

Latin Squares — Strategy & Tricks

Read two lines, subtract, answer — almost every Latin square item falls to one crossing of a row and a column.

Contents: What the game actually is · The first two seconds · The core method · Named shortcuts · Speed strategy · Traps and decoys · Six worked items · Drills · Solve one with me · Practice ladder · The speed ladder · On exam day · Cheat sheet

What the game actually is

A Latin square item looks like a puzzle and behaves like arithmetic. A grid, a scattering of letters, one cell marked ?. Name the letter that belongs there.

The rule is one sentence: **in an $n \times n$ grid each symbol appears exactly once in every row and once in every column.** No blocks, no diagonals, no Sudoku boxes.

D	A	E	B	C
C	E	B	D	A
A	B	D	C	E
B	C	A	E	D
E	D	C	A	B

A finished 5×5 : every row holds A–E in some order, and so does every column.

Most grids are 5×5 with A–E; 6×6 with A–F is the harder variant. Five lettered options sit underneath, one of them the letter at ?.

Every item scores the same whether it cost nine seconds or ninety, and an unanswered item never scores. Treat **75 seconds** as your ceiling.

The one rule Each symbol once per row, once per column. Every technique below is that sentence pointed in a different direction.

The first two seconds

Classify before you solve. Find ?, then *count* the letters in its row and its column. Those two numbers name the item.

In a 5×5 you need four different letters around ? to force the fifth. The only question: **how far am I from four?**

Around ?	Variant	What to do
Its row holds four letters	One-scan	4-of-5 scan: subtract and answer.
Row and column show four different letters	Intersection	Cross the lines, take the survivor.
Its row has two gaps	Trap row	Fill the sibling gap, re-read the row.

Around ?	Variant	What to do
Row and column both nearly empty	Chain	Force the fullest empty cell nearby.
Six columns, letters to F	Long-line	Same method — count to six.

Only the chain variant needs real thought, and even there two placements usually finish it.

Count the row of ? before any other cell. Four letters there means the answer is ten seconds away.

The core method

A Latin square item gives you a grid in which every symbol appears once per row and once per column. One cell carries ?; your job is that cell.

1. **Fix the alphabet.** 5×5 means A–E, 6×6 means A–F. Say the letters once; many wrong answers are miscounts, not bad logic.
2. **Find ? and draw an imaginary cross through it** — its row and its column. That cross is the whole puzzle.
3. **Read the row of ?** and collect the letters it holds.
4. **Read the column of ?** and add its letters to the same list. Repeats cost nothing; you want the *set*.
5. **Subtract.** Alphabet minus the set. One letter left means you are finished — stop reading.
6. **If two or three survive, place one helper.** Among the empty cells in the cross, force the one whose row and column are fullest, then return to step 3.
7. **Match the survivor to the options and move on.** Never fill the grid to check.

Try it on this one before reading on.

	D		A	
	A			
D			C	
E	?	B	D	
	B			

5×5, letters A–E. Which letter belongs at ??

Row 4 holds E, B, D. Column 2 holds D, A, B. Together {A, B, D, E} — only C is missing, so ? = C. You never read rows 1, 2, 3 or 5.

You do not need to complete the grid The item asks for one cell; filling the other twenty-four is unpaid work, and every extra letter is another chance at an error. Solve the cross, not the square.

Named shortcuts

Name a move and you reach for it faster under pressure. These seven cover almost every item.

1. **The 4-of-5 scan.** *When:* a line is missing exactly one symbol. *Do:* name it. If that line holds ?, you are done.

B	A	?	E	C

Row 2 shows B, A, E, C, so ? = D.

2. Row/column intersection. *When:* neither line is complete, but together they show $n-1$ letters. *Do:* merge them and subtract.

		C		
		A		
E	B	?		

Row 3 gives E and B; column 3 gives C and A. Four letters seen, so ? = D.

3. Easiest forced cell first. *When:* the cross leaves two or more candidates. *Do:* fill the empty cell whose row and column show the most letters.

A	B	C	D	1
		2		

Cell 1 sees four letters in its row and is forced to E. Cell 2 sees nothing. Work from 1.

4. Candidate marking — two, not twenty-five. *When:* a cell has two or three possibilities. *Do:* hold them in your head, pinned to that cell. Never annotate the grid.

	C	?	A	
		E		

Row 2 gives C and A, column 3 gives E, so ? is B or D — undecided on purpose. Carry two letters, not twenty-five.

5. Chain solving. *When:* one placement unlocks the next. *Do:* place the forced cell, then re-read its line. Two links is normal; four means a wrong turn.

		A		
--	--	---	--	--

B	C		?	E

Row 5 is missing A and D. Column 3 holds A, so row 5 column 3 must be D — and ? = A.

6. Working backwards from ?. *When:* always. *Do:* start at ? and expand only as far as forced. Filling from the corner buys nothing.

	E			
				D
	A		C	
?	D	E	A	C
				E

Fifteen empty cells; fourteen are none of your business. Row 4 shows D, E, A, C, so ? = B.

7. The crowded letter. *When:* a symbol already appears $n-1$ times. *Do:* cross off every row and column holding it; the free row and free column meet at its last home.

D				
		D		
				D
	D			
			?	

D fills rows 1–4 and columns 1, 2, 3, 5, so ? = D.

Speed strategy

Speed here is not thinking faster; it is looking at fewer cells. Always the same three moves:

1. **The row of ?.** Most items end here.
2. **The column of ?.** Merge it with the row. Most of the rest end here.
3. **The letter-sharing block** — the few empty cells in the cross that also sit in a line carrying one of your candidates. Only those can kill a candidate.

		D		
		A		
C		?		B

The only shape you read. Row 3 gives C and B, column 3 gives D and A, so ? = E.

Skip any complete line without ?, any cell more than one hop from the cross, and the urge to finish the square.

Item type	Fast enough	Ceiling
One-scan (4-of-5)	10–15 s	25 s
Intersection	20–30 s	45 s
Chain, one helper	30–45 s	60 s
Two helpers, or 6×6	45–60 s	75 s

When to guess. By sixty seconds ? should be down to two letters. Take one and move on.

Bank time deliberately. An item cleared in twelve seconds is a minute donated to a harder one later.

Traps and decoys

Writers make these harder not by making them bigger, but by putting the obvious evidence where it does not help.

The trap row. The row of ? looks nearly finished and your eye reports one gap. Count again — there are two, and two gaps decide nothing.

	B			
A	?	C		E

Row 3 shows A, C, E, but its gaps are at columns 2 *and* 4, so B and D both live. Column 2 holds B, so ? = D.

The decoy full line. A filled row is often planted beside ? to pull your eye. A finished line holds every letter, so it eliminates nothing.

A	B	D	C	E
D	E	?	B	A

Row 1 is complete and completely useless. Row 3 shows D, E, B, A and is missing only C.

- **The letter already in the column.** Two letters survive the row and you take the one that *feels* right — the other is sitting in the column.
- **The 6×6 miscount.** After a page of 5×5 items you count to five by reflex. In a 6×6, five letters is *not* a full line.
- **Dead options.** Two of the five options are often letters already in the row of ?. Strike them as you read that row.

- **Your own handwriting.** A helper placed one column off gives a confident wrong answer. Use two helpers at most.

When you are stuck Re-count the grid width, then re-read the row of ? cell by cell — most dead ends are a missed letter. If two candidates survive after thirty seconds, force the fullest cell in the cross.

Six worked items

Cover the answer, solve it, then read the steps.

Easy 1 — the pure 4-of-5 scan EASY · target 20s

5×5, A–E. Which letter belongs at ??

	A	E	B	
				A
A	B	?	C	E
			E	
E	D			

Options: B · D · E · A · C

Steps

1. ? is at row 3, column 3.
2. Row 3 holds A, B, C, E — four letters, one gap.
3. A–E minus {A, B, C, E} leaves D. Column 3 was never needed.

Answer: D — row 3 already shows A, B, C, E.

Easy 2 — the row lies, the cross tells the truth EASY · target 30s

5×5, A–E. Which letter belongs at ??

	E			
E			A	D
C	?	D	E	
	A			E
	D		C	

Options: A · C · B · E · D

Steps

1. ? is at row 3, column 2. Row 3 holds C, D, E but has gaps at columns 2 and 5 — a trap row.
2. Column 2 holds E, A, D. Merged with the row: {A, C, D, E}.
3. Four letters seen, so B is the one missing.

Answer: B — row 3 gives C, D, E; column 2 adds A.

Medium 1 — one step inside the row MEDIUM · target 45s

5×5, A–E. The row of ? has two gaps.

		A		
	E		C	
	D		B	A
	C	E		
B	A		?	C

Options: D · E · B · C · A

Steps

1. ? is at row 5, column 4. Row 5 holds B, A, C with gaps at columns 3 and 4 — a trap row.
2. Column 4 adds C and B, nothing new. Candidates: D and E.
3. Sibling gap, row 5 column 3: row gives B, A, C; column gives A and E — {A, B, C, E}, forced to D.
4. Row 5 now reads B, A, D, ?, C — missing only E.

Answer: E — the sibling gap is forced to D, leaving E for row 5.

Medium 2 — one step inside the column MEDIUM · target 50s

5×5, A–E. The row of ? is nearly empty.

		?	E	
C	E	A		
	A		B	
D		E		A
	C	D		

Options: C · A · B · D · E

Steps

1. ? is at row 1, column 3. Row 1 holds only E, so this is a column item.
2. Column 3 holds A, E, D. With the row that is {A, D, E} — B and C survive.
3. The other gap in column 3 is row 3: row gives A and B, column gives A, E, D — {A, B, D, E}, forced to C.
4. C is now taken in column 3, so ? = B.

Answer: B — column 3's other gap is forced to C, leaving B.

Hard 1 — a two-link chain HARD · target 65s

5×5, A–E. The cross alone leaves two candidates.

	E	D	C	B
		E		
D				C
E			B	?
	D		A	

Options: A · C · D · B · E

Steps

1. ? is at row 4, column 5. Row 4 gives E and B; column 5 gives B and C — {B, C, E}, so A and D survive.
2. Fullest empty cell touching the cross: row 2 column 4. Row gives E; column gives C, B, A — {A, B, C, E}, forced to D.
3. Now row 2 column 5: row gives E and D, column gives B and C — {B, C, D, E}, forced to A.
4. Column 5 now shows B, A, C. With row 4's E and B that is {A, B, C, E}, so ? = D.

Answer: D — D at row 2 column 4 forces A beside it at row 2 column 5; column 5 then holds A, B, C, and with row 4's E and B only D is left.

Hard 2 — a 6×6 with a trap row HARD · target 75s

6×6, A–F. Four letters in the row of ? is no longer enough.

					D
	A	E		F	
A	?	D	B	E	
C	B		E		
			D	A	E
				C	A

Options: B · F · C · A · E

Steps

1. Six columns, so the alphabet runs A–F. Say it once.
2. ? is at row 3, column 2. Row 3 shows A, D, B, E — not enough in a 6×6. Gaps at columns 2 and 6, so C and F survive.
3. Column 2 adds A and B, both already counted. Still C or F.
4. Row 4 column 6: row holds C, B, E; column holds D, A, E — {A, B, C, D, E}, forced to F.
5. Row 3 column 6: row holds A, D, B, E; column now holds D, F, E, A — {A, B, D, E, F}, forced to C.
6. Row 3 now reads A, ?, D, B, E, C — only F is missing.

Answer: F — F at row 4 column 6 forces C at row 3 column 6, and row 3 then lacks only F.

Drills

Spot the forced cell

Eight grids, one ? each. Say the letter *and* the line that forced it. If you cannot name the line, you guessed.

1. 4×4, A–D. (10s)

			A
			D
	A		
?	D	A	B

Answer: C — row 4 alone: it shows D, A, B.

2. 4×4, A–D. (10s)

		?	
D		A	B
		B	
	A	C	

Answer: D — column 3 alone: A, B, C are in it.

3. 4×4, A–D. (12s)

C	?		B
			A
	B	C	
	A		

Answer: D — row 1 gives C and B, column 2 adds A.

4. 4×4, A–D. (12s)

		A	B
B		?	D
C		D	

Answer: C — row 3 gives B and D, column 3 adds A.

5. 5×5, A–E. (12s)

			D	
	E			
B	C	?	A	D
			E	C
E				

Answer: E — row 3 alone: B, C, A, D.

6. 5×5, A–E. (15s)

	C	E	D	?
D				E
				A
E		A		C

Answer: B — row 2 gives C, E, D; column 5 adds A.

7. 5×5, A–E. (15s)

	D			
	C	D		
		C		D
		A		
D		?	C	E

Answer: B — row 5 gives D, C, E; column 3 adds A.

8. 5×5, A–E. (15s)

				B
B		D		A
		B		
				C
	D	C	B	?

Answer: E — row 5 gives D, C, B; column 5 adds A.

Which technique?

Six situations, five seconds each. Name the move without looking back.

1. The row of ? shows four letters and one gap. (5s)

Answer: The 4-of-5 scan: subtract and answer.

2. Its row shows three letters, its column two — four different letters. (5s)

Answer: Row/column intersection: merge and take the survivor.

3. Two letters survive at ?; a nearby empty cell already sees four. (5s)

Answer: Easiest forced cell first, then chain solving.

4. The row of ? looks complete but has gaps at two columns. (5s)

Answer: Trap row. Go to the column of ?.

5. The letter D already appears four times in a 5×5. (5s)

Answer: The crowded letter: one free row, one free column.

6. You have the letter for ? but eleven cells are empty. (5s)

Answer: Stop. Match it to the options and move on.

One gap or two?

Each strip is one line from a grid. In three seconds: does it finish alone, or is it a trap row?

1. Five-wide, A–E. (5s)

A	?	D	E	B
---	---	---	---	---

Answer: One gap: missing C, so ? = C.

2. Five-wide, A–E. (5s)

D		?	A	E
---	--	---	---	---

Answer: Trap: two gaps, B and C missing.

3. Five-wide, A–E. (5s)

E	?	C	B	D
---	---	---	---	---

Answer: One gap: missing A, so ? = A.

4. Six-wide, A–F. (5s)

F	C	?		A	D
---	---	---	--	---	---

Answer: Trap: two gaps, B and E missing.

5. Six-wide, A–F. (5s)

C	A	?	D	F	B
---	---	---	---	---	---

Answer: One gap: missing E, so ? = E.

6. Five-wide, A–E. (5s)

	B	?	E	C
--	---	---	---	---

Answer: Trap: two gaps, A and D missing.

Solve one with me

Cover everything below the grid. Answer each question before uncovering the next line.

	A	D		
D	E		B	A
A		E		B
C	?		A	

--	--	--	--	--

5×5, letters A–E. What belongs at ??

- 1. Where is ?, and what does its row give?** Row 4, column 2. The row reads C, ?, blank, A, blank — two letters and three unknowns, so B, D and E survive.
- 2. What does the column add?** Column 2 shows A in row 1 and E in row 2, so the set is {A, C, E} and two candidates remain: B and D.
- 3. Which single cell should you fill?** The fullest in the cross. Row 4 column 3: its row gives C and A, its column gives D and E — {A, C, D, E}, forced to B.
- 4. Re-read the row of ?.** Row 4 now reads C, ?, B, A, blank, and column 2 adds E — {A, B, C, E}, so ? = D. One helper letter, twenty-five seconds.

Notice what you did *not* do: fill row 5, complete the square, or read a cell outside the cross.

Practice ladder

Free practice, no clock. Make the scanning order automatic before you make it fast.

Easy. One line does almost all the work. Count the row of ? first, every time.

Live drill online: Easy — 6 items, no timer —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=easy&n;=6&timed;=0>

Medium. The cross leaves two candidates and you place one helper. Say which cell you are filling, and why.

Live drill online: Medium — 6 items, no timer —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=medium&n;=6&timed;=0>

Hard. Sparse grids, trap rows and 6×6 boards. Two helpers at most.

Live drill online: Hard — 6 items, no timer —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=hard&n;=6&timed;=0>

The speed ladder

Once the method is automatic, train the clock. Repeat a rung until you clear it twice.

- 1. Rung 1 — accuracy at leisure.** Six easy items, timer running, no target. Learn your real average.
- 2. Rung 2 — the 20-second easy.** Over twenty-five seconds means you read outside the cross.
- 3. Rung 3 — the 45-second medium.** One helper letter allowed, no more.
- 4. Rung 4 — the 75-second hard.** Beating the buzzer with a considered guess counts as a pass.

Live drill online: Timed easy — 6 items —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=easy&n;=6&timed;=1>

Live drill online: Timed medium — 6 items —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=medium&n;=6&timed;=1>

Live drill online: Timed hard — 6 items —

<https://dmatprepguide.com/?try=drill&cat;=latin&tier;=hard&n;=6&timed;=1>

Track two numbers: average seconds and number wrong. If seconds fall while errors rise, you are skipping the column of ?.

On exam day

The fastest approach, in order:

1. Count the grid width and fix the alphabet.
2. Find ?. Read its row. Count the letters.
3. Read its column. Merge the sets.
4. Subtract from the alphabet. One survivor means answer and move on.
5. Two survivors: strike the dead options, then force the fullest cell in the cross.
6. Re-read the row of ? and answer.
7. At 60 seconds, guess between the survivors. Never complete the grid.

Mixed difficulty. Items are not sorted, so triage. A crowded grid is usually *easier* — more letters, fewer candidates. A nearly empty grid is a chain item: come back to it.

The last thirty seconds. Stop solving and start answering. The row of ? alone usually kills two options, and a one-in-three guess beats a solution you never enter.

How the family fits the paper. Latin squares are your bank. Figure sequences and equation systems have a floor on how fast anyone can read them; these do not.

Cheat sheet

- Count the grid: $5 \times 5 \rightarrow A-E$, $6 \times 6 \rightarrow A-F$. Say the alphabet once.
- Find ?. Everything outside its row and column is scenery.
- Read its row, then its column. Merge into one set.
- Alphabet minus the set. One survivor = the answer.
- 4-of-5 scan: a line missing one symbol hands you that symbol.
- Trap row: two gaps, not one. Count gaps before trusting a row.
- Two candidates left $\rightarrow$ place ONE helper: the fullest cell in the cross.
- Fullest = its row plus column show the most letters.
- Chain: place, re-read that line, answer. Four links is a wrong turn.
- Crowded letter: a symbol used $n-1$ times has one home left.
- Carry two or three candidates in your head, never a marked grid.
- Strike any option already in the row of ?.
- A complete line beside ? is a decoy.
- Never complete the grid. You are paid for one cell.
- 60 s: guess between the survivors. 75 s: be on the next item.

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