

Logic 8 — Workshop: classical and non-classical

Logic · Lesson 8 · Workshop sheet

One lesson, worked alone, about 45 minutes. Tick each step. You need this sheet, your Lesson 8 handout, and the four codes below.

Step	min
☐ 1 · Key terms. Terms quiz (code 3), one round: definition → term. Under 10 of 13? Read the handout's key terms once, then a second round.	5
☐ 2 · Recall Lesson 7. Exercise 1 on the workshop page (code 1), from memory, before scrolling on.	3
☐ 3 · Stage 1 — the case first. Read the Minamata case, do Exercise 2, then write your side in your notebook: two or three sentences, side and one reason. Stage 3 needs this.	6
☐ 4 · Stage 2, Part A — three laws, four systems. Exercises 3–4. Scroll the tables away before each. Exercise 4 is arithmetic: state the rule, apply it.	10
☐ 5 · Part B — explosion and the intuitionist. Exercises 5–6. Exercise 6 asks which steps run <i>one way only</i> .	7
☐ 6 · Parts C–D — four corners, spot the error. Exercises 7–9. Exercise 9's key says <i>cannot say yet</i> ; that is the point.	8
☐ 7 · Stage 3 — your verdict, with the tools. Exercise 10 from memory; rewrite your Stage 1 paragraph in three sentences; run the self-check.	4
☐ 8 · Compare. Only now open the model paragraphs (code 2) and mark your paragraph 1–4 against the checklist.	2

New in this lesson

- ▶ Three classical laws: *non-contradiction* forbids **both**, *excluded middle* forbids **neither**, *explosion* says a contradiction proves everything.
- ▶ Each non-classical logic is named by the law it declines and what it buys: fuzzy gives up bivalence for degrees; paraconsistent gives up explosion for survivable contradictions; intuitionistic gives up excluded middle for constructive proof; dialetheism gives up non-contradiction for a true Liar.
- ▶ A degree is not a probability. “0.7 true” is how far the word applies, not how sure you are.
- ▶ The choice of logic is not a logical result (the Tortoise).

If you get stuck

- ▶ Exercise 3: ask “what would this logic refuse to say?” — then find the law that says it.
- ▶ Exercise 4: *not* = $1 - x$; *and* = the smaller; *or* = the larger. Nothing else.
- ▶ Exercise 6: does the step end at “not-not-P” and then jump to “P”? Then no.
- ▶ Exercise 7: “both” is corner 3, “neither” is corner 4; a *degree* is in no corner.
- ▶ Stage 3: a reason that names the uncertified patients names an outcome. Find the law behind it.
- ▶ Anything else: ask me.



1 · Workshop page



2 · Model paragraphs



3 · Key terms quiz



4 · This sheet

All at salvemec.ch/toktok/core/ · On the back: which exercise went wrong at the first try. The unit ends here; the Tortoise does not.