

Answer Key

Free Detective Logic Puzzles: spoilers inside

Stop here if you have not tried the cases yet. This file gives the answer to every case, the clues again, and a step-by-step explanation of how the clues lead to it.

Each explanation refers to the clues by number, so you can follow the reasoning with the puzzle sheet beside you. If you got the right answer a different way, that is fine: the clues allow only one answer, but there is often more than one good route to it.

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DL-01 The Moon Rock Mix-Up

Beginner

Answer key · Elimination

Who was in the Space Room at 3 o'clock?

Answer: Bruno

Classmate	Room
Ava	Gift Shop
Bruno	Space Room
Cleo	Gem Gallery
Dev	Dinosaur Hall

The clues

1. Cleo was in the Gem Gallery.
2. Dev was not in the Gift Shop.
3. Dev was not in the Space Room.
4. Bruno was not in the Gift Shop.

Step by step

Step 1. Clue 1 puts Cleo in the Gem Gallery, so nobody else was there.

Step 2. Dev was not in the Gift Shop (clue 2) or the Space Room (clue 3), and Cleo has the Gem Gallery. The only room left for Dev is the Dinosaur Hall.

Step 3. Bruno was not in the Gift Shop (clue 4). The Dinosaur Hall and the Gem Gallery are taken, so Bruno was in the Space Room. That leaves the Gift Shop for Ava.

The final reveal

Bruno was the only person in the Space Room at 3 o'clock, so he moved the moon rock by mistake. Every clue fits: Cleo in the Gem Gallery, Dev in the Dinosaur Hall, Ava in the Gift Shop and Bruno in the Space Room.

DL-02 The Muddled Timetable

Easy

Answer key · Ordering and timelines

Which train arrived at 9:45?

Answer: Arrow

Train	Arrival time
Comet	9:30
Falcon	9:00
Rocket	10:00
Swift	9:15
Arrow	9:45

The clues

1. The Arrow arrived exactly 15 minutes after the Comet.
2. The Comet arrived before the Rocket.
3. The Falcon arrived before the Comet.
4. The Falcon and the Comet did not arrive 15 minutes apart.

Step by step

- Step 1.** The Falcon came before the Comet (clue 3), but not 15 minutes before (clue 4). So at least one train arrived between them, and the Comet was not the first or the second train.
- Step 2.** Two trains arrived after the Comet: the Arrow (clue 1) and the Rocket (clue 2). So the Comet was not the fourth or the fifth train either.
- Step 3.** That leaves 9:30 as the only time for the Comet.
- Step 4.** The Arrow came 15 minutes after the Comet (clue 1), at 9:45. The Rocket came after the Comet (clue 2) and 9:45 is taken, so the Rocket arrived at 10:00.
- Step 5.** The Falcon came before the Comet (clue 3) and not 15 minutes before (clue 4), so it arrived at 9:00. That leaves 9:15 for the Swift.

The final reveal

The bag was on the Arrow. The full timetable is Falcon 9:00, Swift 9:15, Comet 9:30, Arrow 9:45 and Rocket 10:00, and every clue fits.

DL-03 The Green Ink Note

Easy

Answer key · Matching clues to suspects

Which student writes in green ink?

Answer: Marco

Student	Project	Ink colour
Priya	robot arm	black ink
Marco	weather station	green ink
Hana	solar oven	purple ink
Leo	crystal garden	red ink

The clues

1. Hana's project is either the solar oven or the robot arm.
2. The student who built the weather station writes in green ink.
3. Priya built the robot arm.
4. The crystal garden was built by the student who writes in red ink.
5. Marco does not write in red ink.
6. Priya does not write in purple ink.

Step by step

- Step 1.** Priya built the robot arm (clue 3). Hana's project is the solar oven or the robot arm (clue 1), and the robot arm is Priya's, so Hana built the solar oven.
- Step 2.** Marco and Leo built the weather station and the crystal garden. The crystal garden's builder writes in red ink (clue 4), and Marco does not (clue 5). So Marco did not build the crystal garden. Marco built the weather station and Leo built the crystal garden.
- Step 3.** The weather station's builder writes in green ink (clue 2), so Marco writes in green ink. Leo built the crystal garden, so Leo writes in red ink (clue 4).
- Step 4.** Purple ink and black ink are left for Priya and Hana. Priya does not write in purple ink (clue 6), so she writes in black ink and Hana writes in purple ink.

The final reveal

Marco wrote the note. He built the weather station and is the only student who writes in green ink. The ribbon turned up in his backpack, ready to go back on the table. Every clue fits: Priya has the robot arm and black ink, Hana the solar oven and purple ink, Leo the crystal garden and red ink.

DL-04 The Raffle Drum Mix-Up

Medium

Answer key · Combining several constraints

Who runs the stall that sells lanterns?

Answer: Ines

Vendor	Stall number	Sells
Ines	stall 3	lanterns
Jamal	stall 1	lemonade
Kofi	stall 4	balloons
Luisa	stall 5	toffee apples
Mei	stall 2	popcorn

The clues

1. Jamal sells lemonade.
2. The stall that sells lanterns is not right next to the stall that sells lemonade.
3. The stall that sells toffee apples has a number exactly 2 higher than the stall that sells lanterns.
4. Ines does not sell popcorn.
5. Kofi's stall is either stall 4 or stall 5.
6. Kofi's stall has a lower number than Luisa's stall.
7. Kofi sells balloons.

Step by step

- Step 1.** Kofi's stall is 4 or 5 (clue 5) and Luisa's number is higher than Kofi's (clue 6). If Kofi had stall 5, no stall could be higher. So Kofi has stall 4 and Luisa has stall 5.
- Step 2.** Kofi sells balloons (clue 7), so the balloons are at stall 4.
- Step 3.** Clue 3 puts the toffee apples two numbers above the lanterns. Lanterns at stall 2 would put the toffee apples at stall 4, but that is the balloon stall. Lanterns at stall 4 or 5 is impossible, since the balloons are at stall 4 and nothing is two numbers above stall 5. So the lanterns are at stall 1 or stall 3.
- Step 4.** Try lanterns at stall 1. Then the toffee apples are at stall 3 (clue 3), and lemonade and popcorn are left for stalls 2 and 5. Stall 5 is Luisa's, and Jamal sells the lemonade (clue 1), so the lemonade would be at stall 2, right next to the lanterns. Clue 2 forbids that. So the lanterns are at stall 3 and the toffee apples at stall 5.
- Step 5.** Lemonade and popcorn are left for stalls 1 and 2. The lemonade is not next to the lanterns at stall 3 (clue 2), so it is not at stall 2. The lemonade is at stall 1 and the popcorn at stall 2. Jamal sells the lemonade (clue 1), so Jamal has stall 1.
- Step 6.** Ines and Mei have stalls 2 and 3. Ines does not sell popcorn (clue 4), so she is not at stall 2. Ines has stall 3, the lantern stall, and Mei has stall 2, the popcorn stall.

The final reveal

Ines runs the lantern stall at stall 3, and the raffle drum was behind her counter. Along Main Street the stalls are Jamal (lemonade), Mei (popcorn), Ines (lanterns), Kofi (balloons) and Luisa (toffee apples), and every clue fits.

DL-05 The Vanishing Manuscript

Medium

Answer key · Multi-step deduction

Who sat at the Oak desk?

Answer: Petra

Visitor	Arrival time	Desk	Book
Nadia	2:00	Elm desk	atlas
Oscar	2:15	Maple desk	diary
Petra	2:30	Oak desk	poems
Quinn	2:45	Pine desk	recipes

The clues

1. The person who read the diary arrived exactly 30 minutes before the person who read the recipes.
2. Nadia and Quinn did not arrive 15 minutes apart.
3. Petra read the poems.
4. Exactly one of these is true: Petra arrived at 2:15, or Petra sat at the Oak desk.
5. Nadia did not sit at the Pine desk.
6. Exactly one of these is true: Nadia arrived at 2:00, or Nadia sat at the Pine desk.
7. Oscar sat at the Maple desk.
8. The person who read the atlas arrived exactly 15 minutes before the person at the Maple desk.

Step by step

- Step 1.** Clue 6 says exactly one of two things is true. Clue 5 says Nadia did not sit at the Pine desk, so the second part is false. That makes the first part true: Nadia arrived at 2:00.
- Step 2.** Nadia arrived at 2:00 and Quinn did not arrive 15 minutes after her (clue 2), so Quinn did not arrive at 2:15.
- Step 3.** Oscar sat at the Maple desk (clue 7). Suppose Oscar arrived at 2:30. Then the atlas reader arrived at 2:15 (clue 8). That was not Nadia (2:00), not Quinn (not 2:15), not Oscar, and not Petra (she read the poems, clue 3). Nobody is left, so Oscar did not arrive at 2:30.
- Step 4.** Oscar sits at the Maple desk (clue 7). Suppose he arrived at 2:45. Then the atlas reader arrived at 2:30 (clue 8), and only Quinn can be that person, because Petra read the poems (clue 3). Petra would be at 2:15, and the diary and recipes readers would be Nadia (2:00) and Oscar (2:45). But clue 1 needs them exactly 30 minutes apart. That is a contradiction, so Oscar arrived at 2:15. The atlas reader arrived 15 minutes before him (clue 8), at 2:00. That was Nadia.
- Step 5.** Nadia has the atlas and Petra the poems (clue 3), so Oscar and Quinn read the diary and the recipes. If Oscar (2:15) read the recipes, the diary reader would have arrived at 1:45, which is impossible. So Oscar read the diary, and the recipes reader arrived at 2:45 (clue 1). That was Quinn. Petra arrived at 2:30.
- Step 6.** Clue 4 says exactly one of two things is true. Petra did not arrive at 2:15 (she arrived at 2:30), so the first part is false. The second part is true: Petra sat at the Oak desk.
- Step 7.** Oscar has the Maple desk (clue 7) and Petra the Oak desk, so the Elm desk and the Pine desk are left for Nadia and Quinn. Nadia did not sit at the Pine desk (clue 5), so Nadia has the Elm desk and Quinn has the Pine desk.

DL-05 The Vanishing Manuscript (continued) Medium

Answer key · Multi-step deduction

The final reveal

Petra sat at the Oak desk, where the manuscript was last seen, so she is the person the librarian should ask. The whole afternoon fits every clue: Nadia (2:00, Elm desk, atlas), Oscar (2:15, Maple desk, diary), Petra (2:30, Oak desk, poems) and Quinn (2:45, Pine desk, recipes).