

04

SEATING ARRANGEMENTS · LECTURE 04 OF 05

Mixed-Facing Circular — Combos and Attributes

Per-person inversion · Profession overlays · Colour and food combos

MIXED-FACING CIRCULAR — COMBOS AND ATTRIBUTES

AGENDA · 75 MIN

What we will cover today

- 01 The grammar of seating**
Direction conventions and row notation
- 02 Left-right inversion**
The #1 trap student fall into
- 03 Neighbour clues, read precisely**
Immediate · second · third · between
- 04 Fix-first method**
Start from the most certain clue
- 05 Worked demos + 10 live examples**
Faculty solves on the right half
- 06 Homework & next class**
Practice 01 · L2 = double row

PART 01

The Frame



Single row, facing arrow, and the grammar every seating problem must obey.

CONCEPT · MIXED FACING

Some face centre, some face away

- **Default split: half and half**
4 face centre, 4 face away — most common CLAT cut
- **Each person's left depends on THEIR facing**
Inversion is per-person, not per-circle
- **'Adjacent' is symmetric**
X adjacent to Y means Y adjacent to X — facing doesn't matter
- **'Opposite' still means across the centre**
Facing direction does NOT change 'opposite'

MEMORISE

Label each person's facing with a small arrow on the diagram BEFORE applying any left/right clue.

CONCEPT · PER-PERSON INVERSION

Compute direction per seat

- Person faces centre → left = anti-clockwise

Right = clockwise (standard)

- Person faces away → left = clockwise

Right = anti-clockwise (inverted)

- Different people = different rules

Always check the named person's facing first

- Reader's view is irrelevant

Reader-perspective shortcuts FAIL in mixed-facing

FINGER DRILL

Touch the seat, ask 'which way does this person face?', THEN trace their left or right. Slow is fast.

CONCEPT · PROFESSION OVERLAY

One extra attribute per person

- Each seat now carries 2 facts
Position + profession (or colour, food, day)
- Profession clues often anchor
'Doctor is opposite engineer' fixes 2 seats
- Solve positions first, then map professions
Avoid the 2-variable mental load early
- Two-column diagram on paper
Seat number + person + profession

DRAW WIDE

Build a two-column legend next to the circle. Don't cram both attributes onto the seat label.

PART 02

II

The Method

*Fix-first. Branch only when forced.
Final-check sweep before every answer.*

CONCEPT · TWO-ATTRIBUTE TABLES

Profession + colour / food / day

- Three facts per person now
Position + attribute A + attribute B
- Build a separate table, not a packed diagram
Rows = people; columns = position / A / B
- Pivot attribute: pick the most-constrained
Usually colour or day — fewer values, more bindings
- Solve positions → attribute A → attribute B
Layer-by-layer, never simultaneously

TWO-COLUMN RULE

*On paper: the circle plus a three-column table to the right.
Don't merge them.*

METHOD · SOLVING ORDER

Combo sets — what to fix first

- **Step 1. Strip the riders, find the diagram clues**
Ignore profession bindings on first pass
- **Step 2. Build the circle with positions only**
Use direction-aware nth-to clues
- **Step 3. Layer profession via opposite-clues**
Two professions pinned = the rest cascade
- **Step 4. Layer day/colour/food**
Use day-pair clues like 'Monday opposite Friday'
- **Step 5. Sweep all three layers in the final check**
Position · profession · attribute B

TIMING

*Combo sets: 6 min diagram
+ 3 min riders. If 7 min in
and no profession placed,
restart layer.*

PART 03

III

Live Solving

Twelve examples.

Left = problem · Right = your canvas.

Faculty asks the riders orally.

EXAMPLE 01

8 mixed-facing, basic

- ▶ Eight people around a round table.
- ▶ Four face the centre, four face away.
- ▶ A faces the centre; A is third to B's right.
- ▶ B faces away from the centre.
- ▶ C is opposite A; D is to C's immediate left.
- ▶ E is second to D's right; E faces opposite to D.

WORKING



EXAMPLE 02

8 mixed-facing — neighbour rule

- ▶ Eight people around a circle; mixed facing.
- ▶ Adjacent people face opposite directions (alternating).
- ▶ P faces the centre; P is opposite Q.
- ▶ Q's neighbours both face the centre.
- ▶ R sits to P's immediate right (P's perspective).
- ▶ S sits between Q and the person opposite R.

WORKING



EXAMPLE 03

8 + profession overlay

- ▶ Eight people around a round table face the centre.
- ▶ Each has a distinct profession.
- ▶ Doctor is opposite engineer; lawyer is opposite teacher.
- ▶ Anil is the doctor; sits third to Bina's right.
- ▶ Chetan (engineer) is to Anil's immediate left (Anil's view).
- ▶ Deepak (lawyer) is between Chetan and the architect.

WORKING

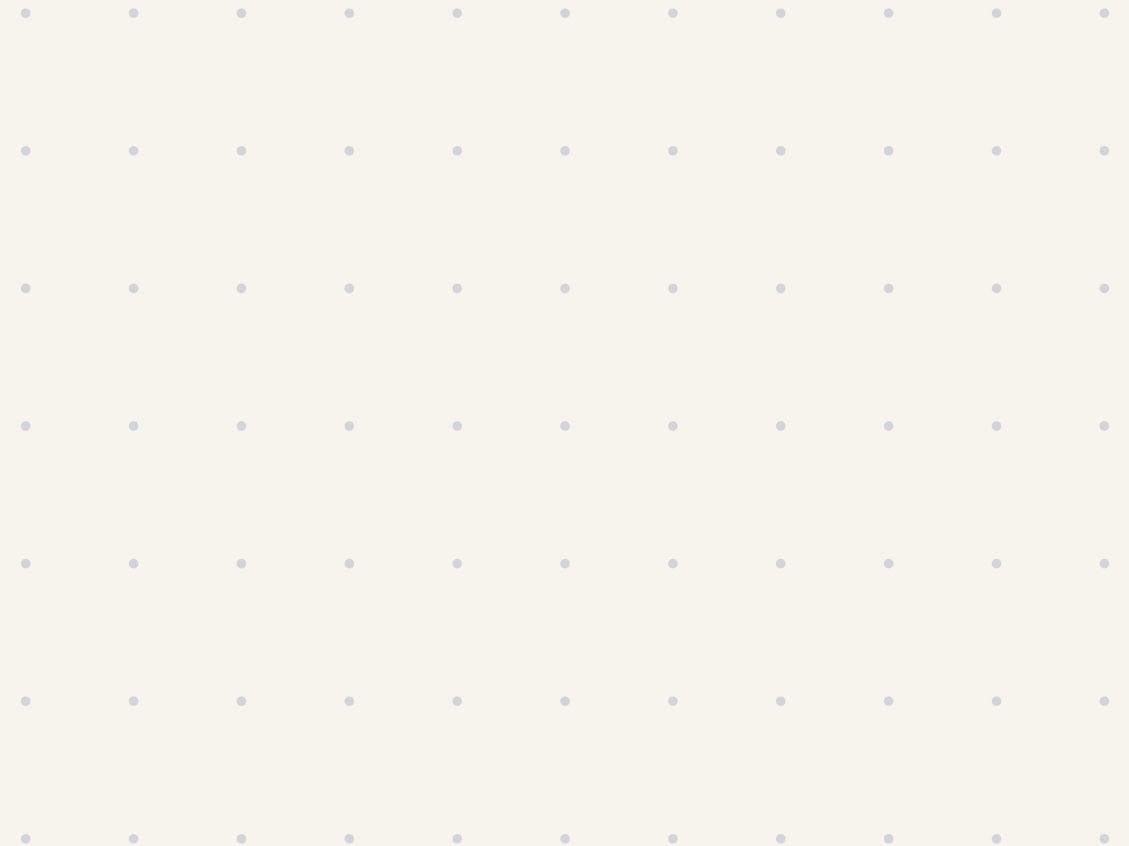


EXAMPLE 04

10 mixed-facing — heavy

- ▶ Ten people around a round table; five face centre, five face away.
- ▶ A faces the centre; A is fourth to B's left.
- ▶ B faces away; C is opposite A.
- ▶ D is second to C's right; D faces the centre.
- ▶ E is to D's immediate left (D's perspective).
- ▶ F sits opposite D; G is to F's immediate right.

WORKING

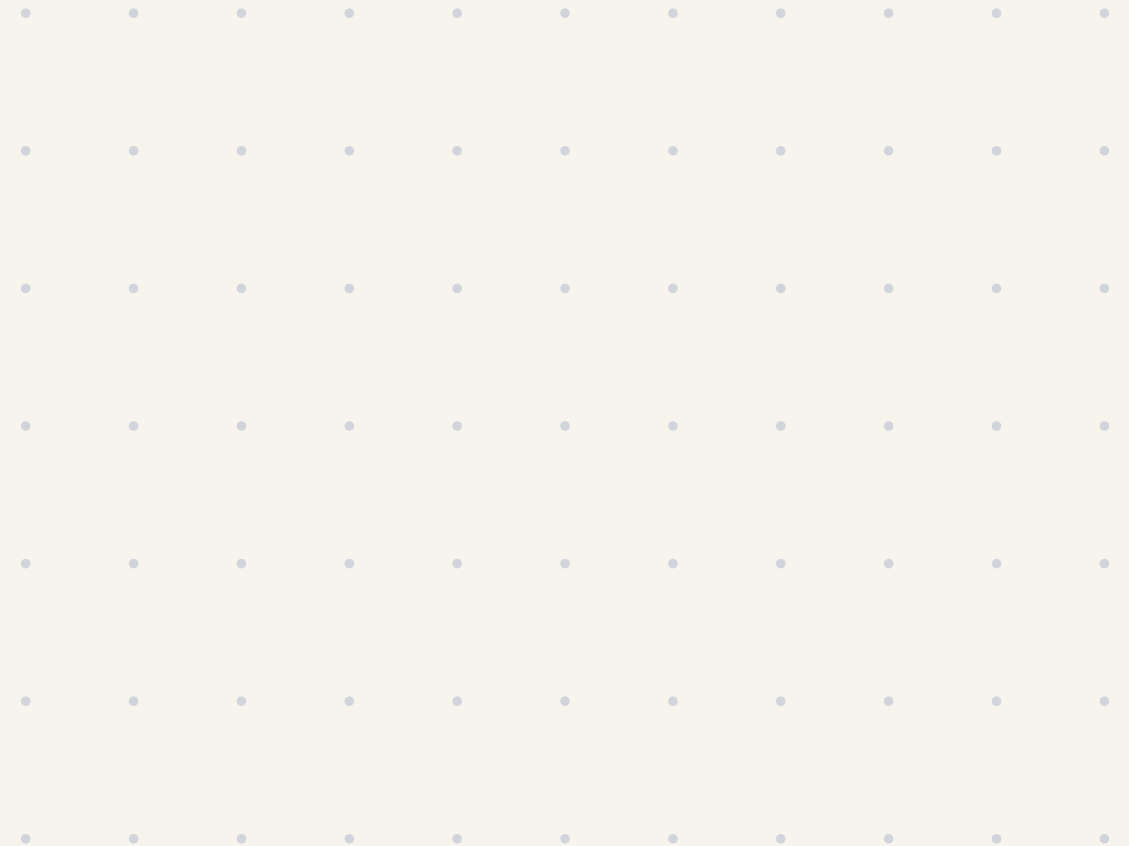


EXAMPLE 05

8 + profession + colour

- ▶ Eight people face the centre of a round table.
- ▶ Each has a distinct profession and a distinct colour-preference.
- ▶ Doctor opposite engineer; red-fan opposite blue-fan.
- ▶ Anil is the doctor and likes red.
- ▶ Bina is third to Anil's right and is the lawyer.
- ▶ Chetan (engineer) likes blue; sits opposite Anil.

WORKING

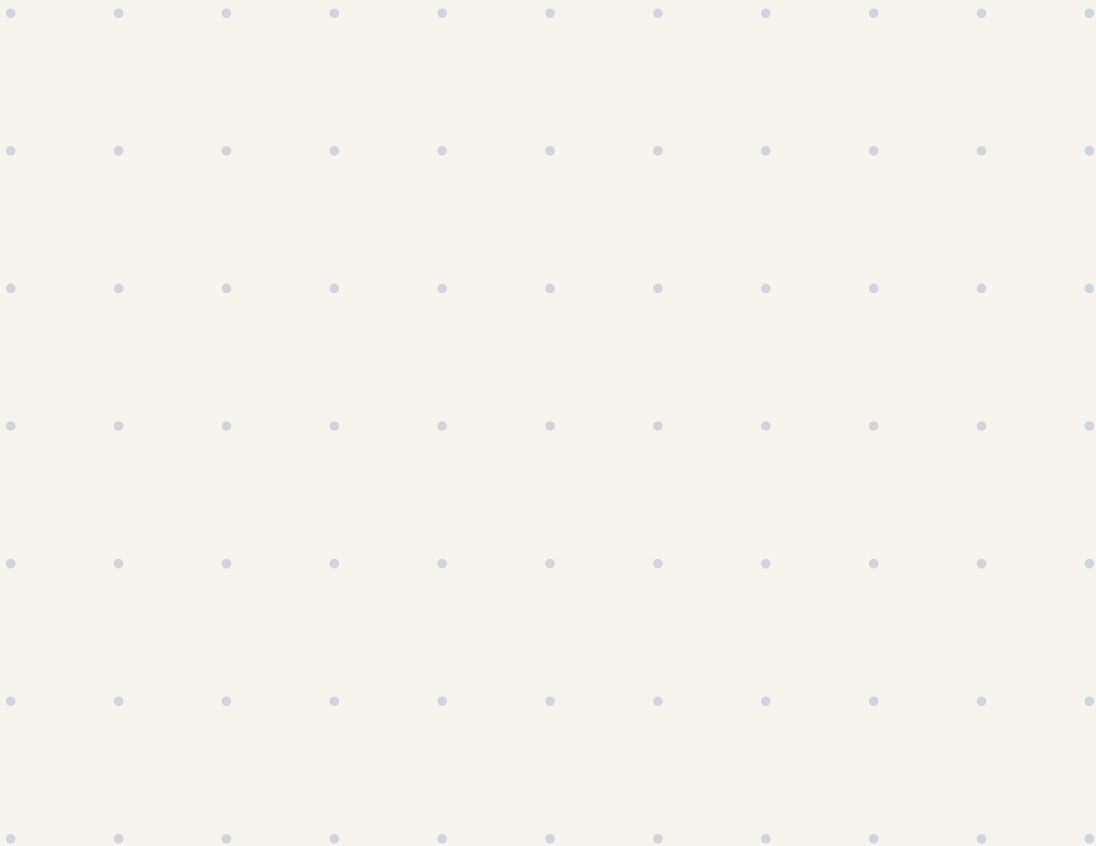


EXAMPLE 06

8 mixed-facing + day combo

- ▶ Eight people around a circle; four face centre, four face away.
- ▶ Each attends class on a distinct weekday.
- ▶ Monday-attendee faces the centre; opposite to Friday.
- ▶ Friday-attendee faces away from the centre.
- ▶ Tuesday is second to Monday's right (Monday's view).
- ▶ Wednesday is to Tuesday's immediate left.

WORKING

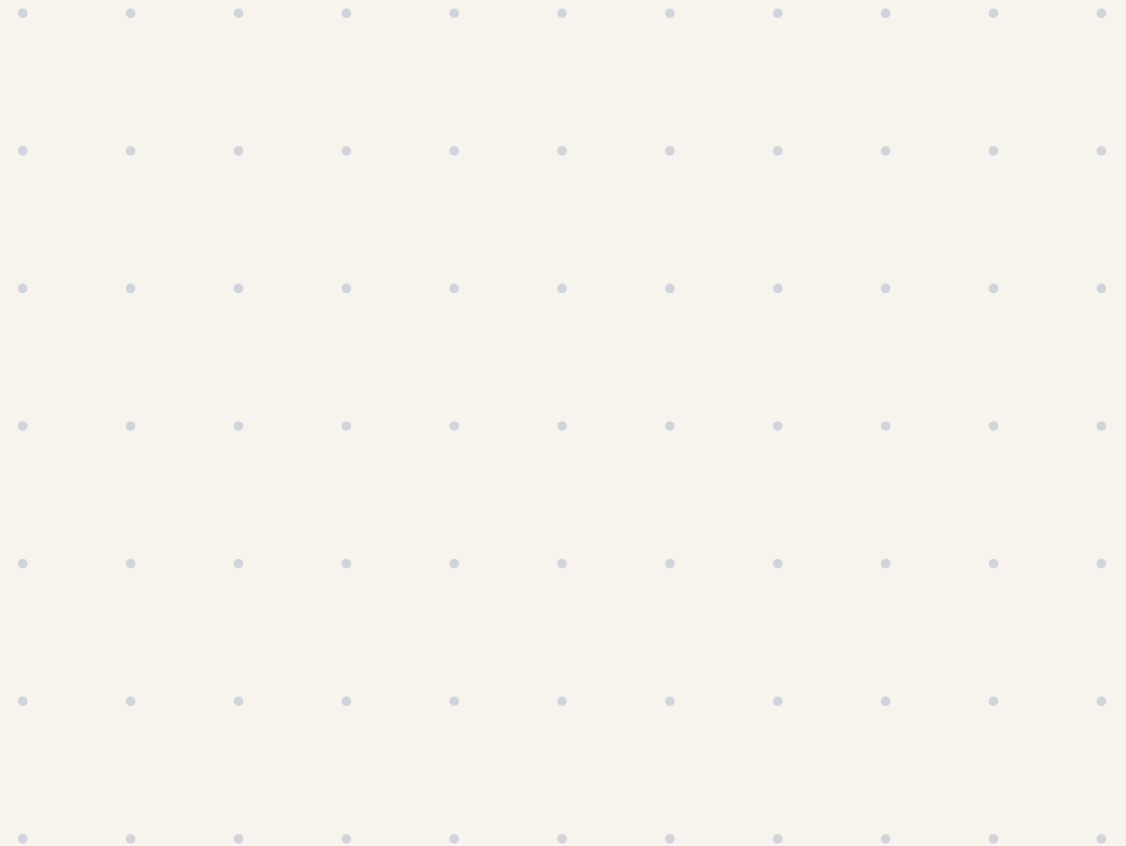


EXAMPLE 07

6 mixed-facing — compact

- ▶ Six people around a round table; three face centre, three face away.
- ▶ P faces the centre; Q is opposite P.
- ▶ R is to P's immediate right (P's view); R faces the centre.
- ▶ S faces away; S is between Q and T.
- ▶ T is opposite R; U faces the centre.
- ▶ Exactly three adjacent pairs face opposite directions.

WORKING

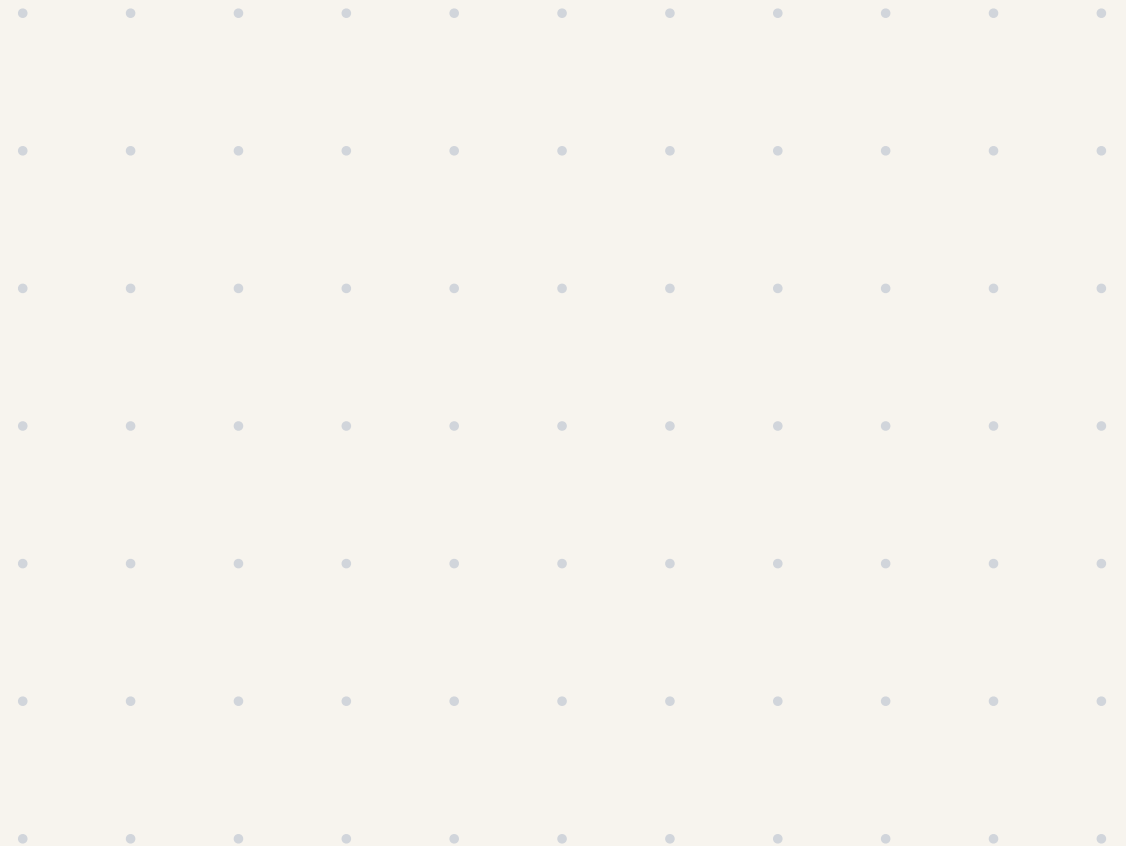


EXAMPLE 08

8 + profession + food combo

- ▶ Eight people around a round table; all face the centre.
- ▶ Each has a distinct profession and a distinct favourite food.
- ▶ Pizza-lover opposite burger-lover; doctor opposite teacher.
- ▶ Anil (doctor) is third to Bina's right; Bina likes pizza.
- ▶ Chetan (teacher) is to Anil's immediate left; likes burger.
- ▶ Deepak likes biryani; sits between the lawyer and the architect.

WORKING

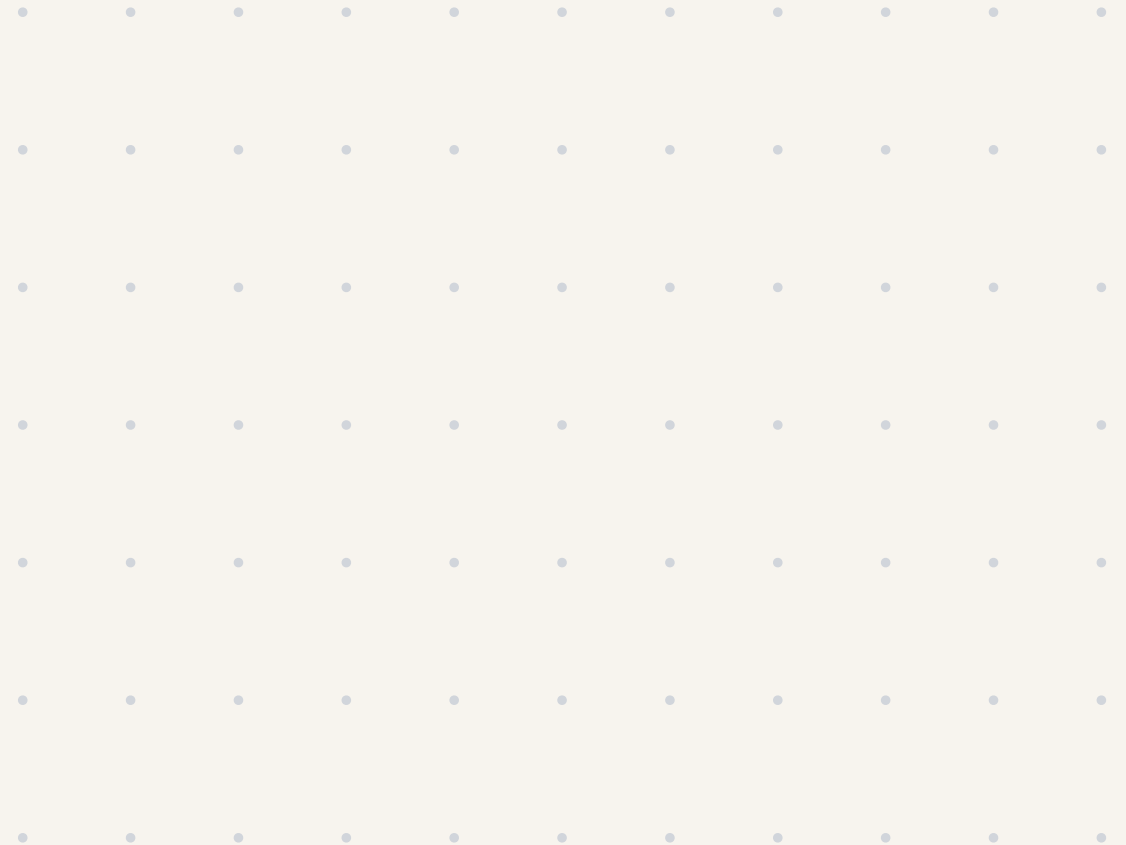


EXAMPLE 09

8 mixed-facing + profession

- ▶ Eight around a round table; mixed facing.
- ▶ Each has a distinct profession.
- ▶ Doctor faces the centre; engineer faces away.
- ▶ Doctor is third to engineer's right (doctor's view).
- ▶ Lawyer is opposite doctor; both face the centre.
- ▶ Teacher is between lawyer and the architect; teacher faces away.

WORKING

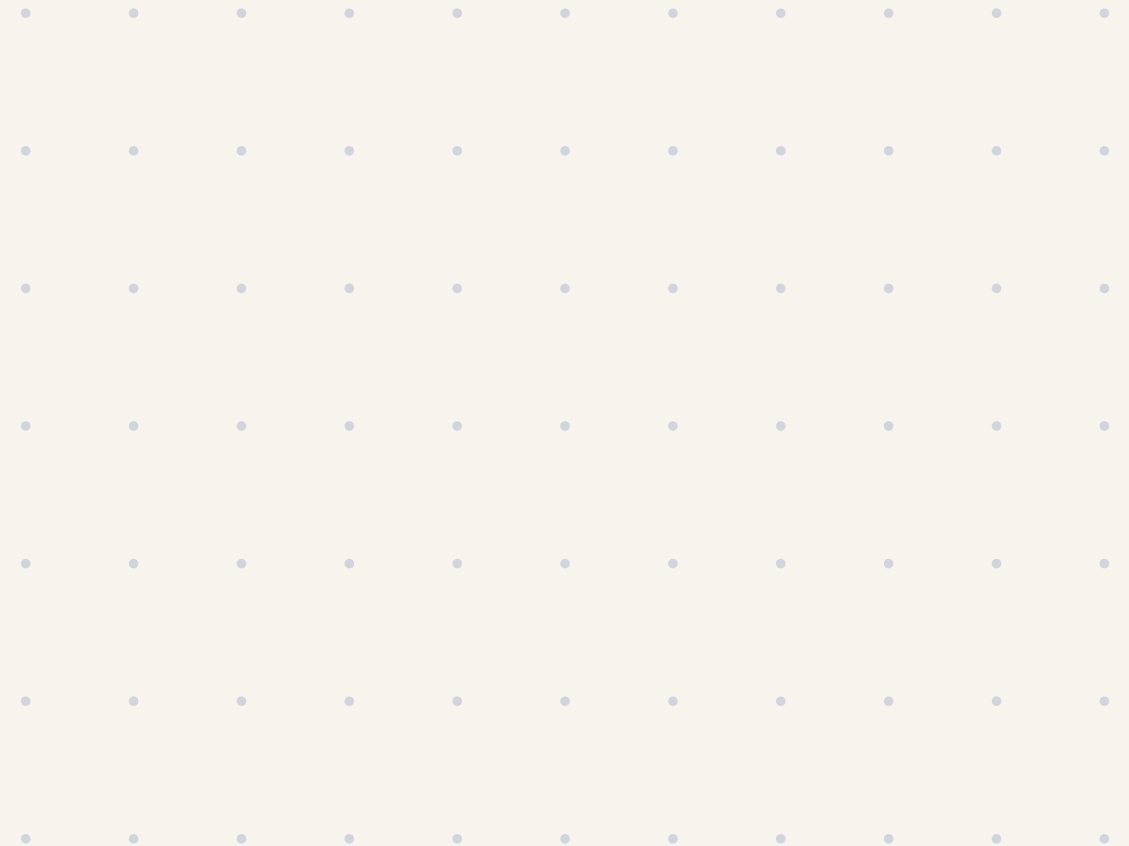


EXAMPLE 10

10 around circle — combo capstone

- ▶ Ten people around a round table; all face the centre.
- ▶ Each has a distinct profession.
- ▶ Doctor opposite engineer; lawyer opposite teacher.
- ▶ A (doctor) is fourth to B's right.
- ▶ C is opposite A; D is to C's immediate left.
- ▶ E is second to D's right; E is the engineer.

WORKING

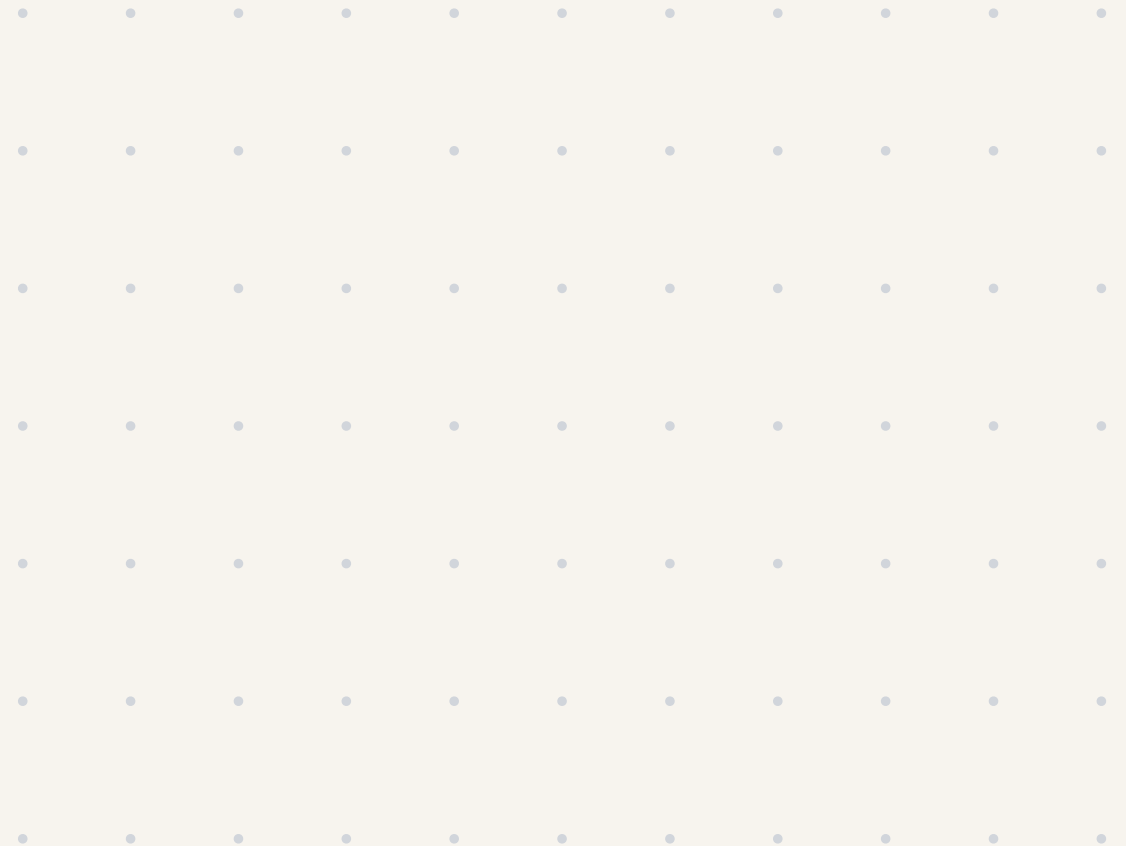


EXAMPLE 11

8 + colour + day

- ▶ Eight people around a round table face the centre.
- ▶ Each has a distinct colour-preference and a distinct weekday.
- ▶ Red-fan attends Monday; blue-fan attends Friday.
- ▶ Red-fan opposite blue-fan; green-fan opposite yellow-fan.
- ▶ Green-fan attends Wednesday; third to Red's right.
- ▶ Yellow-fan attends Tuesday; between Red and Green.

WORKING



EXAMPLE 12

PYQ-style capstone — full combo

- ▶ Eight people around a round table; mixed facing.
- ▶ Each has a distinct profession and a distinct colour.
- ▶ Doctor faces centre; engineer faces away.
- ▶ Doctor likes red; engineer likes blue; both are opposite each other.
- ▶ Lawyer (green) is to doctor's immediate right (doctor's view).
- ▶ Teacher (yellow) is opposite lawyer; faces away from centre.

WORKING



PART 04

IV Wrap & Homework

*Recap the five drills.
Pick up Practice 04 on your way out.*

RECAP & HOMEWORK

What we drilled today

- ✓ Linear grammar locked
- ✓ Left-right inversion drilled
- ✓ Fix-first method
- ✓ Nth-to-the-left counting
- ✓ Final-check sweep

HOMEWORK

Practice Sheet 04

24 questions · 24 minutes

+1 / -0.25 · Target $\geq 18/24$

NEXT · L5 · BLOOD-REL +
FLOORS + PYQs