



The Detective's Casebook

Solve the Clues to Crack the Case!

Name: _____ Date: _____

1 CIPHER DECODING

Detective Sterling is analyzing a blackmailer's coded ledger to find the suspect's real name. The ledger consists of 12 pages with 140 code characters each, and 3 pages containing 85 code characters each. How many characters in total must Sterling decode to reveal the killer's identity?

Work: _____

Answer: _____

2 TOXICOLOGY REPORT

Dr. Aris is analyzing a poison dosage from a suspect's tea party. The victim drank 4 cups of tea, each laced with 45 milligrams of arsenic, and ate 3 poisoned biscuits, each containing 55 milligrams of arsenic. If the minimum lethal dose of arsenic is 300 milligrams, how many milligrams over the lethal dose did the victim ingest?

Work: _____

Answer: _____

3 DETECTIVE SUPPLIES

Inspector Vance needs to purchase professional detective gear for his team of 8 investigators. Each fingerprinting kit costs \$24, and each high-powered UV forensic flashlight costs \$15. If Vance starts with a budget of \$500, how many dollars will he have left after buying one kit and one flashlight for each of his 8 team members?

Work:

Answer: _____

4 TIMELINE RECONSTRUCTION

Lord Blackwood claims he was away from the manor during the 9-hour window of the crime, from 3:00 PM until midnight. He claims he spent 4 hours dining at an inn and traveled 24 miles in his carriage at a constant speed of 8 miles per hour. How many hours remain completely unaccounted for in his alibi?

Work:

Answer: _____

5 CLUE ANALYSIS

A forensic investigator is analyzing a blackmail letter where the culprit cut out individual words from magazines. The culprit used 8 vintage detective magazines, each containing 120 pages. If the investigator excludes 15 advertising pages from each magazine, how many total pages are left to search for matching cutouts?

Work:

Answer: _____

A forensic chemist tests a suspicious teacup for a banned substance. The suspect added 6 drops of a concentrated poison containing 115 micrograms per drop, but the victim spilled some, reducing the poison amount by 130 micrograms. How many micrograms of poison remained in the teacup?

Work:

Answer: _____

Answer Key

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1. Detective Sterling is analyzing a blackmailer's coded ledger to find the suspect's real name. The ledger consists of 12 pages with 140 code characters each, and 3 pages containing 85 code characters each. How many characters in total must Sterling decode to reveal the killer's identity? **1935**
2. Dr. Aris is analyzing a poison dosage from a suspect's tea party. The victim drank 4 cups of tea, each laced with 45 milligrams of arsenic, and ate 3 poisoned biscuits, each containing 55 milligrams of arsenic. If the minimum lethal dose of arsenic is 300 milligrams, how many milligrams over the lethal dose did the victim ingest? **45**
3. Inspector Vance needs to purchase professional detective gear for his team of 8 investigators. Each fingerprinting kit costs \$24, and each high-powered UV forensic flashlight costs \$15. If Vance starts with a budget of \$500, how many dollars will he have left after buying one kit and one flashlight for each of his 8 team members? **188**
4. Lord Blackwood claims he was away from the manor during the 9-hour window of the crime, from 3:00 PM until midnight. He claims he spent 4 hours dining at an inn and traveled 24 miles in his carriage at a constant speed of 8 miles per hour. How many hours remain completely unaccounted for in his alibi? **2**
5. A forensic investigator is analyzing a blackmail letter where the culprit cut out individual words from magazines. The culprit used 8 vintage detective magazines, each containing 120 pages. If the investigator excludes 15 advertising pages from each magazine, how many total pages are left to search for matching cutouts? **840**
6. A forensic chemist tests a suspicious teacup for a banned substance. The suspect added 6 drops of a concentrated poison containing 115 micrograms per drop, but the victim spilled some, reducing the poison amount by 130 micrograms. How many micrograms of poison remained in the teacup? **560**