



1. The title characters of this novel care for a family of German immigrants named the Hummels. One of its characters bears twins named Daisy and Demi. Another of its characters marries the famous German professor Fritz Bhaer. Climactic events in this novel include Beth's death from scarlet fever and Amy throwing her sister's novel into the fire. For 10 points, name this novel in which Amy, Beth, Meg, and Jo are members of the March family, a work of Louisa May Alcott.

ANSWER: Little Women

015-12-36-08101

2. This man defeated Democratic candidate Horatio Seymour to be elected to his first term as president. As president, he signed the Treaty of Washington and presided over the passage of the Fifteenth Amendment. In another post, he earned the nickname "Unconditional Surrender" after taking Fort Donelson. This man ordered the disastrous attack on Cold Harbor, and won the Sieges of Vicksburg and Petersburg. For 10 points, name this Union general who accepted the Confederate surrender at Appomattox.

ANSWER: Ulysses S. Grant [or Hiram Ulysses Grant]

015-12-36-08102

3. In this work, the innkeeper Caderousse is afraid to expose the writers of a letter falsely accusing the protagonist of Bonapartist conspiracy. The protagonist of this work receives an education Abbe Faria, whom he meets by digging with a piece of pottery in his cell at the Chateau D'If (DEEF), where he is imprisoned by Villefort. This novel's title character, the beloved of Mercedes, is the sailor Edmond Dantes. For 10 points, name this novel by Alexandre Dumas.

ANSWER: The Count of Monte Cristo [or Le Comte de Monte-Cristo]

014-12-36-08103

4. One ruler of this name was the only ruler for the House of Saxe-Coburg-Gotha and came to power after the death of Queen Victoria. Another monarch of this name won at Falkirk against William Wallace and was nicknamed Longshanks. A prince with this name earned his spurs while fighting at the Battle of Crecy under his father, the third king of this name. For 10 points, give this regal name born by the victor of the Battle of Poitiers during the Hundred Years' War known as the Black Prince.

ANSWER: Edward [or Edward VII of England; or Albert Edward; or Edward II of England; or Edward Longshanks; or Edward the Black Prince; or Edward of Woodstock; or Edward III of England]

040-12-36-08104

5. This piece was originally supposed to sit above the door panels of a larger work commissioned for the Museum of Decorative Arts. One of the original names for this work suggests that it is supposed to depict Dante in front of the gates of Hell. In this work, a man's toes grip the rock upon which he is seated, and his right elbow and left arm rest on his left leg. For 10 points, name this sculpture by Auguste Rodin (oh-GOOST row-DAH-N) that shows a man resting his chin on his hand in a contemplative posture.

ANSWER: The Thinker [or The Thinking Man; or Le Penseur; or The Poet]

023-12-36-08105

6. This incident was investigated by Senator Thomas Walsh, who managed to target the perpetrator of it based on loans made by Edward Doheny. Eventually, the perpetrator was charged for jury tampering and bribery after obtaining over half a million dollars from circumventing competitive bidding on the Elk Hills and Buena Vista fields. For 10 points, name this scandal that involved Secretary of the Interior Albert Fall illegally leasing naval oil reserves during the Harding administration.

ANSWER: **Teapot Dome** scandal

119-12-36-08106

7. This author created the theater director Doctor Hinkfuss and a character who believes he is a Holy Roman Emperor after his horse is pricked by Belcredi and he falls off. This author of *Tonight We Improvise* and *Enrico IV* also wrote a play in which Madame Pace uses a dress shop as a front for a brothel and the title group includes The Father, The Step-Daughter, and The Boy. For 10 points, name this twentieth-century Italian playwright of *Six Characters in Search of an Author*.

ANSWER: Luigi **Pirandello**

014-12-36-08107

8. One function of this organelle is the processing of ribosomal RNA and the creation of preribosomal particles. Granules and fibrils in this organelle help transport mRNA through pores in its namesake envelope. Introns are removed during the processing of the mRNA that results from transcription in this organelle. For 10 points, name this membrane bound organelle that houses most of the cell's DNA.

ANSWER: **nucleus** [or **nucleolus** before granules]

123-12-36-08108

9. In this story, Mr. Dunbar, who has a broken leg, is absent, and one character complains that they will all start "eating stewed chickweed and acorns" if young people have their way. That character is the oldest man in the town. Mr. Summers presides over the central event in this story, which is attended by Old Man Warner. For 10 points, name this story in which Tessie Hutchinson is stoned to death after "winning" the title event, a work of Shirley Jackson.

ANSWER: "The **Lottery**"

120-12-36-08109

10. Towards the end of his term, this man delivered an address often referred to as his "malaise" speech. This man declared a federal emergency at the site of New York's Love Canal and was President during the the Three Mile Island meltdown. The taking of fifty-two hostages at the American embassy in Iran hurt this man's chances for reelection. For 10 points, name this President who oversaw the signing of the Camp David Accords in 1978.

ANSWER: Jimmy **Carter** [or James Earl **Carter**, Jr.]

088-12-36-08110

11. This river is surrounded by *terra preta* soil, characterized by high charcoal content produced by swidden. Its mouth contains a Switzerland-sized island, once home to the Marajoara (muh-ruh-ZHO-ah-ruh) people. Its basin is the primary habitat of the giant otter and electric eel. The largest city on its shores is Manaus (mah-NAH-oos), Brazil. It is named for a mythological race of female warriors and passes through the rainforest of the same name. For 10 points, name South American river.

ANSWER: **Amazon** River [or Rio **Amazonas**]

133-12-36-08111

12. One method of writing this language uses tab, dez, and sig symbols and is known as Stokoe notation. Idioms in this language include saying “Cow-it” for “I don’t care.” This language can use a ligature of I, L, and Y to say “I love you”. It was developed in Martha’s Vineyard in an effort to educate Alice Cogswell by Thomas Gallaudet, and it uses a pinky traced in a zig-zag shape to indicate the letter Z. For 10 points, name this language used by deaf Americans.

ANSWER: **ASL** or **American Sign Language**

048-12-36-08112

13. One poem by this author ends “Then while we live, in love let’s so persevere, that when we live no more, we may live ever.” This poet’s library of eight hundred books was destroyed in an event which she recalled in “Verses upon the Burning of Our House.” The line “If ever two were one, then surely we” begins her poem “To My Dear and Loving Husband.” For 10 points, name this author of *The Tenth Muse Lately Sprung Up in America*, a poet of the Massachusetts Bay Colony.

ANSWER: Anne **Bradstreet** [accept Anne **Dudley**]

014-12-36-08113

14. In his last year of college, this quarterback led his team to eleven wins, including the "Miracle in Morgantown," before losing in the Sugar Bowl by Florida State. He once used the alias "Ron Mexico" to seek medical treatment. This man was named the 2010 Comeback Player of the Year after leading the Philadelphia Eagles to the playoffs. For 10 points, name this former Virginia Tech quarterback who played for the Atlanta Falcons before being arrested for dogfighting.

ANSWER: Michael **Vick**

139-12-36-08114

15. One variety of this procedure uses the relationship between mass transfer and eddy diffusion found in the Van Deemter equation, while another uses ion-exchange resins. Those varieties sets the mobile and stationary phases in columns. Another type uses a silica plate and separates dyes based on polarity. For 10 points, identify this technique of separating mixtures that comes in thin-layer and paper varieties.

ANSWER: **chromatography**

146-12-36-08115



1A. This is a 10-second calculation question. Find the domain of the function f of x equals the square root of the quantity $2x$ plus 4.

ANSWER: **x greater than or equal to -2** [do not accept " x greater than -2"]

1B. This is a 10-second calculation question. What is the probability of drawing either an ace or a seven out of a standard deck of 52 playing cards? Express your answer as a fraction in lowest terms.

ANSWER: **2/13**

2A. Name the form of Buddhism popular in Japan whose proponents recite koans (KO-ans), such as "What is the sound of one hand clapping?"

ANSWER: **Zen** Buddhism [or **Chan** Buddhism; or **Thien** Buddhism; or **Dhyana** Buddhism]

2B. What leader had quotes collected in the *Little Red Book* and led the Long March as the first Communist leader of China?

ANSWER: **Mao** Zedong [or **Mao** Tse-tung]

3A. Name the Russian chemist predicted undiscovered elements like gallium in his early version of the periodic table.

ANSWER: Dmitri Ivanovich **Mendeleev** (men-deh-LAY-ev)

3B. This god's sons Magni and Modi will inherit his hammer Mjollnir after Ragnarok. Identify this Norse god of thunder.

ANSWER: **Thor** [or **Thunor**; or **Donar**; or **Thonar**]

4A. This is a 20-second calculation question. Factor completely over the reals: x cubed minus x squared minus four x plus four.

ANSWER: **$(x-1)(x-2)(x+2)$** (" x minus one, times x minus two, times x plus two") [accept factors in any order]

4B. This is a 20-second calculation question. Find the measure of each interior angle in a regular nonagon.

ANSWER: **140** degrees [or **7pi over 9** radians]

5A. What Scandinavian country, home to many fjords (FI-ords), is the western neighbor of Sweden?

ANSWER: **Norway**

5B. What curve plots quantity versus price and intersects with a good's supply curve to give the equilibrium price?

ANSWER: **demand** curve

6A. This law gives the angle at which light travels in a new medium given the angle of incidence and the indices of refraction of both media. Name the law stated as " $n_1 \sin \theta_1 = n_2 \sin \theta_2$."

ANSWER: **Snell's** Law

6B. What French philosopher wrote the statement, "Cogito [KOH-gee-toe] ergo sum," or "I think, therefore I am?"

ANSWER: Rene **Descartes** [dey-KAR]

7A. This is a 30-second calculation question. Find the interquartile range of the following set: 1, 12, 23, 4, 44, 17, 20, 9, 29, 6.

ANSWER: **17**

7B. This is a 30-second calculation question. Three students each randomly and independently pick a positive integer no more than 5. Find the probability that the product of their numbers is odd.

ANSWER: **27/125** [or 0.216]

8A. Identify the adventure novel by Robert Louis Stevenson in which Jim Hawkins's life is saved by the one-legged cook Long John Silver.

ANSWER: **Treasure Island**

8B. What war pitted the Popular Front against the Falange (fah-LAHN-hay) party starting in 1936 and resulted in the rule of Francisco Franco?

ANSWER: **Spanish Civil War**

9A. Which site involving "circles" and "huddles" was launched in May 2011 as a rival to Facebook?

ANSWER: **Google Plus**

9B. Name the novel by John Steinbeck in which George shoots his mentally deficient friend Lennie to save him from being lynched by Curley.

ANSWER: **Of Mice and Men**

10A. The San Andreas is an example of what type of division between tectonic plates?

ANSWER: **faultline**

10B. Identify the type of animal who is born from a stone egg and becomes a king in the classical Chinese novel *The Journey to the West*.

ANSWER: **monkey** [do not accept "ape"]



1. This man included the image of a “transparent eyeball” in his essay *Nature*. He said that the title figure should not be a “parrot of other men’s thinking” in “The American Scholar.” He coined the term “shot heard round the world” in his poem “Concord Hymn,” and he wrote that “A foolish consistency is the hobgoblin of little minds” in an essay which warns against conformity. For 10 points, name this transcendentalist friend of Thoreau who wrote “Self-Reliance.”

ANSWER: Ralph Waldo **Emerson**

015-12-36-08117

2. This composer created the duet “Holde Gattin, dir zur Seite” sung by Adam and Eve. He quoted an anthem he wrote for Francis II in his *Emperor String Quartet*. One of his works ends with an adagio during which the performers gradually leave and was written for his patron Prince Esterhazy. This composer included an unexpected fortissimo chord in another symphony. For 10 points, name this Austrian composer of *The Creation*, whose 104 symphonies include the “Farewell” and the “Surprise.”

ANSWER: Joseph **Haydn** [or Franz Joseph **Haydn**]

020-12-36-08118

3. This letter denotes the set of all eigenvalues or spectrum of a matrix and the constant of proportionality in the Stefan-Boltzmann law. In chemistry, it signifies the bond created by two s orbitals, which may be found between two carbon atoms in an alkane. This letter also denotes a quantity equal to the square root of variance, the standard deviation. For 10 points, identify this Greek letter whose uppercase form is best known for indicating summation.

ANSWER: **sigma**

125-12-36-08119

4. One character in this work awakens with a bleeding nose and untangles the lines of a parachute from some rocks after fainting from his confrontation with the head of a sow impaled on a stake. In this novel, the sadistic Roger is responsible for the smashing of the conch shell and the death of the glasses-wearing Piggy. Jack Merridew initiates the disintegration of order among the plane crash survivors, culminating in the manhunt for Ralph. For 10 points, name this novel by William Golding.

ANSWER: *The* **Lord of the Flies**

014-12-36-08120

5. One type of this tissue consists of cells joined by intercalated disks. T-tubules are sections of the plasma membrane, or sarcolemma, that wrap around the functional unit of this tissue, the sarcomere. The sarcomere contains actin and myosin filaments that slide across each other to perform this tissue's most important function. For 10 points, name this tissue that comes in smooth, cardiac, and skeletal types, which produces movement of body parts such as the biceps.

ANSWER: **muscle**

003-12-36-08121

6. In one role, this actor portrayed a British boy who, along with the sailor Basie, is captured and put in an internment camp in *Empire of the Sun*. This actor threw a tantrum on the set of a film where he appears on Skynet's "kill list" along with Kyle Reese. Another of this man's characters tells Lieutenant James Gordon to blame murders on him. For 10 points, name this actor who played John Connor in *Terminator Salvation* and the title character in *The Dark Knight*.

ANSWER: Christian **Bale**

136-12-36-08122

7. This term describes molecules with a mu of 0 Debye, and most hydrocarbons are this type of molecule. London dispersion forces are the dominant intermolecular force for this type of substance, and most of these substances are hydrophobic. When the electronegativity of two atoms are equal, they share the bonding electron pair equally and thus form this type of covalent bond. For 10 points, name this term which describes molecules which doesn't have a dipole moment.

ANSWER: **non-polar**

066-12-36-08123

8. In addition to kidney problems, people with Alport syndrome notably suffer from this condition, while presbycusis is a form that occurs with age. The Weber and Rinne tests are used to diagnose it and distinguish between the conductive and sensorineural forms of it. It can be acquired from damage to the eighth cranial nerve. Cochlear injury can also cause it. For 10 points, name this condition in which one cannot hear.

ANSWER: **deafness** [accept **hearing loss** or **hearing impairment** before "hear"]

048-12-36-08124

9. One play by this man concerns a butler who takes over his master's house with a con artist who promises Sir Epicure Mammon the philosopher's stone. In addition to that play about Subtle and Face, this writer created a man who pretends to be dying in order to obtain favors from his potential heirs Corvino, Corbaccio, and Voltore. For 10 points, name this Renaissance English playwright who wrote the comedies *The Alchemist* and *Volpone*.

ANSWER: Ben **Jonson**

014-12-36-08125

10. Complete reduction of a ketone results in one of these compounds. A molecule of one of these compounds has $2n + 2$ hydrogen atoms, where n is the number of atoms of carbon. Because they contain the maximum possible hydrogen atoms, these organic compounds are said to be "saturated." For 10 points, name these hydrocarbons containing only single bonds, examples of which include methane and propane.

ANSWER: **alkanes** [do not accept "alkenes" or "alkynes", prompt on "hydrocarbons"]

142-12-36-08126

11. This artist depicted a red room that contains a pool table and tall bar filled with bottles in a work painted while he lived in Arles. This artist of *The Night Cafe* painted a poor family in a dark room eating in his early work *The Potato Eaters*. Another of this man's paintings depicts a tall, wavy tree below a dark blue sky filled with a moon and the title objects. For 10 points, name this Dutch post-impressionist painter of *Starry Night*.

ANSWER: Vincent Willem **van Gogh**

005-12-36-08127

12. In June 2011, this country's Green Party became a partner in a ruling coalition after a deal to phase out nuclear power by 2022. The Green Party here is also known as Alliance '90. This country's two largest parties are the Social Democrats and the Christian Democratic Union. This country's current chancellor is the first woman and the first person from the eastern part of this country to hold that role. For 10 points, name this European nation, whose current chancellor is Angela Merkel.

ANSWER: Federal Republic of **Germany** [or Bundesrepublik **Deutschland**; or **FRG**; or **BRD**]

137-12-36-08128

13. While representing this state, John Dickinson wrote the Olive Branch Petition. William Howe's victory at the Battle of Brandywine Creek in this state allowed him to take the then-colonial capital, also in this state. This state was the site of both Continental Congresses and the Constitutional Convention. This state received its name from its Quaker founder. For 10 points, name this state where the Declaration of Independence was signed and where the Liberty Bell sits, both in Philadelphia.

ANSWER: **Pennsylvania**

027-12-36-08129

14. According to quantum chromodynamics, these entities can be red, green, or blue, and interact by exchanging gluons. The closer together they are, the less they interact, a phenomenon known as asymptotic freedom. Baryons have half-integer spin because they are made up of three of these particles; for example, two "up" and one "down" constitute a proton. For 10 points, name these subatomic particles whose six "flavors" include "top," "strange," and "charm."

ANSWER: **quarks**

142-12-36-08130

15. During the Bush Administration this man served as chair of the House Education and Workforce Committee, and he succeeded Tom DeLay as House Majority Leader. This Republican has represented Ohio's 8th district since 1991 and has become known in satirical circles for his propensity to cry. More recently, this man has supported the Paul Ryan budget and stated that "nobody" believes that the U.S. will default on its loans. For 10 points name this current Speaker of the House.

ANSWER: John **Boehner**

141-12-36-08131



1. The second scene of this opera sees its female protagonist sing the aria "Una voce poco fa". In the opening scene of this opera, the baritone sings a tongue-twister-filled aria in which he describes how highly in-demand and busy he is; that aria is "Largo al factotum". This opera sees Dr. Bartolo's attempts to marry Rosina foiled by Count Almaviva, who in one scene is shaved by Figaro, the title character. For 10 points, name this comic opera by Gioacchino Rossini.

ANSWER: *The **Barber of Seville**, or The Useless Precaution [or Il **barbiere di Siviglia**, ossia L'inutile precauzione]*

020-12-36-08132

2. Marjory Stoneman Douglas has been called the "Grandmother" of this location. The Shark River runs through it, and this location has been called the "River of Grass" due to the prevalence of sawgrass. Attempts to restore this place involved straightening the Kissimmee River. Its headwaters are located at Lake Okeechobee, and "Alligator Alley" passes through this location. For 10 points, name this large wetlands area located in Florida.

ANSWER: the **Everglades**

052-12-36-08133

3. The coherence of these entities is maintained in many systems by the MESI protocol, as well as by such processes as snooping and snarfing. An example of these entities used to map virtual and physical address spaces is known the translation lookaside buffer. Those used by the CPU are generally divided into the levels L1 and L2, and they use write-back or write-through allocation. For 10 points, identify these structures that use the principle of locality to optimize memory efficiency.

ANSWER: **caches**

029-12-36-08134

4. This man led the expedition that discovered the Rosetta Stone. This man grabbed the crown from the hands of Pope Pius VII and crowned himself after seizing power from the Directory on the 18th of Brumaire (brew-MAIR). This man introduced the Continental System against Britain. Because this man failed to supply his troops for winter, his 1812 invasion of Russia failed. For 10 points, name this Emperor of France who escaped the island of Elba only to be defeated at the Battle of Waterloo.

ANSWER: **Napoleon** I Bonaparte

066-12-36-08135

5. These types of numbers share the same cardinal number as sets referred to as aleph-null. By examining values less than or equal to x , the floor function of x gives the largest value of these types of numbers, which are the only solutions allowed by Diophantine equations. \mathbb{Z} is used to denote the set of these types of numbers, which include whole and natural numbers. For 10 points, name these types of numbers such as negative two, zero, or five.

ANSWER: **integers**

130-12-36-08136