4	8	
12	8	4			

#22

		27	28	22	
	20	8	3	9	
21	9	2	7	4	13
25	2	7	8	5	3
28	7	4	6	3	8
16	3	6	4	1	2

#23

	16	16	11	28	22
24	8	5	3	6	2
23	1	3	8	2	9
9	7	2	12	9	3
	17	6	3	7	1
		19	8	4	7

#24

		9	30	24	
	11	3	7	1	
25	3	2	6	9	5
22	2	4	3	7	6
		17	9	5	3
		7	5	2	

#25

	18	25			
11	4	7	24		
21	7	6	8		
22	5	8	9	17	12
27	2	3	5	9	8
	15	1	2	8	4

#26

		28	8	31	35	14
	22	2	7	9	1	3
	25	9	1	2	7	6
13	5	8	17	3	9	5
13	7	6	12	4	8	
12	9	3	12	8	4	
			11	5	6	

#27

			14	16		
		14	5	9		
		16	9	7	3	15
					10	1
					8	2
	11	10				6
6	2	4				
15	9	6				

#28

			16	25	17	4
		22	9	4	6	3
		18	7	6	4	1
	18	11	9	7	5	2
25	7	3	8	2	5	
22	6	7	1	8		
6	5	1				

#29

				30	20	
			9	4	5	
		18	9	15	5	8
	22	3	5	4	9	1
36	8	6	4	2	7	9
9	4	5	12	7	2	3
11	7	4				

#30

			29	25		
		12	8	4	17	
		24	23	3	9	2
	20	6	5	4	2	3
	20	4	6	2	3	5
36	6	9	8	5	1	7
23	1	5	4	7	6	

#31

	11	14					
17	9	8			29	30	
8	2	6		9	4	5	
	8	15	16		17	9	8
9	1	2	6	14	15	8	7
28	2	9	7	5	1	4	
34	5	4	3	9	7	6	

#32

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#33

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#34

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#35

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#36

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#37

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#38

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#39

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#41

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#42

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#43

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#44

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#46

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#47

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#48

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#49

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#50

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#51

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36							

#52

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#53

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#54

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#55

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#56

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#57

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#58

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#59

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#60

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#61

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#62

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#63

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#64

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#65

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#66

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#67

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#68

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#69

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#70

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#71

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#72

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#73

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#74

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#75

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#76

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#77

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#78

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#79

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#80

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#81

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#82

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#83

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#84

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#85

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#86

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		14	5	9					

#87

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#88

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#89

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#90

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#91

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#92

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#93

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#94

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#95

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#96

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			7	3	4				

#97

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10	7	3	14				10	19	
16	2	8	6	16	11	8	2	6	
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#98

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11	2	9		16	4	1	3	8	
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	10	1	9						

#99

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		7	6	1	27	17			
	13	14	5	7	6	1			
	13	5	8	5	16	9	4	3	
	35	8	6	1	4	9	7		
			21	4	3	8	6		

#100

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	10	7	25						
12	3	5	4	26					
21	7	2	9	3	23	25	15		
		8	2	6	13	3	6	4	
		15	6	9	19	7	9	3	
		25	1	7	3	4	8	2	
		26	3	1	5	9	2	6	

#101

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			19	1	4	6	8		
			16	9	6	1			
			7	5	2	18	24		
		19	20	5	2				
		32	8	7	3	1	4	9	
		30	7	3	1	4	5	2	8
	17	1	2	6	8	12	8	3	1
16	7	3	2	4		15	9	6	

#102

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	9	15	10	7	9				
11	5	2	3	1	21	26	18	20	
14	1	7	6	18	7	5	4	2	
10	3	6	1	30	6	7	9	8	
				24	8	6	3	7	
					13	8	2	3	

#103

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24	8	9	7	22	7	8	5	3	
13	5	3	1	4	5	4	9	7	
	23	5	2	3	4	1	8	27	
7	5	2	11	20	5	1	3	2	9
14	2	7	4	1	10	6	1	3	
		16	7	9		11	4	7	
						14	6	8	

#104

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	10	2	8	11	9	5	3	7	
		10	3	7					
		5	1	4					
	20	15							
9	8	1				13	17		
14	5	9		13	5		13	4	9
12	7	5		9	5	4	10	3	7
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#105

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20	7	9	4		18	4	9	5	
		9	7	2	22	8	7		
		29	8	9	5	7			
		17	13	21	3	7	6	5	
8	3	5		9	1	8			
6	5	1		9	2	7			
16	9	7		3	1	2			

#106

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	11	8	17	8	9	16	9	7		
12	7	5	20	28		11	5	6		
21	4	3	8	6						
		17	9	8		13	5			
	18	1	2	5	7	3				
	21	3	1	9	6	2				

#107

					10	16				
				3	1	2				
			10	2	8	11	14	14		
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			11	22	13	2	8	3		
		22	28	9	5	4	12	1	2	9
	6	7	5	6	8	8	10	16		
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13	1	4	8	13	3	1	2	7		
17	3	8	6	10	1	2	7			

#108

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					6	1	5			
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17	7	4	6	23	3	4	6	9	1	
19	9	7	3							
4	1	3		19	10					
36	5	1	7	13	16	6	4			
30	3	9	6	7	5					

#109

		21	13	17	11			8	11	
	26	5	4	8	9		18	15	7	9
	24	9	6	7	2		19	9	7	1
	12	7	3	2			9	4	5	
	10	14	15				8	5	3	
	17	3	8	6		16	26			
	31	7	6	9	4	5				
				15	9	6				
	10	11	10			6	13			
	32	1	5	6	3	8	2	7		
	19	9	6	4		17	7	4	6	

#110

		22	20			10	11			
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	19	9	7	3			10	7	3	
	19	8	9	2	9	14	20			
		13	17		8	2	1	5		
	9	2	7	12	7	4	1	4	26	24
	13	5	8		26	9	6	1	2	8
	8	6	2			24	8	3	7	6
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								16	9	7

#111

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		7	15	17		10	10	30	13	5
	19	3	7	9		23	7	4	2	9
	36	4	5	1	9	3	6	8		15
		7	1	4	2	10	6	4	8	
		5	2	3		16	3	5	7	1
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#112

		10	12			35	28	9		
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				24	8	3	4	2	7	
				7	6	1	19	8	3	5
				15	16	9	6	5	1	
				19	3	8	1	2	5	
				18	4	1	5	8		
				22	8	7	3	4		

#113

							12	18		
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					14	4	7	2	1	14
					5	3	2		21	19
					18	4	9	5	20	9
					13	7	6		13	6
					16	7	9		14	1
					6	1	5		22	5
					13	5	8		9	3

#114

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					19	4	7	8	32	26
					26	6	8	1	7	4
					11	2	9	11	9	1
					11	12	4	1	3	21
					27	2	4	5	9	7
					27	9	8	3	2	5
						23	2	4	8	9
						10	6	1	3	

#115

							9	14		
						8	24	7	6	
						22	24	13		
						15	2	8	5	
						18	6	4	8	
						4	1	3	17	8
						20	4	2	5	3
						27	9	1	4	5
						7	6	1	4	25
						38	7	3	4	2

#116

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							22	2	9	7
							16	2	6	8
							22	25		
							11	2	9	20
							15	5	4	6
							17	6	3	2
							33	8	7	9
							6	1	2	3

#117

							12	12	21	
							16	2	6	8
							15	6	5	4
							14	4	1	9
							18	9	6	3
							15	4	8	2
							18	3	5	6
							34	4	8	5
							22	5	1	7
							10	5	1	4

#118

[illegible]

#119

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		9	6	8	4	5	1	8		7	
	17					11	3	6	2	21	18
		4	8	5							
						22	3	6	4	9	
								11	16	6	5
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		32		1	8	4	9	5	2	3	
			20	6	1	2	7	4			

#120

[illegible]

#121

[illegible]

#122

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14	2	7	5		19	4	1	5	9	
6	5	1		23	4	2	9	7	1	
14	9	5	17	8	2	6	13	14	16	6
	15	2	8	5		19	2	9	7	1
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			19	7	6	2	3	1		

#123

[illegible]

#124

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	8	5	1				22	1	5	9	4	3	
	18	29						23	10	3	5	2	
12		9	3				8	14	25	3	6	7	9
	10		6	4		12	23		2	7	6	8	
	25		3	9	1	6	4	2		14			
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			15		7	8		14		1	7	6	

#125

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	9	4		15	3	8		22	13		
6	5	1		27	4	9	7	2	5		
7	4	3		17	2	5	3	9	8		
			13	11	7	6		12	7	6	1
37	9	5	8	3	4	2	6				
12	4	6	2		21	8	9	4			

#126

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				17	8	5	3	9	26		
23	30		5	3	9		26				
7		1	6		10	5	1	4	22	8	
	16	9	7			16	5	7	1	3	
	13	8	5		10		20	3	8	4	5
	15		2	4	9		10	2	8		
	12	3	8	1			14	5	9		

#127

[illegible]

#128

[illegible]

#129

[illegible]

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11			15									
	3	1	7			28	21	14	9	5		
13						16	7	9	16	27	12	
14						21	1	5	9	4	2	
	18					23	5	2	1	9	6	
						22	9	4	2	6	1	
						22	6	1	4	8	3	

	29	36						4	7	9	
15		8	6	7				12	3	5	4
12	7	5		18	8	7	1	7	8	1	2
31	9	4	1		8	7	2				
10		5	3	2		8	3	5			
	12	9	3								
15	6	2	7			6	4	2			
28	4	6	5	3	9	1					
					20	7	5	8			
					4	1	3				

	9	9				20	29	33	21	16	
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					18	5	4	9	26	29	
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26	8	3	9	6				22	8	5	3
17	4	5	8					19	9	6	4
								16	8	3	5
								17	5	4	8

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19	1	2	3	8	5		9	1	8		
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15	8	5	2	23	4	6	2	8	3		
		19	2	6	3	8					
		16	6	3	7	16	20	27			
	11	11	13		19	2	3	6	8		
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		5	4	1							
		10	1	9	19	18					
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11	4	7	20	1	2	3	8	6			
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	19	29	11			19						
	15	2	5	8		27	9	3	6	2	7	
	17	6	8	3		25	7	6	1	8	3	
13	8	4	1		12	6	2	4				
12	1	7	4		9	8	1					
					11							
		15		2	9	4						
		18		9	2	7						

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36		2	9	6	7	4	5	3	7	16	9	7
9		1	8		16	8	1	7		13	4	3
	14	19	12		6	8	13		6	4	3	
36		9	3	8	2	7	1	6		27	25	28
17		2	7	3	4	1		25		9	7	1
13		3	9	1				21		3	9	5
			5		10	5	11		21		2	3
	18		3	9	2	4		18		8	9	1
	13		2	1	3	7				9	3	6

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			24	6	7	8	3	16	11	
									5	4
	16	29	31	13	12	4	8	13	6	3
22	3	1	9	7	2			10	2	8
24	6	9	5	4	14	15	22			
33	1	4	7	2	6	5	8			
10	2	5	3	11	14	8	2	3	1	
17	4	3	1	9	13	1	7	5		
	15	7	6	2	13	7	4	2		

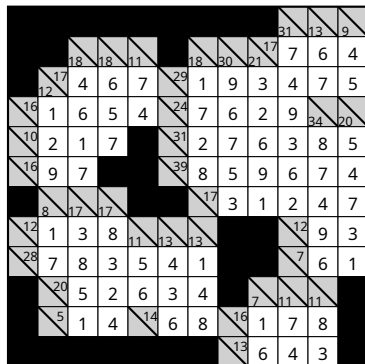
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10	4	11	7	4		13	7	6	
18	8	3	1	6		23	6	16	
11	2	1	8	17		12	7	3	2
		11	5	6		8	10	3	2
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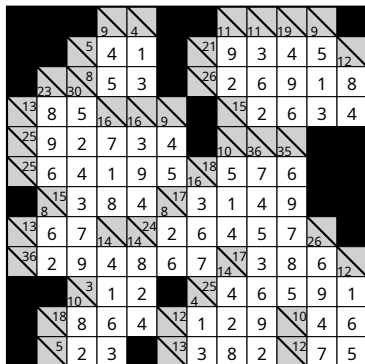
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13	5	8		22	2	1	6	8	5		
	36	11		11	8	3	35	30	21	9	
20	3	18	2	7	32	6	9	4	1	7	5
9	1	7	8	4	27	2	1	9	4	8	3
	20	2	1	6	12		18	2	5	6	1
	15	2	4	9	23	9	7	5	2		
27	8	9	2	3	5	7	15	8	6	1	
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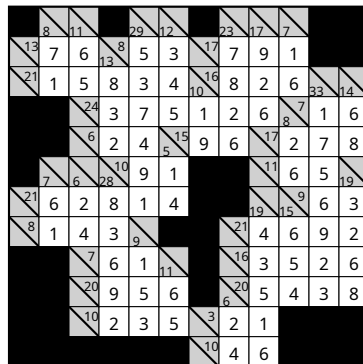
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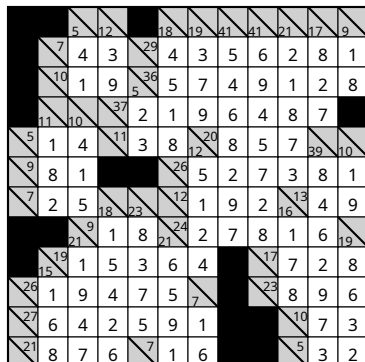
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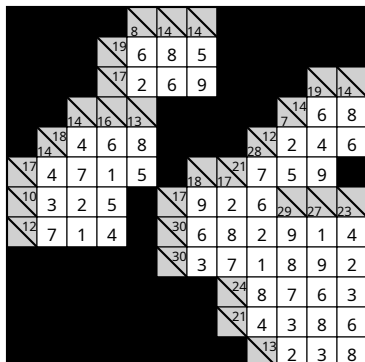
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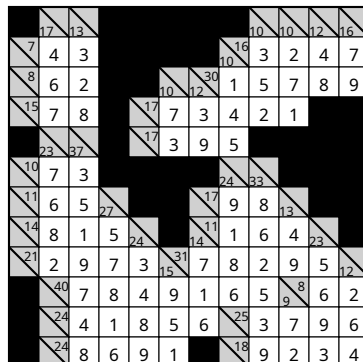
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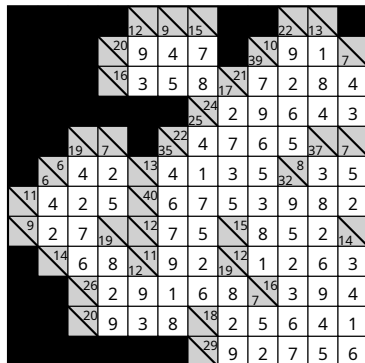
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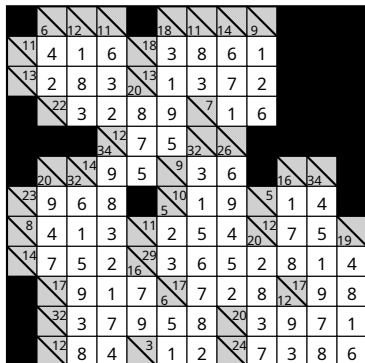
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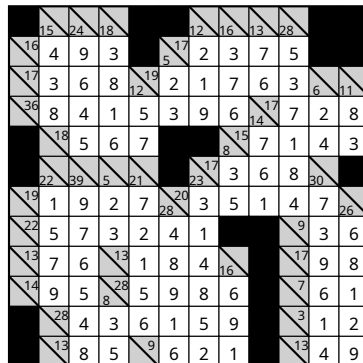
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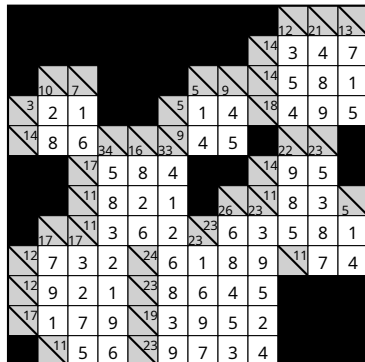
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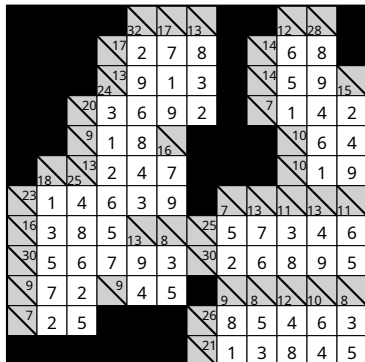
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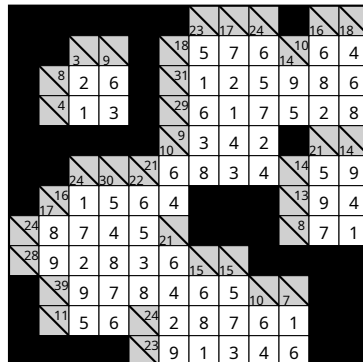
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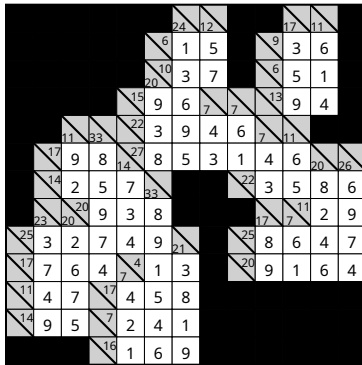
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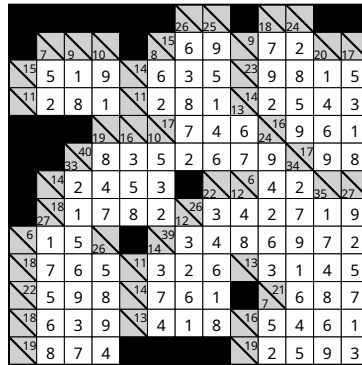
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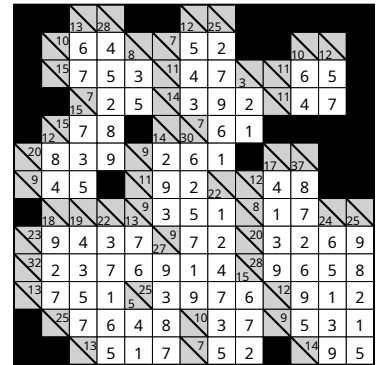
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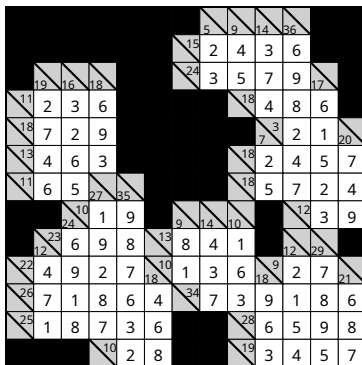
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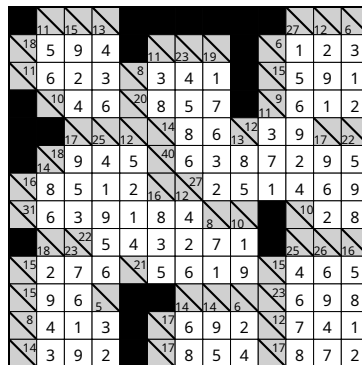
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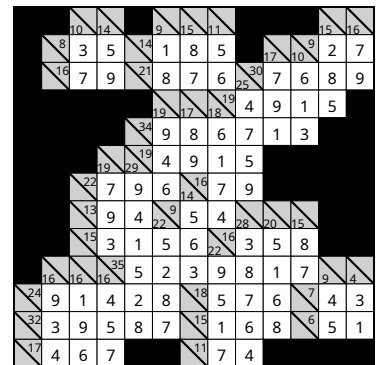
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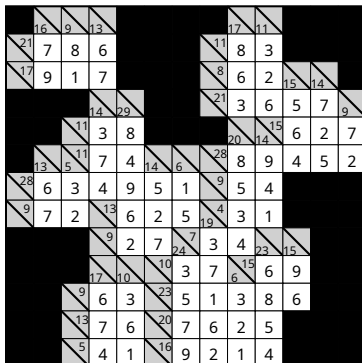
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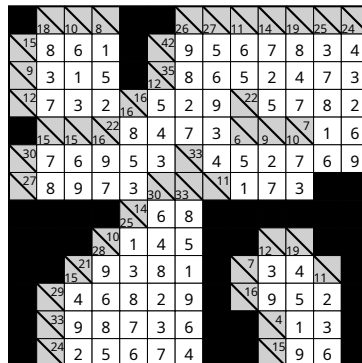
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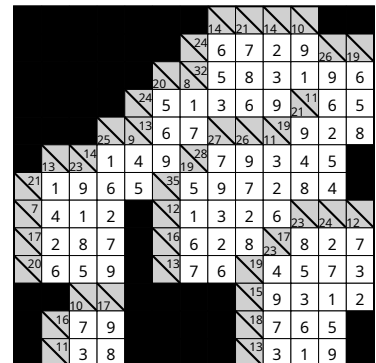
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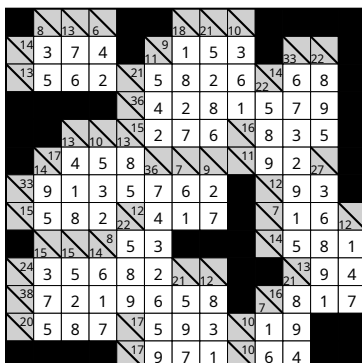
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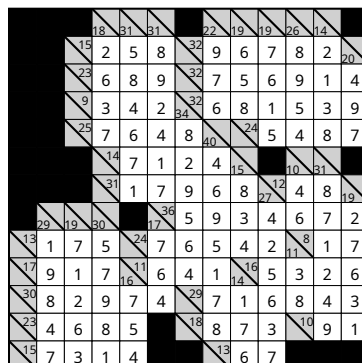
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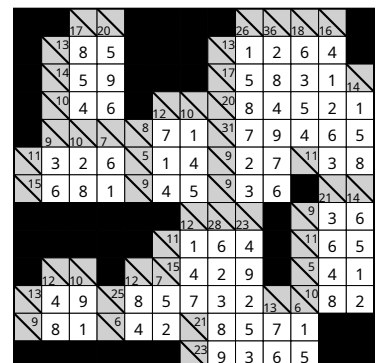
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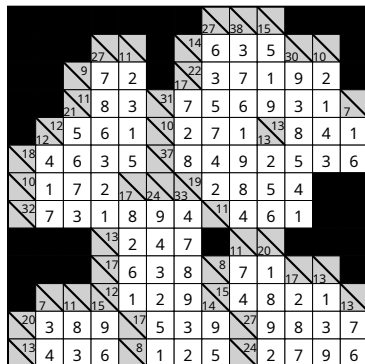
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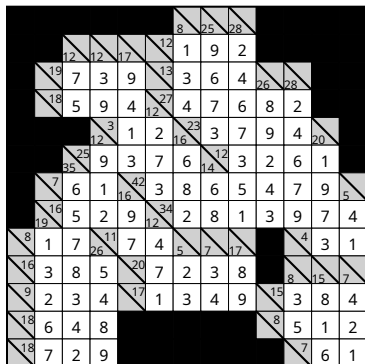
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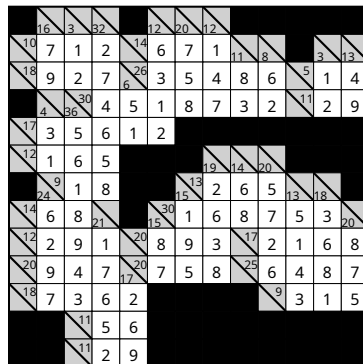
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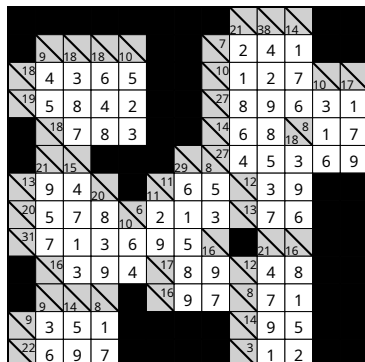
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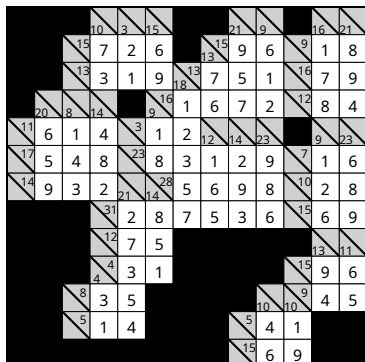
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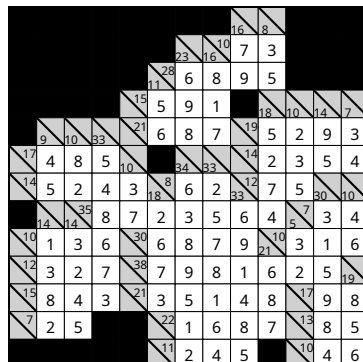
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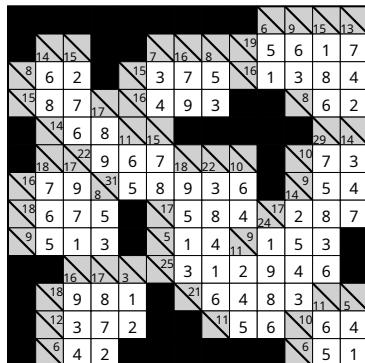
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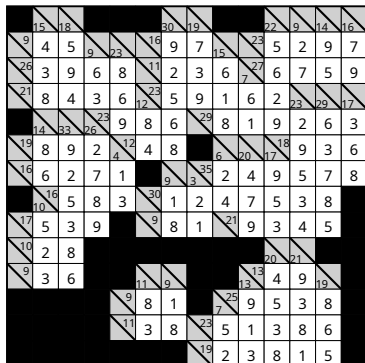
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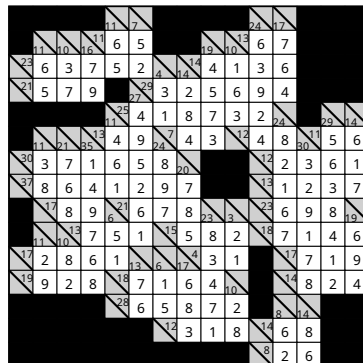
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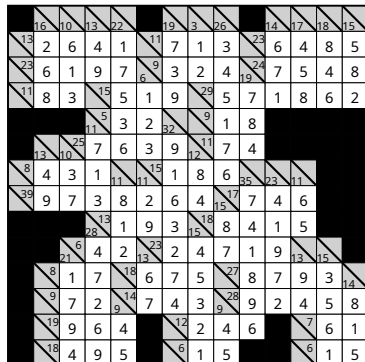
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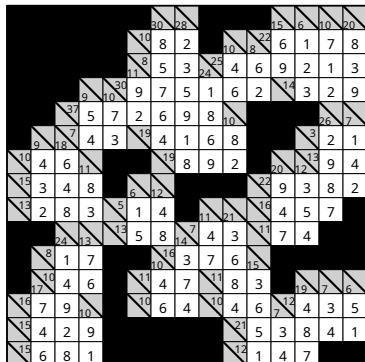
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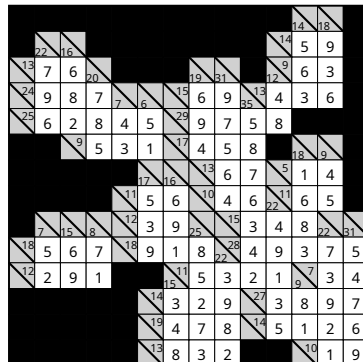
#223



#224



#225



#226

[illegible]

#227

[illegible]

#228

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#229

[illegible]

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#231

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#250

