

Deduction Mysteries

CASE 01

A community election result is contested. Post-count analysis shows 14 ballots were altered. The ballot box had a tamper-evident seal that was broken and replaced. Six people were involved: Miriam (collector), Gael (transporter), Katarina (counter), Hugh (chairman), Phoebe (observer), and Leo (IT support for the counting software). Case file EINSTEIN-025.

Q Who tampered with the ballots?

- Chain of custody: Miriam collected the ballot box at 7 PM, Gael transported it to locked storage at 7:20 PM, Katarina retrieved it for counting at 8 PM.
- The tamper-evident seal was broken and replaced with a fresh one. Fresh seals are kept in the administrative supply closet.
- Supply closet keys are held only by Miriam and Hugh.
- Hugh was at the podium from 6:30 PM to 9 PM. Video footage confirms continuous presence.
- Miriam took a 12-minute 'bathroom break' between collecting the ballot box (7 PM) and handing it to Gael (7:20 PM). She was alone with the box.
- Gael received the sealed box from Miriam and went directly to storage. Security camera confirms the route.
- Katarina retrieved the box from storage at 8 PM with two witnesses present. The seal appeared intact.
- Leo had access to counting software but no physical access to the ballot box.
- Phoebe was an assigned observer but was seated 10 meters from the ballot handling area.
- The replacement seal's serial number matches a batch from the administrative supply closet. It was not from the original seal shipment.

A) Miriam	B) Gael	C) Katarina	D) Hugh	E) Phoebe	F) Leo
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CASE 02

A priceless sculpture at the Metropolitan Gallery was swapped for a painted foam replica sometime overnight. The swap required professional art skill and gallery access. Six people are under investigation: Helena (art restorer), Dmitri (exhibition painter), Yara (curator), Owen (night security), Mei (ticket manager), and Carlo (janitor). Case file EINSTEIN-026.

Q Who swapped the sculpture?

- The foam replica was skillfully painted. Creating it would require professional art training and access to high-quality spray paint.
- Only Helena and Dmitri have professional art training among the six suspects.
- Security cameras had a scheduled maintenance gap from 1 AM to 3 AM.
- Helena's badge log shows she exited at 11:04 PM. But the parking camera shows her car still in the lot at 1:30 AM.
- Dmitri was on the overnight exhibition setup shift (midnight to 6 AM) with gallery keys.
- The spray paint used on the replica is a restoration-grade brand stocked only in the restoration lab. Dmitri does not have restoration lab access.
- The parking garage has an unsecured pedestrian door that doesn't require a badge to enter.
- Owen (security) was on patrol rounds with GPS tracking. His route doesn't go near the sculpture gallery between 1-3 AM.
- Yara was at a conference in another city. Hotel check-in records confirm.
- Mei's shift ends at 6 PM. Carlo's cleaning shift ends at midnight. Neither returned.

A) Helena	B) Dmitri	C) Yara	D) Owen	E) Mei	F) Carlo
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CASE 03

Three unrelated production systems failed simultaneously at 3:15 AM, causing a major outage. Investigation reveals a bad TLS certificate was pushed to the shared configuration server. Six engineers had some level of access: Layla (DevOps), Faisal (SysAdmin), Grace (Backend), Hugo (Frontend), Kenji (QA), and Noor (Security). Case file EINSTEIN-027.

Q Who pushed the bad certificate?

1. All three failed systems depend on TLS certificates from configuration server config-01.
2. A malformed certificate was pushed to config-01 at 3:12 AM via the deployment API.
3. The deployment API requires a personal API key. The push used Layla's API key.
4. Faisal has sudo access to config-01's OS, but the change was done via API, not direct filesystem access.
5. Grace, Hugo, and Kenji have read-only access to config-01.
6. Noor can audit config-01 logs but cannot push configuration changes.
7. VPN logs show a connection from Layla's home IP at 3:08 AM – four minutes before the push.
8. Layla's API key was stored on a team wiki page, but that page's access log shows no views in the past 30 days except by Layla.
9. Network logs confirm the deployment API call at 3:12 AM originated from Layla's VPN session.
- 10 Layla was disciplined the previous week for an unrelated incident and expressed frustration to a colleague.

A) Layla	B) Faisal	C) Grace	D) Hugo	E) Kenji	F) Noor
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CASE 04

A hit-and-run occurred at 9:20 PM on Oak Street. Five people were identified near the area: Abel, Beth, Cass, Dion, and Elea. Each gives an alibi, but contradictions emerge. Case file EINSTEIN-028.

Q Who was driving the car in the hit-and-run?

1. Abel says he was at the bar from 8-10 PM. The bartender confirms he was there, but says he left around 9:30 PM, not 10.
2. Beth says she was at the cinema. The movie ended at 9:15 PM and the cinema is 5 minutes from Oak Street.
3. Cass says she was on the phone with her sister from 8:45 to 9:30 PM. Phone records show the call lasted from 8:45 to 9:05 PM.
4. Dion says he was at the gym. His gym badge shows entry at 7:00 PM and exit at 9:45 PM.
5. Elea says she was walking her dog. Her dog-walking app GPS confirms she was in the park until 8:50 PM, when the app was turned off.
6. A gas station camera 2 blocks from the scene shows Abel walking past at 9:25 PM, heading away from Oak Street.
7. Cass's phone GPS data places her within 200 meters of Oak Street at 9:18 PM.
8. A paint scrape on the victim's bike matches the color of Cass's sedan.
9. Cass told her sister on the phone she 'needed to run an errand' before the call ended.
- 10 Beth has a parking ticket timestamped 9:22 PM at the cinema lot, confirming she was still at the cinema.

A) Abel	B) Beth	C) Cass	D) Dion	E) Elea
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CASE 05

A rare book was stolen from the locked study of a country mansion during a weekend gathering. Six guests stayed overnight in six rooms. The study's safe was opened without force. The host suspects one of the guests. Case file EINSTEIN-029.

Q Which guest stole the book?

1. The study door was locked from inside. The window was found unlocked, but no footprints were outside despite soft ground after rain.
2. The mansion has three hallways: A and B have security cameras, Hallway C (old servants' passage) does not.
3. The study is accessible only from Hallway C. Only rooms 4 (Pascal) and 5 (Vivian) connect to Hallway C.
4. The safe uses a 6-digit code and wasn't forced. Only the host knows it.
5. At dinner the evening before, the host opened the safe to show Vivian a family necklace stored inside.
6. Pascal reported hearing footsteps in Hallway C around 2 AM. Vivian said she slept through the night.
7. The other guests – Isadora (room 1), Thomas (room 2), Nadia (room 3), and Franz (room 6) – are all in rooms connected to Hallways A and B.
8. Camera footage from Hallways A and B shows no movement between midnight and 6 AM.
9. Vivian was seated next to the host and had a direct line of sight to the keypad when the safe was opened.
- 10 A rare book dealer in another city received an anonymous inquiry about the stolen book's title two days after the weekend.

A) Isadora	B) Thomas	C) Nadia	D) Pascal	E) Vivian	F) Franz
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CASE 06

A community election result is contested. Post-count analysis shows 14 ballots were altered. The ballot box had a tamper-evident seal that was broken and replaced. Six people were involved: Miriam (collector), Gael (transporter), Katarina (counter), Hugh (chairman), Phoebe (observer), and Leo (IT support for the counting software). Case file EINSTEIN-030.

Q Who tampered with the ballots?

1. Chain of custody: Miriam collected the ballot box at 7 PM, Gael transported it to locked storage at 7:20 PM, Katarina retrieved it for counting at 8 PM.
2. The tamper-evident seal was broken and replaced with a fresh one. Fresh seals are kept in the administrative supply closet.
3. Supply closet keys are held only by Miriam and Hugh.
4. Hugh was at the podium from 6:30 PM to 9 PM. Video footage confirms continuous presence.
5. Miriam took a 12-minute 'bathroom break' between collecting the ballot box (7 PM) and handing it to Gael (7:20 PM). She was alone with the box.
6. Gael received the sealed box from Miriam and went directly to storage. Security camera confirms the route.
7. Katarina retrieved the box from storage at 8 PM with two witnesses present. The seal appeared intact.
8. Leo had access to counting software but no physical access to the ballot box.
9. Phoebe was an assigned observer but was seated 10 meters from the ballot handling area.
- 10 The replacement seal's serial number matches a batch from the administrative supply closet. It was not from the original seal shipment.

A) Miriam	B) Gael	C) Katarina	D) Hugh	E) Phoebe	F) Leo
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Answer Key – Deduction Mysteries

Solve before peeking. Correct suspect and key reasoning steps below.

Case 01 A) Miriam

- ❑ Ballot chain of custody: collected by Miriam, transported to storage by Gael, stored in locked room, retrieved by Katarina for counting.
 - ❑ The security seal was broken and replaced with a new one. Fresh seals are kept in the administrative supply closet.
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Case 02 A) Helena

- ❑ The real sculpture was swapped for a foam replica. The replica was skillfully painted – requires professional art training.
 - ❑ Of six suspects: only Helena (art restorer) and Dmitri (painter) have the skill to create a convincing fake.
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Case 03 A) Layla

- ❑ Three systems failed: payment processing, inventory sync, and email notifications. On the surface, they're unrelated.
 - ❑ All three systems pull TLS certificates from a central configuration server (config-01).
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Case 04 C) Cass

- ❑ Witness statements and their verifiability:
 - ❑ Abel says he was at the bar from 8-10 PM. Bartender confirms he was there until 9:30, not 10.
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Case 05 E) Vivian

- ❑ The study door was locked from inside. The window was unlocked – but it was a decoy. The thief was already inside.
 - ❑ The mansion has three hallways. Hallway A has cameras. Hallway B has cameras. Hallway C (servants' passage) has no cameras.
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Case 06 A) Miriam

- ❑ Ballot chain of custody: collected by Miriam, transported to storage by Gael, stored in locked room, retrieved by Katarina for counting.
- ❑ The security seal was broken and replaced with a new one. Fresh seals are kept in the administrative supply closet.