



1. In one scene in this novel, a commander is hindered by the Stone Sentinel Maze. Several characters in it take a pledge in the Oath of the Peach Garden. In this novel, the marriage of Lady Sun to Liu Bei is planned by Sun Quan after he wins the Battle of Red Cliffs, and the tyranny of Dong Zhou is ended by Lu Bu. Name this classic Chinese novel which details the turmoil towards the end of the Han Dynasty, including a split into multiple realms.

ANSWER: *The Romance of the Three Kingdoms* [or *San Guo Yan Yi*]

192-13-81-19101

2. This scientist invented an analog computer called the Monte Carlo trolley in order to facilitate his studies of neutron transport, and charged particles reflected off a magnetic mirror undergo his namesake acceleration. Perturbation theory uses his "golden rule." A facility named for him is the location of the DZero and CDF experiments, which discovered the top quark in 1995. That facility, which is home to the Tevatron particle accelerator, is located in Batavia, Illinois. Particles named for this man have half-integer spin and include leptons and quarks. Identify this Italian-American physicist.

ANSWER: Enrico Fermi

189-13-81-19102

3. This man's government created Project Merlin to increase lending to small businesses in 2011. In 2012, he met with Alex Salmond to discuss a possible devolution that Salmond advocates. In January 2013, he claimed he didn't want to "pull up the drawbridge" in a speech that proposed holding a referendum by 2017 on whether his country should remain in the EU. This man's party formed a coalition with the Liberal Democrats led by Nick Clegg after the 2010 general election. Name this prime minister of the United Kingdom.

ANSWER: David Cameron

121-13-81-19103

4. A graph can be represented by storing the adjacencies of each vertex in one of these data structures. A skip is made from layers consisting of this data structure. The last element of these data structures is usually NULL, but can be changed to reference their first element to form a "circular" one. They're not trees, but operations on these structures can be made easier by adding sentinel nodes. They are often used to implement stacks and queues. Name this data structure whose "doubly" form consists of nodes with pointers to their next node and previous node.

ANSWER: linked list [prompt on list]

201-13-81-19104

5. This thinker discussed the role of names as marks which aid one's memory in his *De Corpore*. His best-known book contains a chapter on the "Kingdom of Darkness." He delineated the concept of the "war of all against all." His magnum opus describes life as being "solitary, poor, nasty, brutish, and short." Identify this English philosopher who advocated for absolute sovereignty in his *Leviathan*.

ANSWER: Thomas Hobbes

189-13-81-19105



1. In Islam, this man is credited with having built the current Kaaba with one of his sons. That son received water from the nearby Zamzam Well, after this man brought him and his mother Hagar to Mecca. This man's other son had a name meaning "he laughs" after the reaction of this man and his wife to the news that she would have a child in her old age. This man was commanded to sacrifice that son on Mount Moriah as a proof of his love for God, but was stopped at the very last moment by an angel. Name this first patriarch, the father of Isaac.

ANSWER: Abraham [or Abram; or Ibrahim]

121-13-81-19101

2. One catalyst used to form this substance contains two iodine and two carbonyl ligands attached to an iridium atom in a square planar arrangement. That is the Cativa catalyst, which forms this substance via the carbonylation of methanol. At 16.6 degrees Celsius, crystals of the anhydrous form of this substance can be isolated in the "glacial" form of it. Name this substance with formula  $\text{CH}_3\text{COOH}$ , which is the primary component of vinegar.

ANSWER: acetic acid [or acetate]

140-13-81-19102

3. According to one story, this god trapped Theseus and Pirithous (PEE-rih-THOO-us) in their chairs after offering them a feast. He owns an invisible helmet that was made for him by the Cyclopes. This god split the three realms with his brothers Poseidon and Zeus. In one story, he uses some pomegranate seeds to force Persephone to be with him for part of the year after abducting her from Demeter. Name this owner of the three-headed dog Cerberus and Greek god of the underworld.

ANSWER: Hades [or Pluto]

015-13-81-19103

4. This state's Pennyroyal Region is located on the north of the Highland Rim, a plain that surrounds its second-largest city. That city, in this state, is combined with Davidson in a metropolitan area. This state is the location of the Oak Ridge National Laboratory and Clingman's Dome, the highest peak in the Great Smoky Mountains. The original name of this state was Franklin, and it is now home to Murfreesboro. Name this state whose flagship university is found in Knoxville.

ANSWER: Tennessee

019-13-81-19104

5. The synthesis of this compound requires tyrosine-194 to bind to its single reducing end. The synthesis of this compound uses UDP-conjugated monomers to form alpha-1,4-linkages, and a branching enzyme to generate alpha-1,6 linkages. This compound is broken down in response to glucagon, and it provides energy for about 6 hours during a fast. Name this polymer of glucose, which is stored in the liver and often called animal starch.

ANSWER: glycogen

048-13-81-19105



1. At St. Augustine's Church, this organization initiated its Free Breakfast for Children program. One leader of this organization described how he raped women as an act of rebellion in his book *Soul on Ice*. This group used the phrase "What We Want What We Believe" to preface their Ten-Point program. This organization was led for a time by Eldridge Cleaver and was founded by Huey Newton and Bobby Seale in Oakland. Name this radical black nationalist organization.

ANSWER: **Black Panther** Party for Self-Defense

020-13-81-19101

2. Antoine-Jean Gros painted this man visiting plague victims at Jaffa. A depiction of this man commonly shown in biographies includes a clock displaying the time of 4:13 AM and a ruffled white-on-blue outfit, suggesting that this man has been working through the night. In another painting, he is pointing to the left while looking towards the viewer and riding a bucking horse in rocky terrain. Identify this historical figure depicted "in his study at the Tuileries" and "crossing the Alps" by Jacques-Louis David.

ANSWER: **Napoleon** Bonaparte [or **Napoleon I**; or Napoleon **Bonaparte**]

019-13-81-19102

3. This character was raised by his Aunt Clara and hallucinates her scolding him at the end of the novel he appears in. This man was chased out of Weed on accusations of rape and is given a puppy by the "jerkline skinner" Slim. This figure's fate is foreshadowed by the death of Candy's dog. Constantly dreaming of being able to take care of the rabbits, he loves to pet soft things and accidentally breaks the neck of Curley's wife. For 10 points, name this mentally disabled ranch hand who is shot by his friend George at the conclusion of *Of Mice and Men*.

ANSWER: **Lennie** Small [or Lennie **Small**]

052-13-81-19103

4. One portion of this document concerned the removal of fish-weirs from waterways, and another portion of this document concerns the levying of "scutage" money. This document was signed a year after the Battle of Bouvines, and one of its clauses led to the First Barons' War. This document codified the right of habeas corpus and limited the power of the English throne. For 10 points, identify this document signed by King John at Runnymede in 1215 that has a name in Latin meaning "Great Charter."

ANSWER: **Magna Carta** [or **Great Charter** before read]

189-13-81-19104

5. One of the earliest structures of this kind was excavated at Dura-Europos. The Vikings constructed "stave" ones and Ethiopians built many rock-hewn ones. The Cenacle, or the Upper Room, is often touted as the first one. In these buildings, several aisles all meet up at a nave, the central approach to the front. Roman marketplaces and courthouses provided the model for a specific type of these buildings, known as basilicas. The lectern and pulpit are stands that may be found in these buildings. A cathedral is a specific type of what buildings, Christian places of worship?

ANSWER: **churches** [or **abbeys**; or **basilicas** until it is read; or **house churches**; or **cathedrals** until it is read]

020-13-81-19105



1. The discoverer of these functions is John Napier. This function of a root of  $x$  is equal to this function of  $x$  divided by the order of the root. Without a horizontal shift, these functions all possess a vertical asymptote at  $x$  equals zero. This function of a quotient is equal to this function of the numerator minus this function of the denominator.  $e$  is the base of the "natural" one of these functions, written as  $\ln$  (L N). Ones that do not specify a base are assumed to be base 10. For 10 points, name these functions which can be thought of as reverse exponents.

ANSWER: logarithms

020-13-81-19101

2. This controversy grew from violations of the Boland Amendment and was first reported by Lebanon's *Ash-Shiraa* magazine. One man who lied to Congress during this scandal later hosted a show about "War Stories" on cable TV. The Tower Commission outed Oliver North's role in this scandal, which revealed the source of funds for anti-Sandinista Nicaraguan rebels. Name this scandal stemming from the Reagan administration's illegal sale of arms to a hostage-holding Islamic Republic.

ANSWER: Iran-Contra affair [or obvious equivalents involving arms sales to Iran to fund the Contras]

104-13-81-19102

3. One approximation related to these objects states that the index of refraction minus one times the difference between the reciprocal of the radii of curvature equals the inverse of a certain quantity. That approximation is the thin "this device" approximation. When an object is placed off their primary axis they create comas. Their focal length over their focal length minus their distance from an object is equal to their magnifying power. For 10 points, name these optical devices that refract light and come in concave and convex forms.

ANSWER: lens

149-13-81-19103

4. This country had a dispute with a neighboring country over Tuzla Island in the Kerch Strait, which connects the Sea of Azov and the Black Sea. The 2004 Orange Revolution occurred in this country. The Dnieper (NEE-pur) river flows from the north to south in this country, and an autonomous republic within this country lies on the Crimean peninsula. For 10 points, name this country in Eastern Europe which borders Russia and whose city of Pripjat was the site of the 1986 Chernobyl nuclear disaster.

ANSWER: Ukraine

194-13-81-19104

5. These languages have, in addition to "voiced" and "voiceless" consonants, "emphatic" consonants pronounced deep in the throat. Verbs and nouns in these languages are formed by inserting vowels into roots of three consonants. The only language in this group written in the Latin script is Maltese. The second most-spoken language in this group is the official language of Ethiopia, Amharic; it also includes the dead languages Akkadian, Phoenician, and Aramaic. For 10 points, name this set of languages that includes Hebrew and Arabic.

ANSWER: Semitic languages [prompt on Afro-Asiatic languages]

080-13-81-19105

