

Session 07-09 - Oral Exam Practice III

Section 07: Probability & Statistics

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Welcome

Oral Practice, Round Three

By now the format is familiar - the topics are not

- Groups of three, rotating **candidate** / **examiner** / **observer** roles
- **Block A:** 30 minutes preparation, free-speech presentation, follow-ups at levels [I]-[III]
- **Block B:** spontaneous impulse from a *different* area
- Format reference: [oral exam guide](#)

Today's Topic Sets

Sets 12, 14 and 16 - handed out in class

- **Set 12:** Probability & statistics (contingency table, Bayes) · Cost & profit (quadratic, break-even)
- **Set 14:** Graphical calculus (reasoning from f') + systems · Probability (combinatorics)
- **Set 16:** Binomial distribution, “at least one” · Logarithmic function analysis
- Probability is fresh from this section - perfect timing to explain it aloud

Focus of This Round

Surviving Block B

This round's training goal: the spontaneous block

- You get **no preparation** - and that is fine; the examiner expects thinking, not polish
- **Classify first:** “This is a conditional-probability situation, so I'll draw a tree.”
- Standard openers you can always reach for: a **tree diagram**, a **table**, a **sketch**
- Speak while you draw - silence is the only real mistake

Explaining Probability Well

- Always name the **model**: “Drawing without replacement, so probabilities change.”
- Distinguish clearly: $P(A | B)$ is *not* $P(B | A)$ - say what is given
- “At least one” → work with the **complement**, and say why
- Round sensibly and **interpret**: “About 8% of tested parts are false positives.”

Practice Rounds

Rounds One and Two

- **Preparation:** 30 minutes - examiners study their key, observers prepare a feedback sheet
- **Exam conversation:** ~20 minutes, Block B gets at least 7 of them today
- **Feedback:** 10 minutes - focus on how the candidate handled the *unprepared* block
- Rotate roles and sets for round two

Coffee Break - 15 Minutes

Final Round

Round Three

Everyone has now faced a spontaneous Block B three times

- Final rotation - examiners, escalate to level [III] questions where you can
- Observers: note whether answers *interpret* results, not just compute them

Wrap-Up

Key Takeaways

- Block B is won by **classifying the problem** and reaching for a standard tool
- Trees, tables, and complements carry almost every probability conversation
- Your explanation gaps here are also your **written-exam** gaps - same study list
- The final dress rehearsal comes in the exam-preparation section

Next Session Preview

Session 08-01: Compound Interest & Geometric Sequences

- We start **Section 08: Financial Mathematics**
- Interest, growth factors, and the geometric series behind them

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Preparation

Pick the probability topic that felt shakiest out loud and rework it in writing.