

1. Along with Szilard, this man invented a refrigerator that has no mechanical parts. He is the namesake of a model of heat capacity that is similar to Debye's. He gives his name to rings that occur when light bends around by a large mass. This man's namesake field equations describe gravitation. In 1905, this man wrote a paper on Brownian motion, and another paper on the quantized nature of the photoelectric effect. He also envisioned a theory that led to the twin paradox. For 10 points, name this physicist behind special and general relativity.

ANSWER: Albert **Einstein**

001-09-1-12101

2. One character created by this author escapes from a tower with the aid of his aunt Gina, and earlier stumbles onto the Waterloo battlefield. This author created Fabrizio del Dongo in *The Charterhouse of Parma*, and ended another novel with a woman kissing the lips of a beheaded man. That man impregnates Mathilde, the daughter of his employer, the Marquis de la Mole, but earlier in this novel begins an affair with Madame de Rênal. This author wrote a novel about Julien Sorel, whose two title colors refer to army uniforms and priest robes. For 10 points, name this French author of *The Red and the Black*.

ANSWER: **Stendhal** [or Marie-Henri **Beyle**]

034-09-1-12102

3. The Hausdorff dimensions of these objects are greater than their topological dimensions. Examples of these objects include the Menger sponge and the Sierpinski triangle, and types of them, such as the Cantor set, can be created by infinitely iterating a recursive equation. These objects exhibit self-similarity on very small scales, and resemble natural features like coastline and snowflakes. For 10 points, identify these geometric spaces named by Benoît Mandelbrot, which contain infinitely smaller copies of themselves.

ANSWER: **fractals**

004-09-1-12103

4. In some poems, this author describes some socks knit for him by Mama Mori, some salt he saw in a cellar, and his laziness. This author of *Elementary Odes* wrote a poem about the speaker climbing "the ladder of the earth" to reach "the heights of Macchu Picchu." The lines "Tonight I can write the saddest lines" and "the memory of you emerges from the night around me," appear in this author's "Twenty Love Poems and a Song of Despair." For 10 points, name this Nobel-winning poet from Chile.

ANSWER: Pablo **Neruda** [or Ricardo Eliecer Neftalí **Reyes** Basualto]

033-09-1-12104

5. One of this man's self portraits contains a skeletal arm parallel to the frame. This artist painted a red headed woman sinking her teeth into a slumped man's neck in *Vampire* and included such canvases as *Puberty*, *Death in the Sickroom*, and *Angst* in his *Frieze of Life* series. This artist painted a bright red and orange sky swirling into a blue river, which passes underneath a bridge where two passersby vanish on the left edge, and where the central figure clasps his head with his hands and performs the central action. For 10 points, name this Norwegian painter of *The Scream*.

ANSWER: Edvard **Munch**

045-09-1-12105

6. One character in this novel learns that she is an aunt to two adopted children after Corinne falls ill. Another character chooses to undergo ritual scarification out of empathy for the female circumcision ritual suffered by the woman he loves, Tashi. One woman in this novel is sentenced to work for a mayor for twelve years, after initially refusing by saying "Hell no!" That woman, Sofia, later remarries Harpo. The main character of this novel learns that "Mister" has hidden letters written by Nettie; later, that woman opens a pants shop with Shug Avery. For 10 points, name this novel about Celie, written by Alice Walker.

ANSWER: *The Color Purple*

032-09-1-12106

7. This man defended the British soldiers accused of carrying out the Boston Massacre. In the First Continental Congress, this man nominated George Washington to be commander of the Continental Army. This politician appointed Thomas Jefferson to write the Declaration of Independence. During this man's presidency, the Quasi-War with France occurred, having been sparked by the XYZ affair. The Alien and Sedition Acts were passed by, for 10 points, what Federalist president, the second president of the United States?

ANSWER: John Adams [prompt on Adams]

030-09-1-12107

8. Certain ridges in these structures are called lophs, and they are connected to the alveolar bone. Cells crucial in their development include ameloblasts. Different types of them include brachydonts and hypsodonts. The innermost part of these structures is known as the pulp. They are covered by a layer of hard enamel. For 10 points, name these structures in the mouth that help break up food.

ANSWER: teeth

001-09-1-12108

9. This artist painted a woman in a yellow and white gown smiling underneath a landscape portrait in his *The Guitar Player*. This artist painted a girl seated above a checkered floor being handed a the title correspondence in *The Love Letter*. Several of this artist's works, like his *The Milkmaid*, contain an open window at the upper left. This artist painted a girl with a blue headband wearing a turban in *Girl with a Pearl Earring*. For 10 points, name this Dutch painter of genre scenes and landscapes like *View of Delft*.

ANSWER: Jan Vermeer [or Johannes Vermeer]

024-09-1-12109

10. The main character of this novel is shown a crucifix and asked if he believes in God, replying that he does not. Later, the main character of this novel runs into Marie Cardona while swimming and writes a letter on behalf of the abusive Raymond Sintès (sin-TEZ). At the start of this novel, the main character spends the entire night talking to a doorkeeper at the Home for Aged Persons in Marengo without viewing his mother's corpse, a fact that is later brought up at trial. An Arab man is shot by Mersault (mur-SOH) in, for 10 points, what novel by Albert Camus?

ANSWER: *The Stranger* [or *L' Étranger*]

019-09-1-12110

11. Alfred Hugenberg gave significant media exposure to this leader. This man consolidated his power by ordering the murder of Ernst Rohm. This leader installed Arthur Seyss-Inquart (AR-tour ZICE INK-vart) as the ruler of Austria after enforcing the Anschluss. This man successfully annexed the Sudetenland from a neighboring country. This man's ministers Heinrich Himmler and Hermann Göring (GUR-ing) ran his secret police force, the Gestapo. For 10 points, name this German dictator who ruled the Third Reich as the leader of the Nazi Party.

ANSWER: Adolf Hitler

004-09-1-12111

12. This mythological character used a stool to kill his tutor Linus. This figure killed his children in a fit of madness, then atoned by serving a king who at one point hid in a jar. That king sent this character to retrieve Hippolyta's (hip-AH-lih-tuhz) girdle and kill the Stymphalian (stim-FAIL-ee-un) birds. He also freed Prometheus, tricked Atlas into holding up the world again, and fetched three golden apples from the garden of the Hesperides (hess-PER-id-eez). For 10 points, name this son of Alcmene (ALK-mee-nee) and Zeus, who completed twelve labors using his superhuman strength.

ANSWER: **Herakles** [or **Hercules**]

005-09-1-12112

13. This technique was developed alongside an analogous, but slower and easier-to-control procedure, named for Siemens and Martin. Sidney Gilchrist Thomas solved the "phosphorus problem" with this procedure by introducing a dolemite lining, which produced phosphate fertilizer as a byproduct. The apparatus central to this technique depends on openings called "Tuyeres," through which oxygen flows into an ovoid container. This process results in the removal of sulfur and excess carbon in order to make an alloy of iron. For 10 points, name this industrial process, the first widespread way to make steel.

ANSWER: **Bessemer** process [prompt on **steelmaking** or equivalents]

026-09-1-12113

14. This author wrote about Hank Stamper, who vows to "Never give an inch" during a logging strike in Southern Oregon, in *Sometimes a Great Notion*. He also created Billy Bibbitt, who kills himself after he is caught with the prostitute Kandy. This subject of Tom Wolfe's *The Electric Kool-Aid Acid Test* also wrote a novel narrated by an Indian called Chief Bromden, which ends with the death of a lobotomy patient. For 10 points, name this leader of the Merry Pranksters, who created Nurse Ratched and R.P. McMurphy in *One Flew Over the Cuckoo's Nest*.

ANSWER: Ken Elton **Kesey**

027-09-1-12114

15. In 1944, this team defeated the ancestors of the Baltimore Orioles in an intracity World Series. This team's 1934 World Series champions were known as the Gas House Gang and led by such colorful players as "Ducky" Medwick and "Dizzy" Dean. In 1968, this team won the National League behind Bob Gibson's 1.12 ERA, and in 1998, Mark McGwire broke the single-season home run record playing for this team. For 10 points, name this team that is housed in Busch Stadium, whose current stars include Albert Pujols.

ANSWER: St. Louis **Cardinals** [or **St. Louis** Cardinals]

027-09-1-12115

1A. Attorney general Henry McMaster is investigating misuse of South Carolina-owned aircraft by what Republican governor, who admitted to flying to Argentina for an affair in June 2009?

ANSWER: Mark **Sanford**

1B. This man examined the crystal structure of snowflakes in his *Micrographia*. Name this seventeenth-century scientist, who also coined the word "cell" and discovered a law of elasticity.

ANSWER: Robert **Hooke**

2A. Name the river which receives the Farmington and Chicopee tributaries and flows into Long Island Sound, after forming most of the border between Vermont and New Hampshire.

ANSWER: the **Connecticut** River

2B. Name the indie-rock band led by Colin Meloy that released the well-received 2009 album *The Hazards of Love* as a followup to *The Crane Wife*, *Picaresque*, and *Castaways and Cutouts*.

ANSWER: The **Decemberists**

3A. What French author of *The Haunted Chair* and *The Mystery of the Yellow Room* achieved his most lasting success with his 1910 novel *The Phantom of the Opera*?

ANSWER: Gaston **Leroux** (leh-ROO)

3B. This man retitled his male nude *The Vanquished* to *The Age of Bronze*. Name this French sculptor of *The Gates of Hell*, which includes his *The Kiss* and *The Thinker*.

ANSWER: Auguste **Rodin**

4A. This is a 10-second calculation question. Find the slope of the line with x-intercept 4 and y-intercept -6.

ANSWER: **3/2** [or **6/4** or **1 1/2** or equivalents]

4B. This is a 10-second calculation question. Solve for x: $6x + 17 = 3x - 10$.

ANSWER: $x =$ **-9**

5A. In languages such as German, nouns in this case can function as adverbs. Name this case whose basic function is indicating possession.

ANSWER: **genitive** case

5B. Costa Rica's Oscar Arias (AH-ree-us) is attempting to negotiate a solution to the court-ordered military coup that ousted President Manuel Zelaya (zeh-LYE-uh) in what Central American country?

ANSWER: Republic of **Honduras** [or Republica de **Honduras**]

6A. This is a 20-second calculation question. Seven students take a test, and get scores of 51, 5, 84, 47, 12, 19, and 71. Find the median of these test scores.

ANSWER: **47**

6B. This is a 20-second calculation question. If six golf balls weigh ten ounces, how much will twenty golf balls weigh?

ANSWER: **33 1/3** ounces [or **100/3** ounces]

7A. Identify the acid-base theory, first presented in 1923, which defines acids as compounds that can attach to an unshared pair of electrons.

ANSWER: **Lewis** theory

7B. What anatomical name is given to any unit of poetic meter, such as a dactyl, iamb, or trochee?

ANSWER: metrical **foot**

8A. Identify the type of volcano that is composed of a broad cone of basaltic lava and notably makes up the Hawaiian islands.

ANSWER: **shield** volcano

8B. The kulan and the quagga are exotic members of what animal genus, which more notably includes the donkey, zebra, and horse?

ANSWER: **equus**

9A. This is a 30-second calculation question. Find the perimeter of a right triangle with legs of 9 and 12 inches.

ANSWER: **36** inches

9B. This is a 30-second calculation question. Divide one and two-fifths by three-eighths.

ANSWER: **56/15** [or **3 11/15**]

10A. Name the Venezuelan-born pitcher who won two American League Cy Young Awards with the Twins before he was traded to the Mets prior to the 2008 season.

ANSWER: Johan **Santana**

10B. This man wrote the example sentence “colorless green ideas sleep furiously” in his landmark book *Syntactic Structures*. Name this MIT linguist and political commentator.

ANSWER: Avram Noam **Chomsky**

1. Wilhelm Fitchzagen commissioned and rewrote this man's *Rococo Variations*. His first symphony is subtitled *Winter Daydreams* and his second is subtitled *Little Russian*. Van Cliburn won a 1958 competition by performing a work Rubinstein called "unplayable", his *Piano Concerto No. 1 in B-flat Minor*. A 5/4 "limping waltz" forms the second movement of his sixth symphony, subtitled *Pathetique*. The score of a work he wrote to commemorate the Battle of Borodino calls for cannon fire. For 10 points, identify this Russian composer of the *1812 Overture* and the ballet *Swan Lake*.

ANSWER: Pyotr Ilyich **Tchaikovsky**

029-09-1-12117

2. Troops from this nation were sent to Uganda during Operation Entebbe, and this country also sent agents to Argentina to extradite Adolf Eichmann. One document sent to Walter Rothschild supporting its creation was the Balfour Declaration. This nation captured the Golan Heights when it fought the Six Day War. This country helped resettle many people with Operation Magic Carpet under its first prime minister, David Ben-Gurion. For 10 points, name this state which formed from Palestine and has the world's largest Jewish population.

ANSWER: State of **Israel** [or Medinat **Yisra'el**; or **Jewish Home State** or equivalents before "this nation"]

023-09-1-12118

3. Andrew Hale turns down a loan for the protagonist of this work. The protagonist of this work visits widow Homan's store to buy a final bottle of glue to fix a pickle dish broken by a cat. Jotham Powell is hired by this novel's protagonist, who is jealous of Denis Eady before he learns of the affections of his wife's cousin. Set in Starkfield, this novel ends when Zeena fires her cousin, who persuades the protagonist to take a sled ride into an elm tree. For 10 points, name this novel about the title character's love for Mattie Silver, by Edith Wharton.

ANSWER: **Ethan Frome**

036-09-1-12119

4. One of these events began after George Custer's 1874 expedition into the Black Hills, which led to the founding of Deadwood. Another one of these saw thousands of "stampedeers" head over the Chilkoot Pass to Dawson City, after leaving on boats from San Francisco and Seattle. In addition to the one in the Yukon Territory, the best-known of these events began with a discovery at Sutter's Mill in Sacramento. For 10 points, name these events in which prospectors flocked to an area hoping to strike it rich, the most famous of which occurred in 1849.

ANSWER: **gold rushes** [or equivalents]

003-09-1-12120

5. The central path vector protocol for this technology is BGP and IXPs are convergences between Autonomous Systems. ICANN serves as its governing authority; former head Vint Cerf is described as its "father." The standards for different components are described in RFCs and WHOIS is used to look up the controllers of resources in this system. DNS can be used to locate numerical addresses which are central to its TCP/IP protocol. For 10 points, name this network, the backbone for technologies like IRC, email and the World Wide Web.

ANSWER: **Internet**

001-09-1-12121

6. This group used a military formation called the "Buffalo Horns," rose to prominence under the successor to Dingiswayo, and expanded their lands through the mfecane, or great crushing. Their primary weapon was a short spear called the assegai, which was wielded by soldiers called impi, which they used under Cetshwayo to defeat a British force at Isandlwana, though they were later defeated at Ulundi to mark the end of their namesake war. For 10 points, name this South African tribe once led by Shaka.

ANSWER: amaZulu

003-09-1-12122

7. A disease caused by the failed breakdown of one of these compounds is characterized by musty-smelling urine and is known as PKU. The sequence of these compounds is known as the "primary structure" of a certain kind of compound. In addition to phenylalanine and tryptophan, these compounds include glycine, whose R group attached to its central carbon atom is simply a hydrogen. These compounds are joined by peptide bonds. For 10 points, name these building blocks of proteins.

ANSWER: amino acids

025-09-1-12123

8. The narrator of this novel moves to Ramsdale, where he considers killing a woman in Hourglass Lake. That narrator keeps a diary that needs a magnifying glass to decode, and his wife Charlotte figures it out before she runs into a car. At the end of this work, the protagonist is found in Alaska with the last name Schiller. The narrator kills the author of *The Nymph*, Claire Quilty, after being stalked across America with the title character, and, at opening of this novel, he describes the title character as the "light of my life, fire of my loins." For 10 points, name this novel about Humbert Humbert's affair with the "nymphet" Dolores Haze, by Vladimir Nabokov.

ANSWER: Lolita

027-09-1-12124

9. This ruler's judicial reforms included instituting the bar association in Russia. This ruler created local parliaments known as Zemstvos. This ruler ended Russia's involvement in the Crimean War after the death of his father, Nicholas I. This man was planning on introducing some constitutional elements to Russia's government before he was killed by bombs planted by the terrorist group, People's Will. This man issued a ukase [YOU-case] in 1861 that emancipated all the serfs in his country. For 10 points, name this Russian czar who was succeeded by his son Alexander III.

ANSWER: Alexander II of Russia

035-09-1-12125

10. Developed with Beno Gutenberg, it has been superseded by analysis of the moment magnitude, and the effects are measured on the related Mercalli Scale. Values can be determined by looking at the amplitude of measured waves, and its values are logarithmic to the amount of energy released. A value less than 2 is considered to be micro and no value of 10 or higher has been recorded. For 10 points, name this scale that measures seismic activity including earthquakes named for an American scientist.

ANSWER: Richter Scale

001-09-1-12126

11. This composer wrote one song about a man with numb fingers standing on ice, "The Hurdy Gurdy Man." Another of his songs opens with the piano playing triplet Gs at octaves and is about a boy being called to death by an Elf. This composer of the cycle of lieder *Winter Journey* also wrote the *Trout Quintet*. This man wrote a string quartet that has a set of variations on his song "Death and the Maiden." This composer of "The Erlking" wrote a symphony in B minor that ends after a sketch for its third movement, his eighth. For 10 points, name this composer of that "Unfinished Symphony."

ANSWER: Franz Peter Schubert

027-09-1-12127

12. As a Senator, this man led a World War II committee investigating wasteful defense spending. This president officially desegregated the American army, fired Douglas MacArthur for insubordination, and vetoed the Taft-Hartley Act. In foreign policy, this president authorized the Berlin Airlift, began the Korean War, and ordered the atomic bomb dropped on Hiroshima. For 10 points, name this Democrat who defeated Thomas Dewey in the Election of 1948, and who earlier became president upon the death of Franklin Delano Roosevelt.

ANSWER: Harry S **Truman**

004-09-1-12128

13. This city's Dashijie, or Great World, is its leading theater, and the Bund is its waterfront thoroughfare. Pudong was once this city's largest slum, and Suzhou Creek runs through its center. Its Yangjingbang Canal once separated this city's French and British concessions, and it is located at the confluence of the Huangpu and Yangtze rivers. For 10 points name this Chinese port city, the home of the Oriental Pearl Tower.

ANSWER: **Shanghai**

030-09-1-12129

14. This man led the Army of the Vosges during the Franco-Prussian War. This man fought with the Colorados against the Blancos during the Uruguayan Civil War. Pius IX rejected this man's offer to fight for him. The defense forces of the short-lived Roman Republic were led by this man. Twice exiled due to failed uprisings, this man more successfully conquered the lands of Naples while leading the Expedition of the Thousand. For 10 points, name this revolutionary leader of the redshirts, who was instrumental in achieving Italian unification.

ANSWER: Giuseppe **Garibaldi**

028-09-1-12130

15. In one play by this author, Tom Broadbent lets a pig drive a car in hopes of publicizing his bid to become an Irish Member of Parliament. This author of *John Bull's Other Island* wrote a play in which Crofts proposes to Vivie, the daughter of a brothel-owner, and he also wrote of Andrew Undershaft's marriage to a character who inherits an armaments factory. For 10 points, name this author of *Mrs. Warren's Profession* and *Major Barbara*, who wrote of attempts to make a Cockney girl into a little lady in his *Pygmalion*.

ANSWER: George Bernard **Shaw**

026-09-1-12131

1. Nomenclature for oxygen-containing examples of these entities dictates that the most prevalent species receives the suffix -ate, and the species with one fewer oxygen than that receives the suffix -ite. Oxygen-free examples of them include ferricyanide. Monatomic ones are typically referred to by the name of the atom and the suffix -ide, as in sulfide and fluoride. These chemical species carry an extra electron, resulting in a negative charge. For 10 points, identify these chemical species, which form ionic bonds with cations.

ANSWER: **anions** [accept **polyatomic anions** before "monatomic" is read; prompt on **ions** before "electron" is read]

022-09-1-12132

2. These biological entities are classified according to the Baltimore System. One subclass of them reproduces by using the lytic cycle, and can be called temperate if they use the lysogenic cycle. Ones with an RNA genome are known as "retro" ones. These entities consist of genetic material encased by a capsid coat. The tobacco mosaic one was the first isolated. Ones that infect bacteria are known as phages. For 10 points, name these infectious agents that technically are not living because they need a host cell to reproduce.

ANSWER: **viruses** [or **virii**]

033-09-1-12133

3. The system for using these in Finnish is so complicated that a list of place names is published that advises whether to use the inessive, the elative, or other examples of them. Japanese and English have almost none of these. Russian has "prepositional" and "instrumental" ones. Written Latin rarely makes use of the locative or vocative ones. Latin more frequently displays the ablative, dative, or accusative version of, for 10 points, what grammatical state, which often uses a word ending to indicate a noun's function in a sentence?

ANSWER: noun **cases** [or noun **inflections**]

019-09-1-12134

4. One character in this novel is disgraced when an ugly, decrepit woman addresses him as "Tomikin." The son of that character, whose entire education consists of reading Shakespeare, commits suicide in a lighthouse in this novel after refusing to appear before the Arch Community Singster or have sex with Lenina. The characters in this novel live in a society where Bokanovsky and Podsnap processes are essential, and where people are divided from alphas to epsilons. Featuring Mustapha Mond, who contemplates exiling Bernard Marx but spares John the Savage, for 10 points, name this dystopian novel by Aldous Huxley.

ANSWER: ***Brave New World***

034-09-1-12135

5. This composer wrote about Konstanze's (con-STANZ-ehz) rescue from a Turkish harem in *The Abduction from the Seraglio* (seh-RAH-gee-oh). Another of his operas sees Ferrando and Guglielmo (goo-gee-EHL-moh) test the loyalty of their fiancées. Like his other works, the operas of this composer of *Così fan tutte* (COSS-ee fawn TOO-tay) are given Köchel (KERR-kul) numbers. For 10 points, name this composer of an opera about a notorious seducer, *Don Giovanni*, as well as *The Magic Flute*.

ANSWER: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

019-09-1-12136