A Scandal in Bohemia

Sherlock is the “the most perfect reasoning and observing machine that the world has seen.” After some time apart, Sherlock meets up with Watson again and observes that he’s put 7.5 lb, with Watson correcting his slight error by stating he’s only gained 7. Shortly afterwards, Holmes remarks how Watson has been busy lately, that he is intending to go back into work, due to his incorrigible servant girl without Watson informing him about her. He explains his reasoning thus: On the inside of Watson’s left shoe, barely illuminated by the fireplace, the leather has six parallel cuts, indicating someone has been scoring it while removing mud from it. He further adds on another deduction that Watson smells of iodoform, has a mark of nitrate of silver upon his forefinger, and a bulge on the right side of his top-hat from his stethoscope. Therefore, he’s back to being a doctor. He makes these two deductions instantly and with a glance. Sherlock explains briefly that he doesn’t just see, but he also observes, mentally committing even the most insignificant details, like the number of steps to his room, to memory.
(PSI, Observation, Perception, Abductive Reasoning, Critical Thinking, Analytical Thinking)

Sherlock presents a mysterious note mailed to him informing him of a visitor who will shortly meet him. Embedded into the paper is “E,g,P,G,t.” Watson fails to glean anything useful from it, but Sherlock easily explains the meaning behind it. The “Gt” is short for “Gesellschaft,” which is German for “Company.” It’s a common contraction there. “P” is of course for “Papier.” And “Eg” is shorthand for the location. Of the towns that could be shortened to Eg - Eglow, Eglonitz, and Egria - Sherlock narrows it down to Egria, which is in the German-speaking Bohemia, based on his knowledge of events there such as the death of Wallenstein and its renown for its numerous glass-factories and paper-mills, showing his know of even the most obscure tidbits of foreign cultures and his ability to recall and associate that into his thinking.

Not just that, Sherlock also deduces that the writer is a German based on the writing style of the “uncourteous” usage of verbs - “This account of you we have from all quarters received.” A Frenchman or a Russian, he says, wouldn’t write like that. This is based on his knowledge of German grammar, which often has verbs placed at the end, which the writer who wrote it in English couldn’t disguise.

(VCI, Knowledge, Abductive Reasoning, Associative Thinking, Critical Thinking)

The visitor arrives soon after, matching Sherlock’s profile of him as a German from Bohemia. He wants to speak to Holmes in secrecy, but Holmes declines so he is forced to speak with Holmes and Watson present. He wants absolute secrecy from the two of them for two years, as the matter implicates the House of Ormstein, the hereditary kings of Bohemia, which Sherlock mutters that he already knew, shocking the guest. Sherlock further addresses him as “your Majesty,” revealing that the guest is in fact the king. Given that he states the king’s exact and long name afterwards, it’s presumable Sherlock had simply memorized the man at some point in his research and recognized him. The king informs him that he became acquainted with Irene Adler, who Sherlock knows. He quickly deduces the king’s exact conundrum, that the king wrote to her some compromising letters with which she could blackmail him. He informs Holmes that

she plans to ruin him on the day of his betrothal to a Scandinavian princess in three days. Sherlock arranges a call for the next day and sends him off.

(Knowledge, Abductive Reasoning)

The next day, Sherlock arrives at Watson's house disguised as a drunkard so well that even Watson has trouble seeing through it. He recounts in detail his surveillance of her. He's gathered information from the locals' gossip, learning of a handsome lawyer, Godfrey Norton, who regularly visits her. He reasons that Mr. Norton is either a friend, her lawyer, or her lover. If the first is true, she probably transferred the photo to him. Holmes recounts the rest of his stalking where he was unexpectedly recruited as a witness to an impromptu marriage between Irene and Norton. Holmes finishes his tale and enlists Watson's help in his plan, telling him to meet at Briony Lodge to intercept Irene after she returns from her drive. He must not interfere no matter what, Holmes instructs, and foretells that 4-5 minutes after Holmes enters the house, the sitting-room window will open. Watson must position himself close to there. When Holmes gives the signal, a raising of the hand, Watson must throw a plumber's smoke-rocket (essentially a smoke bomb) into the room and give a cry of fire. 10 minutes after that, Holmes will meet Watson on the street. With the plan set, Holmes dons a disguise of a clergyman, one so well-made and well-acted that Watson compares him to a stage player.

(Disguises, Acting Skills, Information Gathering, Planning, Predictions, Memory)

On the way there, Sherlock reasons about Irene's blackmail material. It's too big to keep on her person, so she could've handed it to her lawyer or banker, but women aren't inclined to that, he says, preferring to keep their secrets close. Furthermore, since she plans to use it within a few days, it must be somewhere accessible - her house is the best guess.

(Abductive Reasoning, Emotional Understanding)

When they reach the house, Adler's carriage pulls up. A loafer rushes to open the door, hoping to earn some money, but another one pulls up as well, and a quarrel soon breaks out, with Sherlock in disguise disrupting to protect Adler. He gets hurt badly, and, for his heroic efforts, bystanders urge Adler to take the injured Holmes in. Having infiltrated inside, Holmes feigns sickness to get a maid to open the window and quickly gives the signal, setting off the plan. 10 minutes later, Holmes joins Watson down the street and reveals the plan had worked; Irene had revealed the location of the photograph. He also reveals that the scuffle earlier was staged, with everyone being in on it, and he had used red paint amidst the chaos to "bleed." When Holmes shouted "fire," Irene rushed to the photograph, which Holmes had predicted. Women will in such emergencies rush to what they value the most.

(Emotional Understanding, Prediction)

It's revealed that Irene narrowly outsmarted Sherlock in the final part of the plan when he was making his escape, but that's only with foreknowledge that Sherlock would be the one sent after

her.

The Red-Headed League

Watson visits Sherlock one day, who is attending to a client. Watson attempts to perform the similar analysis Sherlock does on people but deduces nothing out of the ordinary: He bears every mark of being an ordinary British tradesman, obese, pompous, slow. He wears baggy grey trousers, a somewhat dirty unbuttoned frock-coat, a drab waist coat with an Albert chain, a frayed tophat, and a faded brown overcoat. Overall, Watson's observations are entirely ordinary. Sherlock notices that he's trying to analyze the man and reveals his own "obvious" deductions: He's done manual labor, does tobacco, is a Freemason, recently visited China, and has done much writing lately. He explains how he knew. The man's right hand is larger and more muscular, he has an arc and compress breast pin common to Freemasons, his right cuff is shiny from having pressed his arm against the desk while writing, and he has a fish tattoo done with a technique peculiar to China. Sherlock reveals that he's studied up on tattoo marks and even contributed to it in writing.

(Observation, Perception, Emotional Perception, Abductive Reasoning, Knowledge)

The client goes on about an advertisement in the news for the League of the Red-Headed Men, which was started by a red-headed millionaire sympathetic to his fellow men. Against all odds, the client got in, and his work is to simply stay within the building and copy the Encyclopedia Britannica. He worked for 8 weeks until on Oct 9, 1890, the place was abruptly closed. The stranger part is that upon questioning the landlord, the man said he'd never heard of any such League or its manager, Duncan Ross. He did recognize him as "William Morris" and sent the client off to a different address, but no one there recognized either name.

Sherlock inquires into an assistant the client mentioned, Vincent Spaulding, who works at the client's home business. The client reveals he's worked there for 1 month and was recruited among a dozen applicants who responded to an advertisement. He also worked for half-pay and is small, stout, and young. When the client mentions Spaulding has a splash of white acid on his forehead, Sherlock takes considerable interest, having suspected something of the sort. He asks if Spaulding has ear piercings, which the client confirms. Sherlock's final question is if al still works there, which the client confirms, and then he sends him off, having gotten all the information he needs.

After about an hour of introspection and napping, Sherlock takes Watson to the man's business, where he asks Spaulding for directions. He curiously beats his cane on the ground and then leaves. With that short interaction, Sherlock informs Watson that Spaulding is the 4th, perhaps 3rd, smartest man in London. The two head to the Sax-Coburg Square, where Sherlock makes a mental note of all the buildings there since he makes it a hobby to have an exact knowledge of London. With that done, the day is done and Sherlock relaxes to playing the violin, with Watson noting that Holmes is not only an extraordinary performer but also a gifted composer.

(VSI, Memory, Musical Intelligence, Knowledge, Observation, Emotional Perception)

Sherlock dismisses Watson but enlists his help for the present mystery, informing him that a considerable crime is at hand. He tells him to meet up at night and to bring a gun. Watson narrates how incompetent he felt that, despite having received the same information as Sherlock, the man had clearly already deduced what had happened and knew what was going to happen.

Later at the meeting, Watson meets officer Peter Jones of Scotland Yard and another man named Merryweather. Jones is hunting the brilliant young criminal John Clay all his career but never caught him. Merryweather leads them down a passage which eventually terminates where the ground beneath is hollow for a cellar full of gold. Sherlock then plans the ambush for them, instructing Watson to cover his lantern until the enemies appear, stating that it'll be about an hour until the criminals appear from beneath the floor, since they're waiting for the pawnbroker (the client from earlier) to be asleep. As predicted, the criminals emerge and the gang catch them.

He fully explains later their plan: The Red-Headed League was a fabrication, created entirely to get the pawnbroker, who lived near the cellar, out of the way. It was inspired by the color of his accomplice's hair, which was bright red. He would manage the League, and Clay would push the pawnbroker to apply for the League and manage the shop in his absence; Sherlock was suspicious from the moment he heard that the assistant worked for half-pay. He was able to put these details together for his deductions:

The pawnbroker had remarked how the assistant often spent time in the cellar developing photographs.
He was also noted to very smart despite the low pay
The rules of the League were strict, forcing the pawnbroker to never leave the building during work.

And this already covers the mystery of the League, which he solved during the conversation with the pawnbroker. Now for how he deduced what would happen:

- Nothing in the pawnbroker's shop, which was small, could account for such suspicious preparations, so it had to be something unseen - the basement, where the assistant spent several hours each day.
- When he beat his cane during the visit to the shop, the ground proved to be not hollow, so the cellar stretches back and not front.
- When the assistant answered the door, his knees were dirty.
- Afterwards, he saw the bank nearby, aligned with the cellar's direction, and deduced that that was the target of the scheme.

- Furthermore, since the shop was closed so recently, that meant the tunnel was completed. Saturday would have to be the day of the heist since it would grant them two days to escape, so he knew they'd emerge from there that day.

Furthermore, from piecing together this plan, the description of the assistant provided - that of a smart, young man - and from their momentary interaction at the shop, Sherlock was able to also profile him as criminal mastermind John Clay. He notes that they had some skirmishes before but never met face to face.
(Abductive Reasoning, Critical Thinking, Associative Thinking, Holistic Thinking, Cold Reading, Profiling)

A Case of Identity

A woman stands outside Sherlock's building. He makes a quick read of her. She is oscillating on the pavement, indicating an "affaire de coeur." She would like advice, but is not sure that the matter is too delicate for communication. She fears discrimination. It's a matter of love, but she's not so much enraged as she is perplexed/grieved.

(Cold Reading, Emotional Perception, Emotional Understanding)

As soon as she enters, Sherlock does his habitual analysis, remarking how she shouldn't be typewriting so much with her impaired vision. Her case is this. Her husband is gone, and her much younger stepfather has no care for it. He married her mother after her father (a plumber) died. She married Hosmer Angel at a ball, they went on two subsequent dates, but he couldn't join her after her stepfather returned. They quickly eloped, but she knows very little about him besides that he works as a cashier at Leadenhall Street and sleeps on the premises. He was a shy man, he had some condition that made his voice quiet, he dressed well, and his eyes were also weak. Last week, on the day of their planned marriage, the man had vanished from his cab. Sherlock asks for some of the letters he wrote and tells her that she won't see Angel again.

He also explains his read of her. The double line above her wrist was well defined. An amateur would attribute it to a sewing machine, but that leaves a mark only on the left arm and at a different position relative to the thumb. Her nose had slight indentations from a pince-nez, indicating short sightedness. She was well dressed, but her boots were mismatched to indicate a hurry. Her right glove was torn at the forefinger and stained, indicating she wrote in that hurry, likely in the morning as that would give it enough time to dry. But as he sends him out, Sherlock remarks how the case isn't all that interesting, implying he's already solved it - but the woman is more peculiar.

(Observation, Abductive Reasoning)

The next day, Watson finds him asleep amongst the chemical work which he frequently engages in. The stepfather of the girl, Mr. Windibank, arrives shortly after. Holmes monologues that no two typewriters type exactly alike, letters may be very subtly individualized by a given typewriter

as it's drawn out or stopped short for whatever reason. He notes how "e" and "r" from his and Angel's letters are both the same. He has been caught.

(Observation)

Sherlock then explains the whole story, expertly profiling all parties involved:

The stepfather married the much older woman for money. He enjoyed using the considerable sum, and any effort would be well worth it for preservation. The daughter is compassionate and well-hearted and takes little money, but any marriage would be a serious drain - 100/year. He grows more strict, but the daughter rebels anyway to go to a ball. The stepfather responds with the help of his wife by disguising himself, covering his eyes with tinted glasses, putting on a fake mustache and beard, and using a whispery voice. He never expected things to get serious, but they did, and it became increasingly difficult to explain the stepfather's absences which made possible the charade. He thus planned a fake marriage, made her swear to uphold her pledge and be loyal, and then ditched her on the wedding date.

(Emotional Understanding, Profiling)

The Boscombe Valley Mystery

The newest mystery takes Holmes and Watson to Boscombe Valley. From the newspapers he's read, Sherlock explains the case thus far:.

- John Turner is a land proprietor with a daughter
- Turner is friends with his tenant Charles McCarthy, who has a son of the same age
- Last Monday, Charles was seen quarreling with his son by a young girl, who ran to her parents, and then reported dead by his son.
- The son didn't have his gun, which he was seen wielding prior to the death, when he reported the body, and he later remarked that his immediate arrest was his "deserts."

Despite all the evidence pointing towards the son, Sherlock still has his doubts. He explains that had he been surprised or annoyed by the arrest, it would've been suspicious since it would be unnatural given the circumstances but might be thought up by a deceptive man. His acceptance of the situation marks him as either innocent or of firm self restraint. His comment about getting his deserts makes sense as a way of self-reproach since his last interaction with his father was one where he forgot his "filial duty" and almost hit the man.

The son's own account summarized is this: He returned from a trip and saw his father outside walking someplace, though he didn't get the exact direction. He grabbed his gun and went to Boscombe pool to hunt rabbits, passing the witnesses. He heard "Cooee!" a cry between them used during their hunts, from his father and went to go speak to his father, who he didn't know would be there. The father is surprised, they quarrel since his father had a temper, and the son left pissed off by the conversation. As he was leaving, he heard his father cry out, rushed back, found his father dying, and went to report the scene. His father's last words were something

about a rat. He refuses to disclose what the quarrel was about, and he reports seeing something like a flannel on the ground when he was at his dying father's side, but it disappeared when he returned.

Sherlock points out the fallaciousness of the coroner's accusations against the man, simultaneously accusing him of being too creative and not creative enough. The man is apparently not creative enough to invent a sympathetic subject of quarrel for the jury, but makes up inane details such as the rat or the flannel.

(Emotional Understanding, Intuition)

He later meets Turner's daughter and James McCarthy's girlfriend, Miss Turner, who informs him that the argument probably concerned her, since Charles always of a possible marriage with her, but Turner didn't. Also, her father, who met Charles in a goldmine in Australia, has been very sick, too much so to meet, and then she leaves. Holmes states he's already figured out a way to prove James's innocence.

Later, Sherlock is deep in investigation at the courtyard. Watson narrates how he seems to be a different person entirely, almost unrecognizable: "His face flushed and darkened. His brows were drawn into two hard black lines, while his eyes shone out from beneath them with a steely glitter. His face was bent downwards, his shoulders bowed, his lips compressed, and the veins stood out like whip-cord in his long, sinewy neck. His nostrils seemed to dilate with a purely animal lust for the chase, and his mind was so absolutely concentrated on the matter before him that a question or remark fell unheeded upon his ears."

He gets to the grassy bank where Charles died. Having measured several shoes earlier, he is able to effectively track the father and son's movements based off footprints, even despite there being other footprints from investigators afterwards. He can tell at what points James was walking based off how deeply the soles and heels mark the mud. He spots also the indent made by the butt of James's gun made when he was listening to his father's argument, the pacing track of the father as he was presumably ranting, and an unrecognized set of footprints that comes and goes, matching the implication of the disappearing cloth apparently having been grabbed by the culprit. So Sherlock effectively visualized what happened.

(Emotional Engagement, Observation, VSI)

He follows the trails to a large tree where he finds a stone. He identifies it as the murder weapon. How did he know? The grass was growing under it, it matches the injuries, and there's no sign of any other weapon. Moreover, he also gives several details about the murderer based off footprints and the weapon: tall, left-handed, limps with the right leg, wears thick shooting-boots, smokes Indian cigars, uses a cigar holder, and carries a blunt pen-knife in his pocket. And that's just the few Sherlock chose to reveal. But nonetheless, his client Lestrade isn't convinced.

The height he gained from the stride length and shoe size, the lame leg from one side leaving

deeper imprints, the left-handedness from the side where the father's head was fractured and the presumption that he was struck from behind, the cigar from some ashes he spotted while following the tracks (which he could identify due to his deep knowledge of cigars encompassing 140 varieties of pipe, cigar, and tobacco), and the knife and cigar-holded from the fact that the end of a stump he found hadn't been in his mouth, so it must've been cut off.

(VSI, Observation, Abductive Reasoning)

Later at their hotel, Sherlock remains fixed on these crucial details: the "Cooee!" cry that couldn't have been directed at his son, the dying mention of a rat. He recognizes the cry as one common to Australia, so Charles must've been expecting to meet a fellow Australian. "Rat" was an attempt at "Ballarat," a city in Australia. Furthermore, the killer couldn't be a stranger since the area can only be approached by the farm or the estate, which isn't easily trekked. With the clues gathered, the killer could only be John Turner, who arrives as soon as Sherlock finishes the explanation.

(Deductive Reasoning, Abductive Reasoning, Knowledge, Profiling)

Sherlock reveals that he knows all about the murder but isn't interested in arresting him, only in clearing McCarthy's name. This is unusual for Sherlock, but he's likely already deduced Turner's sympathetic motive, which he explains. Turner used to be an outlaw - "Black Jack of Ballarat" - who met Charles, a driver then, when he robbed a gold convoy. Turner fled, went to London, and did his best to atone, but Charles tracked him down and blackmailed him into providing land and more, even his daughter for his son. Turner finally snapped when on the day of the murder he heard Charles speaking so vainly of Turner's daughter with his son. Sherlock records the confession, but he manages to get James acquitted without it. This is impressive since, by all accounts, it was presented as an extremely open and shut case, showing his legal expertise.

(Knowledge, Charisma)

The Five Orange Pips

One peculiar case in '87 began with a young man entering late at night. Sherlock identifies that he is from the south-west based upon the distinct clay and chalk mixture present on his shoes, showing his geographical knowledge

(Knowledge, Analytical Thinking, Observation)

The man's uncle Elias, a former confederate soldier, had one day received a letter marked KKK which caused him great panic; he retrieved a brass box from the attic and burned its contents. Shortly after, he signed over his land to his brother, the man's father, and died mysteriously 7 weeks later, seemingly of suicide. Later down the line, the same KKK letter, which demanded him to "put the paper on the sundial," appeared to his father, who also died under similar circumstances. The only other clue is the five pips on the letter demanding the return of

incriminating evidence. Now the man has also received the letter and wants Sherlock's help.

Holmes advises him to urgently comply with the letter's demands and make clear that everything else was burned by the uncle. His strategy moving forward is to keep the young man safe, clear the mystery, and catch the guilty parties.

With the man gone, Sherlock thinks for a while before finishing his deductions. He explains his style of thinking. Just as Cuvier could identify the whole of an animal from a single bone, the perfect reasoner, when shown a fact, can deduce all that led up to it and all that follows. For maximum efficiency, the reasoner must be able to use all the facts that come to his knowledge, and that thus implies the need for all knowledge. Much earlier in his career, Watson had given a summary of Sherlock's knowledge; he knows botany to a degree, geology to the profound extent that he could identify mud from any region fifty miles of town, well read in sensational literature and crime, knew anatomy, the violin, boxing, swordsmanship, legal expertise, chemist, and self-poisoner of cocaine and tobacco.

(VCI, Linear Thinking, Knowledge, Learning Ability)

He begins his inquiry. The uncle must've had some strong reason to leave America for Britain given the stark contrast between sunny Florida and the drab English town, especially for his age. His love of solitude suggests that he was in fear of someone or something from America. The locations of the letters are all from town with sea ports, so the writer was probably aboard a boat. From the time between the letter's arrival and death (7 weeks for the uncle, 3 days for the father), Sherlock makes the assumption that that time represents the time for the sender to travel the distance. The mysterious and clean deaths also suggest plus the important papers involved also suggest a conspiracy of some sort. He then connects this to the Ku Klux Klan, who weren't so well known at the time in Britain. He explains their history and points out that the M.O. of sending a warning matches. The client has very little time.

(Abductive Reasoning, Knowledge, Associative Thinking)

His death is reported soon after, but Sherlock plots revenge and reveals he's already discovered the leader of the gang - Captain James Calhoun. He had gone over files recording every vessel that was recorded in the towns mentioned in the letter, and one called "Lone Star" instantly caught his eye since it corresponds to Texas and docks home at Savannah. He plans to send a telegram for the police at Savannah, though the plan is foiled as the men aboard the ship are destroyed during a storm.

(Information Gathering)

The Man with the Twisted Lip

The story begins with Watson retrieving a friend from an opium den. There he finds Sherlock Holmes disguised convincingly as an old man. He explains he's investigating a murder/disappearance that took place there and proceeds to recount the exact details and

timeline of the case thus far. The case is eventually closed and blamed on a local beggar, who makes surprisingly good money, has a distinct scar, and owns the room the husband was last seen in. The landlord claims to have not seen anyone exit the room. The victim's wife informs Sherlock that she's seemingly received a letter from him. Holmes examines it and deduces that this can't be. The victim's name on the letter is perfectly black, indicating that it dried, but the rest is grey, showing that it wasn't written all at once. But he notes it has been gummed by chewing tobacco, so it could be the husband.

(Observation, Social Integration)

Sherlock proceeds to wrestle with the problem in his room. Watson notes how Sherlock is implacable in his investigations. To solve a problem, he might go for days or even a week without rest examining the problem from every possible angle. After some rumination, he goes down to the station and washes the beggar's face, revealing that it is the husband, who is an expert in makeup and quit his job in reporting since he made so much money begging. His deductions aren't explained in this story.

(Intuition, Determination)

The Blue Carbuncle

This next mystery concerns a hat delivered by a friend on the police force who acquired it after clearing a scuffle. After gazing at it for a few seconds, he makes these deductions: the owner, a man, was highly intelligent; well-to-do within the last 3 years but recently fallen in trouble; he had foresight, but that declined due to a moral retrogression, which, when taken into account the deline of his fortunes, points to an evil influence - probably alcohol; his wife has ceased to love him, which is probably because of the drinking problem; he still retains self respect; he lives a sedentary life; and he is middle aged with recently cut hair that he annoints with lime-cream. And these are just the more "patent" deductions he made from glancing at this hat.

His reasoning goes as follows. He is intellectual since the hat is large, and cranial capacity correlates with IQ. His fortunes are in decline since the hat is an expensive brand from three years ago, but if he could afford it three years ago yet still wore it at the time of the incident, why would that be so unless he couldn't easily replace it? Foresight comes from a little disc secured to the fat which is never sold with hats, pointing to a foresight for weather. But the elastic is broken and not replaced, indicating that he's grown more careless. Yet he still dabbled some ink to hide a stain, showing he still has self respect. Dust distinct to the house and not the outdoors indicates that it remained indoors most days. And the perspiration marks indicate that the wearer isn't that fit. He has a wife since the man was spotted with a Christmas goose with a note attached, but their marriage is troubled since the hat is unbrushed.

(Observation, Abductive Reasoning, Emotional Perception, Knowledge

The police friend arrives shortly after and tells Holmes that he's discovered the Countess's gem inside the goose. The hotel plumber John Horner is in jail as the only lead on the heist. To summon a possibly innocent man, Sherlock devises a simple plan to see if the man who bought the goose and had the hat knew about the gem. He invites him over with an ad in the mail about the found hat and tells him that, unfortunately, he ate the goose. The man panics, but Sherlock quickly placates him with another goose of equal size and weight. That makes him happy, and, when Sherlock tells him he still has parts of the old goose (with the part where the gen was), the man doesn't care, showing his innocence. With the information from the man, he eventually winds up at a salesman who sold the geese, but he refuses to explain where he got the geese from out of annoyance over similar inquiries in the past. Sherlock lies to the man that he's simply here for a bet that the bird he ate is country bred. Now it's well established Holmes senses and knowledge are beyond sharp, so it's likely that he deliberately gave the wrong breed so that seller, who was already annoyed with him, would want to prove him wrong by confirming that it's town-bred. Sherlock insists that it's country bred, but the seller argues that it's town, and this goes on until the seller explains that all the birds he sells are town bred. The framing of the manipulation as a "bet" is also clever since it gives Holmes a reasonable excuse to remain stubborn, inducing the man who is already set against him to reveal more information in order to prove him wrong. And it also challenges his pride as a salesman since Holmes's stubbornness implies he knows more about birds than the seller. Sure enough, the salesman challenges him to a wager to settle the deal and shows Sherlock a register of his customers to win. Sherlock walks away with the information he needs before bursting into laughter, explaining that he knew the man was a better just off his mustache, meaning he purposefully began with the story to plant the idea of a bet in his mind to later settle the matter.

(Emotional Perception, Emotional Understanding, Cold Reading, Direct Manipulation, Emotional Manipulation, Information Gathering)

The salesman gets in a commotion with another man who also is asking about the geese. Sherlock tells the man to follow him, promising bim information, before forcing the man to confess his crimes. He says that he has all the proof he needs, so it's no use, and the man does. In fact, Sherlock does not have any solid proof. He has his testimony of the gem from the goose, he traced it back to the salesman, and from there the sister of the thief, but he has no hard evidence that the man stole the gem and fed the gem to the goose, as he confesses to. So it's a bluff.
(Bluffing)

The Speckled Band

The next case is about a woman who died mysteriously after getting engaged. Her sister while running to her aid heard a loud whistle and the woman stepped out of her room, cried something about a speckled band, and died soon after without any signs of foul play. The descriptions of the room also means that no one could've broken in. Their stepfather, who had killed before in a past incident, had a monetary incentive against the marriage, and now the sister is also getting married and she has also been moved to the middle room adjacent to the stepfather's for "repairs."

After examining their rooms, Sherlock finds a ventilator in the father's, confirming his suspicions. He had already deduced such a thing existed since the woman mentioned the victim, who is in the middle room between the father and her sister, complained of smoke. He explains that such an opening between the rooms therefore had to exist, but it must've been so small as to go unreported by the coroner. Also in the middle room is a false bell-rope and the bed is bolted to the floor. With that, he's already deduced the cause of the victim's death and forms a plan to save her sister. He tells her to tell her stepfather that she has a headache and to lock herself in her room. When she hears her father retire for the night, she must open the window and set a lantern as a signal for the duo to enter the middle room, from which she must make way to her original room for safety.

(Abductive Reasoning)

The murder weapon is revealed to be a snake that the stepfather sent through the ventilator in the ceiling. He explains his reasoning. Upon examination, indeed the killer couldn't have come through the window or door. So it had to be internal. Since the bed is bolted to the floor, the bell-rope is useless, it must be hiding something - the hole for the ventilator connecting the father's room to the middle room. The idea of a snake instantly occurred to him since the woman described that her father worked with animals in India, a snake might look like a band to a panicked eye in the dead of night, and its poison would be traceless. Indeed, he is able to identify it as an Indian swamp adder instantly. He deduced the snake theory before ever entering the father's room and seeing the ventilator, where he also finds some other clues. Sherlock indirectly kills him as part of his plan by attacking the snake to send it back and bite the man.

(Abductive Reasoning, Deductive Reasoning, Critical Thinking, Lateral Thinking, Divergent Thinking, Knowledge)

The Beryl Coronet

Mr. Holder enters grief-stricken. Holder had recently been entrusted a coronet full of gems by a client. He has a son named Arthur who is a delinquent and has a mentor in Sir George Burnwell, an untrustworthy gambling man who has visited the house a few times. His niece and maid also live in the house, and his niece, who Arthur is in love with, dislikes George. Arthur, who frequently asks for money, was caught by him in the middle of the night handling it, and now it's damaged and three gems are missing. The son refused to answer on the matter beyond exclaiming that the gems had been stolen and that he wished to go outside for a few minutes. His niece fainted when she saw the whole thing. To everyone it seems like an open and shut case, but Sherlock notes how curious it would be if it were truly so. The official story would mean that Arthur came out from bed, snuck into the dressing room, opened his bureau, took off the coronet, broke off some part of it, took only three gems out of the thirty nine and hid them, then returned to the room with the remaining gems to be caught. He finds it absurd.

(Holistic Thinking)

Holmes moves to investigate the house directly. Holder's niece Mary tells him that the maid could've overheard Holder's remarks about the coronet and planned the robbery with her boyfriend, a greengrocer who delivers the vegetables. Looking at the coronet, Holmes attempts to bend it himself and, despite his exceptional strength, he is unable to, making it unlikely that Arthur could've. Furthermore, if it was broken then it would create a loud noise, but neither Holder nor Mary note such a noise. After investigating the outside alone, Sherlock concludes his investigation and asks Holder to meet him the next day.

Holder enters the next day and has more bad news: Mary has left him, leaving behind only a letter assuring him she will be safe and telling him not to search for her. Holmes reveals he's solved it and produces the gems for a thousand per piece. He explains that Mary and Sir George Brunsell (his client) are the culprits. George is in fact far more than dangerous than Holder or Arthur knew, a "man without heart and conscience." He seduced Mary, Mary, who Sherlock wasn't accustomed to such men because Holder noted that the women of the house didn't leave much, was smitten and flattered herself that she was special enough to change his bad character, and they committed the robbery.

More specifically, Mary told him about the coronet through the window, with his footprints visible outside. Mary was bent to his will since, as Sherlock notes, for some people the love of a lover overcomes the love of all other things. Mary soon after told Holder about the maid's escapade with her boyfriend as a diversionary tactic. Arthur returned from gambling and went to bed, but his debts made sleep difficult. Later, he heard Mary sneak into the dressing room and waited outside confused. She made way to the window, slipped the coronet out, while Arthur was extremely emotionally distressed; he loves her, so catching her would ruin her, but the coronet is also important to Holder, his father, so he only acted after she was out of the picture. Arthur chased George, wrestled the coronet from his grasp, damaging it in the process via their combined strength, and got caught at home where he was trying to straighten it

When his father began yelling at him, Arthur was so offended because he had been acting as a hero, and because he wishes to not expose Mary, that he remained silent. Mary fainted when she saw the whole thing out of shock and fear.

(Deductive Reasoning, Abductive Reasoning, Emotional Understanding, Emotional Perception, Linear Thinking, Critical Thinking, Holistic Thinking, VSI)

The Copper Beeches

Violet Hunter enters Sherlock's office for advice. She's been offered a job as governess by Jephro Ruhaul. The conditions are strange and strict, but the employer seems nice enough and the pay is very good. After some deliberation (and a pay raise), she opts to accept it; Sherlock predicts she'll be back. Something about the offer seems dangerous to him, though he can't quite define it.

(Intuition, Prediction)

2 weeks later, she summons them distressed. Mr Rucastle would sometimes have Miss Hunter wear an electric blue dress and sit in the front room reading, with her back to the front window. They also made sure that she wouldn't see out, but she noticed someone outside with a glass hidden in her handkerchief. After that, more strange things occurred - there was a clump of her hair in a drawer, there's a suite in the house that seems entirely uninhabited, and Rucastle acted suspicious when she asked him about it. On the occasion that she did sneak in there Mr Rucastle dropped his friendly act, threatening to kill her.

The Memoirs of Sherlock Holmes

While en route to a new case, Sherlock is able to calculate the speed of his train (53.5 mph) from the distance he estimates between each telegraph post (60 yds). It's a seemingly simple calculation on the surface, just estimate how much time it takes to move from one point to another. But he's limited by her FOV, the closer he is, the more accurately he can just go off how long it takes for the posts to slide past his FOV. The farther he is, the more complicated it gets as the rate at which the move across his vision becomes angular velocity and he'd have to take into account his own distance from the train. With the help of ChatGPT, this is essentially what he did:

If instead he doesn't use a fixed reference on the train and only judges how quickly the posts move across her view (i.e. measures an angular velocity), then geometry matters and you must convert angular speed to linear speed.

Bearing angle:

$\theta(t)=\arctan(dx_{post}-vt)$

Angular velocity:

$\omega(t) = vd/(x - vt)^2 + d^2$

Maximum angular velocity at closest approach = v/d

Train speed from maximum angular velocity:

$v = d*\omega$

Train speed from measured angular velocity:

v = (omega(x-vt)^2 +d^2)/d

Such advanced mathematics in his head requires very good spatial awareness, a deep understanding of math and its applicability to real world scenarios, and the ability to think almost two different tracks of thought at once as he has to constantly adjust for the train's changing distance.

(PSI, WMI, VSI, FRI, Knowledge)

Silver Blaze is a champion race horse owned by Colonel Ross. Its owner entrusts it to trainer John Straker at the King's Pylon stable. It was well guarded by the training and multiple stable lads. On Monday, Ned Hunter, one of the lads, was on guard. A maid took food to the lad but was frightened by a stranger who was asking about the horse. Hunter chased after the man, but Straker still went to check on the horse. His body was found in the morning a quarter mile from the stable bludgeoned and cut. His hands had a knife and cravat resembling the stranger, and Blaze's hoofprints were at the scene. The stranger, Fitzroy Simmons, was arrested.

At the scene of the murder, Holmes examines the ground and digs up a match that was buried in the mud. Next he compares the marks in the ground to Straker's boot, Simpson's shoe, and Silver Blaze's horseshoe the inspector brought along. He then climbs out of the hollow to look around the area. Holes seeks to find the horse first. He reasons that since horses are social creatures it would either have to be at the nearby stable of Capleton or King's Pyland. Pyland has already been thoroughly searched, so he makes way to Capleton. On the way there, he discovers hoofprints and also a man's impressions. They at first head to Pyland, but then they reverse to Capleton. Manager Silas Brown appears and demands they leave, but Sherlock whispers something in his ear that shakes him to the core. He further intimidates him into discussing the matter in private. When the two return, Silas is utterly defeated and obeys Holmes's every word.

Sherlock had deduced he had the horse based off the imprints in the ground which matched his boots. He recounted to him exactly what happened, how he didn't recognize the horse at first, how his first instinct was to return the horse, hence the footprints to Pylon's, but greed overtook him to bet against the horse.

(Emotional Understanding, Observation)

Holmes returns to Colonel Ross and assures him the horse will be back. He questions the stable lads, who tell him some sheep have gone lame, which he'd expected. The bets for Blaze have also dried up, which Sherlock finds suspicious.

On the day of the race, the Colonel is astonished to see his jockey riding a strange horse with no white markings. It is a close race at first, but the horse comes away with a big rush and wins by six lengths. Afterwards, Holmes leads Watson and the relieved but confused Colonel to the horse. He tells the Colonel that the horse was found in the hands of a horse faker, and the disguise can be washed off with brandy. The Colonel apologizes for doubting Holmes' ability and implores him to find the murderer of his trainer. Holmes tells him that the murderer is there with them, and puts his hand on Silver Blaze. It was in self defense, he explains.

First, Fitzroy was supposed to have poisoned Hunter in the horse heist, but this couldn't be. Powdered opium isn't tasteless; it can be detected easily, but curry could conceal it from perception. But Fitzroy couldn't have induced the trainer's family to have curry, and it would be too big a coincidence that the exact medium that could conceal the drug would be served that night. So Fitzroy isn't the culprit. Whoever drugged the stable boy had to have been in the know, and that would most likely be Straker.

He next remarks on how a dog is kept in the stables. No one reported it to have barked, which indicates familiarity with whoever entered the stables. Furthermore, a certain knife was collected among the contents found on Straker's person. This is a clue to his motive for leading the horse out. He explains that that type of knife can be used to make incisions on animals that causes them to become lame. It also had to be led out since it would've made noise, hence why his body was found far away. The cravat was dropped by Fitzroy when he fled and picked up by Straker. The horse lashed out and attacked Straker, and the cut was caused by his own knife during the fall. How did he know about the sheep? Sherlock reasoned that a man as astute as Straker would've had prior practice, and what would he practice on but his livestock.

(Deductive Reasoning, Abductive Reasoning, Linear Thinking, Holistic Thinking, FRI, Knowledge)

The Yellow Face

Despite not training much, Watson states Holmes is one of the finest boxers of his weight class that he has ever seen.

A client had dropped by while Holmes and Watson were out. Sherlock inspects the pipe he left and offers some speculation. It's highly valuable, the owner is muscular, left handed, has excellent teeth, careless, and rich enough to not be frugal. The pipe shows signs of being mended, hence his care, so the owner must've been disturbed to leave it behind. The burn patterns indicate that he doesn't light it at a match but a lamp, and since it's all on the right he must be left handed. The amber is bitten through, which requires strength and good teeth:

The owner Grant Munro returns soon after to explain his case. He has been happily married for three years, but since last Monday a barrier seems to be between them. She has some secret, he senses. She was a 25 year-old widow when they first met, formerly married to a man named Hebron who gave her one child. 6 weeks ago, she asked him for 100 pounds of money, of which much came from all her property that she had given to him in marriage. Later, Munro saw a creepy face in the window of their new neighbor, and on that same night his wife exited their house when she thought he was asleep and refused to give an honest answer. The next morning, he spotted her exiting that house. She begged him not to investigate, giving an ultimatum that it would all be over if he did.

Sherlock surmises that the new neighbor is her first husband and her story isn't entirely clear. More than likely, in her past, her husband contracted some disease that made him deranged. She fled to England, married Munro and showed him the death certificate of some guy named Hebron, and lived securely until recently when some woman who'd attached to the ex-husband and the ex-husband threatened to expose her.

Soon after, the husband invites them to enter the cottage and unravel the mystery. Within, they discover the whole affair: there is a little black girl in there, and the wife explains that her past husband was black, but he really did die

The Gloria Scott

Sherlock recounts an experience with an old college friend. When he was much less experienced in his observations and deductions, his friend Trevor's dad thought the stories he'd heard were exaggerated and challenged Holmes to analyze him. Holmes points out that he seems to have adopted a cautious attitude within the last year. He explains that it's based off his cane, which he reinforced with lead to make it a weapon. He points out more stuff at the father's prompting, that he's been to Japan, New Zealand, and that he intimately knew someone with initials J.A. and is now on bad terms with them. The father faints at this and, when he comes to, declares that, based off his experience, that "all the detectives of fact and of fancy would be children" compared to Sherlock, and this inspired Sherlock to take up the profession.

(Emotional Perception, Observation, Abductive Reasoning)

Trevor's father Trevor Sr had a workhand named Hudson. Hudson was exploitative, drunken, and mean; it was a wonder to Trevor why the old man even kept him around. Eventually Hudson left to a Mr. Beddoes in New Hampshire. One night after Hudson had left, Trevor Sr received a letter from Fordingbridge which caused him to have a stroke.

Holmes makes the connection that Fordingbridge is in New Hampshire, which is also where Hudson went. So the letter was probably written by Hudson, informing him of betraying whatever leverage he had on Trevor Sr, or Beddoes as a warning. He wants to see the letter, which was previously described as mundane, to see what could have struck the old man as it did.

“The supply game for London is going steadily up. Head-keeper Hudson, we believe, has now been told to receive all orders for fly paper and for preservation of your hen-pheasant’s life.”

Sherlock was bewildered at first, but he reexamined it from every angle, searching for significance in the chosen words, rearranging the words, etc. At the very least, he makes the deduction that since Hudson is in the third-person the writer was Beddoes. He solves the riddle. Every third word from the first composes a message: “The game is up. Hudson has told all. Fly for your life.”

But the other words also inadvertently give clues. Sherlock explains how the secret message was composed first and the other words were thrown in as fillers to throw others who read it off. Naturally, the writer would be biased in the words they chose based on their environment. The theme of game, chickens, etc, reveals that the writer is a hunter or breeder.

He is right, and Trevor Jr reveals that his father left behind a letter revealing everything, which he hasn’t read. He was a criminal named James Armitage who escaped a prison ship in a bloodthirsty battle. While on a raft with his fellow prisoners, he picked up a seaman from the ship (Hudson). Hudson later blackmailed everyone of the escapees.

(Deductive Reasoning, Divergent Thinking, Observation, Pattern Recognition, FRI, VCI)|

The Musgrave Ritual

Another mystery relating to one of Sherlock’s college friends is that of Reginald Musgrave, whose case began when he caught his butler reading late at night a manuscript about one of his old family rituals. Reginald was so offended that he gave the man one week to leave with dignity, and one of his maids who Reginald was in a relationship with disappeared soon after, her footprints leading to a lake. The manuscript is this:

> Whose was it?
> His who is gone
> Who shall have it?
> He who will come
> What was the month?
> The sixth from the first
> Where was the sun?
> Over the oak
> Where was the shadow?
> Under the elm
> How was it stepped?
> North by ten and by ten, east by five and by five, south by two and by two, west by one and by one, and so under
> What shall we give for it?
> All that is ours?

Why should we give it?
For the sake of the trust

Sherlock instantly deduces that this referred to some spot and believes that this could clear the disappearances. He investigates the premises. To begin with the “oak” and “elm,” there is plainly a majestic oak in front of his house. There was an elm that stood 64 ft high, but it is cut now. Sherlock asks if the butler ever inquired about the height of the trees, which he did. From his position at the elm, he calculates that at a certain hour (in his case, less than one) the sun would lie at the topmost branches of the oak. From there he must investigate where the shadow of the elm falls. Since the elm is gone, he has to improvise. He made a peg, tied a string with a knot at each yard, took two fishing lines, and returned to the elm. He measures that the 6 ft rod casts a 9 ft shadow. He calculates that a 64 ft tree would then cast a 95 ft shadow. At the end he finds a conical depression on the ground. Sherlock follows the steps indicated in the ritual (north by ten, east by five, etc.) and finds himself before a passage. “And under” refers to a cellar under the house. They find the butler’s dead body there, but how that came to be is still mysterious.

In such matters, Sherlock always tries to read the situation from the other man’s point-of-view, making sure to account for their inferior intelligence. But that wasn’t as necessary here since the butler was noted to be very intelligent. Sherlock explains that the butler knew something valuable in a crevice beneath a stone there, but it was too heavy for him to lift alone. He couldn’t enlist help from outside since that would be too risky, but help from fellow staff, particularly the girl who was in love with him, would suffice. He jumped down into the hole, but she perhaps sent the stone back down onto him after he sent the treasure up. He had cheated on her before, and he might’ve failed to understand that she no longer loved him as men do; it would explain her hysterical behavior, Sherlock explains, though she was never heard from again.

(VSI, VCI, FRI, Emotional Understanding)

The Resident Patient

Doctor Percy Trevelyan brings this case to Holmes from his employer Blessington, but his employer has been acting strange lately. He became nervous after reading about a burglary in the news, and he recently freaked out when father and son paid a peculiar visit. A Russian nobleman and his son had sought consultation while Blessington was out — the old man was apparently suffering from catalepsy. During the consultation, the old man had a fit and went rigid, prompting the doctor to leave the room to get medicine. Trevelyan found that both of them were gone when he had returned.

The matter was cleared up soon after, as the son explained that his father had had some sort of amnesiac episode and left the room in a fight, and he assumed his father’s consultation was over. But Blessington panicked afterwards; he showed Trevelyan the footprints in his room (which is in the same building as the doctor’s office) and told him to tell Holmes the matter. Sherlock visits Blessington, who proves to be extremely paranoid, and the latter explains that he keeps all of his valuables in his room, hence his paranoia and fear. Sherlock sees that he’s lying and demands he tells the truth, but he doesn’t budge.

Leaving, Sherlock explains to Watson that he has an eye for distinguishing the ordinary sort of fear in a man's eye and a more personal, suspicious sort. Furthermore, at least two men are out to get him, and the catalepsy was faked (it's easy to do so, he explains). The consultation's hour ensured no other patients would be at the waiting room. The father's job was to keep the doctor distracted while the son skulked around. Given that there was no signs of search, the intruders weren't after plunder, so it was personal.

(Emotional Perception, Abductive Reasoning)

The next morning Blessington has apparently hanged himself. Holmes inspects a cigar case found in his pocket and concludes otherwise. One is from Havana, the others from Dutch, two have been smoked from a holder and two without, and have two were cut by a knife and two bitten. It wasn't a quick murder, evidenced by the cigars having had time to be smoked, indicating a "trial" of some sort was had. The older man sat at a wicker chair, where he used the cigar-holder; the younger man a distance off, where he knocked ash against the furniture; and the third paced about.

(Observation, Abductive Reasoning, VSI)

In the end, it turns out "Blessington" was one member of a crew of heisters, Blessington had snitched, and he wasn't frightened by a burglary but news of their release.

The Final Problem

Sherlock Holmes is in his office unusually nervous. He explains the cause behind it: Professor. Moriarty. Moriarty, he explains, is an extraordinarily gifted man in the world of mathematics, but rumors of criminal ties had forced him to step down from his university position and set up as an army coach in London.

For years Sherlock had felt a "deep organizing power" in the many forgeries, robberies, and murders he had solved, the presence of some malefactor, and after perhaps a thousand odd crimes he'd followed the trail back to the Professor - the Napoleon of Crime responsible for half of all crime in the city.

(Intuition)

"He is the Napoleon of crime, Watson. He is the organizer of half that is evil and of nearly all that is undetected in this great city. He is a genius, a philosopher, an abstract thinker. He has a brain of the first order. He sits motionless, like a spider in the center of its web, but that web has a thousand radiations, and he knows well every quiver of each of them. He does little himself. He only plans. But his agents are numerous and splendidly organized. Is there a crime to be done, a paper to be abstracted, we will say, a house to be trifled, a man to be removed — the word is passed to the Professor, the matter is organized and carried out. The agent may be caught. In that case money is found for his bail or his defence. But the central power which uses

the agent is never caught — never so much as suspected. This was the organization which I deduced, Watson, and which I devoted my whole energy to exposing and breaking up."

Holmes explains that Moriarty has so many safeguards that finding evidence would be near impossible, but the Professor made a slight mistake which Sherlock has capitalized on in his plan. Moriarty had come into his office a couple days prior and threatened him, telling him to drop his pursuit, since he knew Holmes's plan of getting Moriarty at the dock.

From then, Moriarty had already arranged multiple untraceable attempts on Sherlock's life — a carriage nearly ran him over, a brick nearly fell on his head, and a man had assaulted him. To keep Watson safe, he instructs Watson to send his luggage for their trip to Victoria, take a carriage to Lowther Arcade, giving his desired address by a slip of paper and making sure to tell the driver not to throw it away, and run to the other end of the Arcade to reach the other end at a quarter past 9. There Holmes had arranged a ride for Watson to take him to Victoria. They will meet at the station there, he says.

And they do, but Holmes is disguised as an Italian priest. He informs Watson that this whole precaution was because he had anticipated Moriarty to ramp up his attacks after the previous three failed. Their office on Baker Street had gone up in flames, but Moriarty had had Watson watched, so they still only narrowly evaded him on the train.

Sherlock further predicts that Moriarty can still easily accost them at Canterbury. He explains the plan further: from Canterbury, England they must go cross-country to Dieppe, France. Moriarty would be misdirected, having tracked the luggage to Paris, and wait 2 days there.

Sherlock had arranged the police to catch him and his whole gang on Monday, and the whole strategy was to hold out until then since Sherlock's testimony would be required.

(Anticipation, Trap Evasion, Strategy Shielding, Misdirection, Acting Skills, Counteraction)

He gets word that all have been caught except him. He tells Watson to leave, explaining that, if he's profiled Moriarty right, the man will be back for revenge and now Watson is also in grave danger. But Watson stays. The two continue their cross country journey, with Watson remarking how Sherlock never seemed depressed despite the great threat they faced.

At Reichenbach falls, Moriarty finally tracks Sherlock down. He uses a simple trick to isolate the detective, bribing a boy to tell Watson that a woman at their hotel urgently needs medical assistance, and goes to personally kill the detective. The two scuffle and both go plunging into the falls. A letter left behind by Sherlock, as a small courtesy by Moriarty, explains that Sherlock knew there was no sick woman, but ending Moriarty's reign would be worth the cost of it.