



1. The title character in this opera responds to an accusation of threatening a woman with a knife by singing "Tra-la-la... coupe moi, brule-moi" and invites another character into Lillas Pastia's tavern with the "Seguidilla." (seg wee DEE ah) Other songs in this opera include "Votre toast, je peux vous le rendre" and "L'amour est un oiseau rebelle," respectively known as the "Toreador's song" and the "Habanera" Don Jose kills the title cigarette factory girl of this opera. For 15 points, name this opera by Georges Bizet.

ANSWER: Carmen

020-12-85-17101

BONUS: In what Spike Lee film does the death of Radio Raheem spark a riot that destroys Sal's Famous Pizza?

ANSWER: Do the Right Thing

080-12-85-1710-1

2. This author wrote of eight men and a beaver who board a boat seeking a creature which was actually a Boojum. This author of "The Hunting of the Snark" made up words such as "outgrabe," "brillig," and "vorpal" in a poem advising "Beware the Jabberwock, my son!" He made one character speak to the March Hare and the Queen of Hearts after falling down a rabbit-hole. For 15 points, name this British author of *Alice's Adventures in Wonderland*.

ANSWER: Lewis Carroll [or Charles Lutwidge Dodgson]

104-12-85-17102

BONUS: Suharto and Sukarno were two former leaders of what archipelagic nation that once controlled East Timor?

ANSWER: Republic of Indonesia [or Republik Indonesia]

030-12-85-1710-1

3. Its not acid-base, but a type of titration that utilizes this type of reaction uses phenanthroline or methylene blue as an indicator. Reactions of this type in which more than one species undergoes both of the namesake process simultaneously is called a disproportionation. One method of balancing these reactions begins with examining the reaction's net ionic equation and is called the half-reaction method. Also balanced by finding changes in a species' oxidation number, for ten points, name this type of chemical reaction characterized by the loss and gain of electrons.

ANSWER: oxidation-reduction reactions [or redox reactions]

131-12-85-17103

BONUS: The Supreme Court case *Hammer v. Dagenhart* struck down the Keating-Owen Act, an attempt to limit what practice?

ANSWER: child labor

192-12-85-1710-1

4. This phenomenon's relationship to the number of subjects involved was studied by Darley and Latane, and this phenomenon is an example of social loafing. A famous example of this phenomenon took place in New York when Winton Moseley stabbed a woman named Kitty Genovese. For 15 points, identify this social phenomenon in which the presence of other people in a given emergency or situation decreases the likelihood of individuals providing help on their own.

ANSWER: bystander effect [or Kitty Genovese effect or syndrome before mentioned]

189-12-85-17104

BONUS: What American poet described "the roller of big cigars" in "The Emperor of Ice Cream" and set a scene "among twenty snowy mountains" in "Thirteen Ways of Looking at a Blackbird"?

ANSWER: Wallace **Stevens**

192-12-85-1710-1

5. A type of crackling called Barkhausen (bark-HOUS-en) noise occurs in materials with this property because their Weiss (VICE) domains align in clumps. Materials that exhibit this property are commonly used to trace out hysteresis loops. Increasing the temperature causes disorder and abolishes this property at the Curie point, and it arises in materials whose domains remain aligned even in the absence of an external field. For 15 points, name this type of magnetism most notably exhibited by iron.

ANSWER: **ferromagnetism** [accept word forms like **ferromagnet**]

048-12-85-17105

BONUS: In economics, price is determined by the intersection of the upward and downward-sloping curves representing what pair of concepts?

ANSWER: **supply** and **demand**

014-12-85-1710-1

6. This animal names a short needle attached to a flexible tube and flanked by two rubber appendages. Both Bates and Muller discovered their namesake types of mimicry while studying these animals. Their pupal stage is known as the chrysalis. Due to their sensitivity to initial conditions, chaotic systems are said to exhibit an effect named for them. For 15 points, identify these animals whose larval form, like moths, is the caterpillar.

ANSWER: **butterfly**

066-12-85-17106

BONUS: What liquid mixtures have a unique boiling point and cannot be separated into unique liquids by distillation?

ANSWER: **azeotropes**

104-12-85-1710-1

7. In the music video for this song, a man standing on a bar slices an airborne watermelon with a sword. This song's popularity spiked after it was featured as the "Stunt Anthem" in a Super Bowl advertisement for the Chevy Sonic. The singer of this song complains that his "seat's been taken by some sunglasses asking 'bout a scar." This song features Janelle Monae singing "carry me home tonight." For 15 points, name this hit song by fun.

ANSWER: **We Are Young**

023-12-85-17107

BONUS: What scale of hardness, named for an Austrian geologist, is based on a scratch test?

ANSWER: **Mohs** hardness scale

189-12-85-1710-1

8. Theodor Adorno noted the existence of this place made the writing of poetry barbaric. Residents of this place who wrote about their experiences include Viktor Frankl, Primo Levi, and Elie Wiesel. The gates to this site bore a sign that read "work sets you free." This site was the location of the experiments of Dr. Mengele, the so-called "Angel of Death." For 15 points, name this Polish site where a million Jews were killed, the largest of the Nazi concentration camps.

ANSWER: **Auschwitz**-Birkenau [or **Oswiecim**]

015-12-85-17108

BONUS: This is a 20-second calculation question. What values of A and B satisfy the equation  $(3+5x^2+9x) * (3x^2-2x+1) = 15x^4 + 17x^3 + Ax^2 + Bx + B$ .

ANSWER: **A = -4** and **B = 3**

001-12-85-1710-1

9. This man found more time to write after colony-taxer Charles Townshend hired him as a tutor. He argued that the “impartial spectator” inside each person judges actions in his *Theory of Moral Sentiments*. In another book, he explained that a factory produced forty-eight thousand pins per day due to the division of labor and that economic self-interest guides society through the “invisible hand.” For 15 points, name this philosopher who wrote the anti-mercantilist *The Wealth of Nations*.

ANSWER: Adam **Smith**

019-12-85-17109

BONUS: This is a calculation question. If each interior angle of a regular polygon measures 150 degrees, how many sides does the polygon have?

ANSWER: **12**

080-12-85-1710-1

10. In April 2012, Kazuo Hirai became this company's CEO, replacing the Welsh-American Howard Stringer, shortly after this company announced that it lost 5.7 billion dollars in 2011. In September 2012, it announced the release of the first TV using "4K" technology, which will be 84 inches across and cost twenty-five thousand dollars, as well as new Xperia tablets and phones. For 15 points, name this money-bleeding Japanese media conglomerate which also announced a new, smaller version of its video game console, the Playstation 3.

ANSWER: **Sony** Corporation

019-12-85-17110

BONUS: The "Lady Blunt" was made by what native of Cremona, Italy renowned for his stringed instruments, which are used by virtuosos such as Yo-Yo Ma and Itzhak Perlman?

ANSWER: Antonio **Stradivari** [or **Stradivarius**]

192-12-85-1710-1

11. The protagonist of this work dreams of his friend asking, “Why hast thou forsaken me?” followed by that friend turning into a woman and suckling him. The protagonist reunites with a courtesan who dies of a snakebite while working for the ferryman Vasudeva. Earlier, he joins a group of ascetic Samanas along with his friend Govinda. For 15 points, name this novel by Hermann Hesse about a man who searches for enlightenment and meets the founder of Buddhism, with whom he shares his name.

ANSWER: **Siddhartha**

014-12-85-17111

BONUS: In what state's 2012 Senate election did Shelley Berkley lose to Dean Heller, who was running for a full term after being appointed to replace the resigned Jon Ensign?

ANSWER: **Nevada**

019-12-85-1710-1

12. Some adherents of this religion put honey in a newborn’s mouth and whisper divine names into its ear. Its followers light bonfires and throw colored powder at each other during the holiday of Holi. Works held to be scriptures in this religion include the Puranas, Upanishads (oo-PAH-nee-shods), and the Vedas. Some of its followers worship a “trimurti” that includes a destroyer god, a preserver god, and a creator god. For 15 points, name this Indian religion whose adherents might worship Shiva, Brahma, and Vishnu.

ANSWER: **Hinduism**

015-12-85-17112

BONUS: This is a 30-second calculation question. What is the tangent of the first-quadrant angle whose sine is 12/13?

ANSWER: **12/5** [or **2.4**]

003-12-85-1710-1

13. August Kohler developed an optimal method of illumination for use with the simplest type of this device. Another type of this device uses a sputter coater to make samples conductive and is the scanning electron type. A cover slip is placed over a slide to hold a specimen for viewing with the simplest type of this device. Extensive observations with this device were made by Anton van Leeuwenhoek . For 15 points, identify these devices used to magnify objects too small for the human eye to see, such as bacteria.

ANSWER: **microscope**

066-12-85-17113

BONUS: This is a calculation question. Abigail, Brian, and Chris each pick their favorite one-digit positive integer. What is the probability they pick three different numbers?

ANSWER: **56/81**

174-12-85-1710-1

14. The protagonist of this novel worries that she will become like Annie Tyler, whose money was stolen by her younger fiancé Who Flung. In this work, Hezekiah Potts works at the general store owned by Jody, who is the mayor, storekeeper, and postmaster of Eatonville. This novel's protagonist tells Pheoby Watson of the time when she was forced to kill her rabid husband Tea Cake. For 15 points, name this novel about Janie Crawford which was written by Zora Neale Hurston.

ANSWER: ***Their Eyes Were Watching God***

015-12-85-17114

BONUS: What three-dimensional object consists of all points equidistant from a center?

ANSWER: **sphere**

066-12-85-1710-1

15. This poet asked “how do you like your blueeyed boy Mister Death” in his poem about “Buffalo Bill.” His time in the Ambulance Corps during World War I inspired his novel *The Enormous Room*. He wrote about a “goat-footed balloonman who “whistles far and wee” in a poem that begins “in Just- spring when the world is mud-luscious.” For 15 points, name this author of “anyone lived in a pretty how town” who is known for his non-traditional punctuation and capitalization.

ANSWER: E. E. **Cummings** [or Edward Estlin **Cummings**]

015-12-85-17115

BONUS: Name the peninsula that is connected to the Asian mainland by the Isthmus of Kra.

ANSWER: the **Malay** Peninsula

019-12-85-1710-1

16. In this play, one character defines fiction as the good ending happily and the bad ending unhappily, as she describes a lost three-volume novel she wrote. Another character’s discovery of an inscription on his friend’s cigarette case leads to the revelation that that friend has a ward in the country named Cecily Cardew. At the end of this play, Gwendolen Fairfax is permitted to marry by Lady Bracknell. For 15 points, name this play in which Algernon Moncrieff and Jack Worthing both pretend to have the title name, a work of Oscar Wilde.

ANSWER: *The **Importance of Being Earnest***

014-12-85-17116

BONUS: After clashing with Aunt Sarah's devious Siamese cats, the two title characters save a baby from a rat in what 1955 Disney animated feature?

ANSWER: Lady and the Tramp

019-12-85-1710-1

17. Processes that leave this quantity constant include throttling. The process of breaking a chemical bond always has a positive value of this quantity. Hess' law can be used to calculate the change in this quantity for a multi-step process. This quantity is defined as a system's internal energy plus the product of its pressure and its change in volume. The change in this value is always negative for exothermic processes and positive for endothermic ones. For 15 points, name this thermodynamic variable, the change is which is symbolized as delta H.

ANSWER: enthalpy

131-12-85-17117

BONUS: What baseball team led by Chipper Jones and Jason Heyward plays in Turner Field?

ANSWER: Atlanta Braves [or Atlanta Braves]

015-12-85-1710-1

18. One material commonly used in these devices is yttrium (YE-tree-um) aluminum garnet doped with neodymium (NEO-dim-ee-um). These devices can shorten their output by mode-locking. These devices are used to perform Doppler cooling, which was used to create the first Bose-Einstein condensate. They consist of a pair of mirrors bookending a gain medium, which undergoes population inversion to emit photons of a single wavelength. These devices are used to read CDs in CD players. For 15 points, name these devices that emit a coherent beam of visible electromagnetic radiation.

ANSWER: LASER [or light amplification by stimulated emission of radiation]

048-12-85-17118

BONUS: What period of the calendar is known as "woryoil" (wul-yo-eel) in Korean, "al-ithnayn" (al-ith-NEIN) in Arabic, and "lunedì" (LOO-nay-dee) in Italian?

ANSWER: Monday

019-12-85-1710-1

19. This family's military lost under Ludwig von Benedek at Koeniggratz, and its last surviving branch affixed "Lorraine" to its name. A prince of this family with only four great-grandparents due to inbreeding, Don Carlos, inherited its traits of an extreme underbite and a protruding chin. Its rulers included Holy Roman Emperor Charles V and Maria Theresa. For 15 points, name this royal house that ruled pre-Bourbon Spain and the Austrian Empire.

ANSWER: House of Hapsburg

104-12-85-17119

BONUS: In December 2012, what country launched the satellite Bright Star 3 from the Unha-3 rocket, only to see the satellite tumble out of control immediately?

ANSWER: North Korea [or DPRK; or Democratic People's Republic of Korea; or Choson minjujuui inmin konghwaguk; do not accept or prompt on "Korea"]

019-12-85-1710-1

20. This city was the site of the 1775 Gunpowder Incident, which caused Lord Dunmore to abandon his position as governor. This city grew out of a settlement called Middle Plantation. After 1699, the House of Burgesses met in this city, as the capital had moved here from Jamestown. This city was reconstructed and preserved in the 1920s with the financial backing of John D. Rockefeller, Jr. For 15 points, name this colonial capital of Virginia.

ANSWER: **Williamsburg**

015-12-85-17120

BONUS: What king suffered from porphyria late in his reign, years after leading Britain through the American Revolution?

ANSWER: **George III** of Great Britain [or **Georg Wilhelm Friedrich**; prompt on **George**]

192-12-85-1710-1

21. This novel's characters include Carlson, who owns a luger that he uses to euthanize Candy's dog. Another character befriends the stable-hand Crooks and is calmed by stories of a farm where he can take care of the rabbits. It takes its name from a Robert Burns quote about "best-laid schemes." The protagonist of this novel is forced to shoot his friend after that friend accidentally kills Curley's wife. For 15 points, name this novel about George and the slow-witted Lenny, a work of John Steinbeck.

ANSWER: **Of Mice and Men**

015-12-85-17121

BONUS: Name the organization that developed from a Coal and Steel Community and the Common Market, and was formed by the 1992 Maastricht Treaty.

ANSWER: **European Union** [or **EU**]

153-12-85-1710-1

22. A businessman asks one character in this novel for a letter of recommendation that his mentally ill son can marry his neighbor's hunchbacked daughter. The student Samson Carrasco defeats the protagonist of this novel after becoming the Knight of the White Moon. The protagonist famously tilts at windmills when he mistakes them for giants, and he rides Rocinante (roh-sih-NAHN-tay) and employs Sancho Panza as his squire. For 15 points, name this novel about a delusional Spanish gentleman written by Miguel de Cervantes.

ANSWER: **Don Quixote** [or *The Ingenious Gentleman Don Quixote of La Mancha*; or *El Ingenioso Hidalgo Don Quijote de La Mancha*]

014-12-85-17122

BONUS: This is a 30-second calculation question. What is sine theta times cosine theta when theta equals 75 degrees?

ANSWER: **1/4** [or **0.25**]

003-12-85-1710-1

23. William Yancey led a group of "Fire-Eaters" from this state. This state was the namesake of a Confederate warship that took down dozens of Union merchant ships before being sunk by the USS *Kearsarge*. Before moving to Richmond, the capital of the Confederacy was in this state. Another city in this state was the site of a bus boycott during the Civil Rights movement. For 15 points, name this Southern state where Civil Rights clashes occurred in Selma, Montgomery, and Birmingham.

ANSWER: **Alabama**

015-12-85-17123

BONUS: MD5, a mostly-collision-free example, is what type of algorithm that maps a variable size input to a fixed-length string?

ANSWER: **hash** function

121-12-85-1710-1

24. Former New Jersey governor Thomas Kean chaired an investigation into this event. One operation during this event ended after Larry Silverstein's command "pull it." Richard Drew captured the upside-down "falling man" in a photograph during this incident, which is memorialized in Shanksville, Pennsylvania, near the site of 44 deaths. For 15 points, name this day on which Flight 93 was rerouted, but plane hijackers destroyed New York's Twin Towers.

ANSWER: **9/11** terrorist attacks [or **September 11th**, 2001; or the destruction of the **World Trade Center**; or the fall of the **Twin Towers**; prompt on **Flight 93**]

104-12-85-17124

BONUS: What blind Theban prophet saw Odysseus in the underworld, changed genders, and warned Oedipus about his wife?

ANSWER: **Tiresias**

104-12-85-1710-1

25. This man shared leadership responsibilities for a time with Henri Giraud while headquartered in Algiers. This man's BBC broadcast on June 18th urged the people of his country to resist a government run on the principles of "Work, Family, Fatherland" by Pierre Laval and Philippe Petain. For 15 points, name this man who dealt with the Algerian Crisis as president of the Fifth Republic and who led the Free French Forces during World War II.

ANSWER: Charles Andre Joseph Marie **de Gaulle**

023-12-85-17125

BONUS: Name the Dutch artist who painted *Ship of Fools* and *The Garden of Earthly Delights*.

ANSWER: Hieronymus **Bosch** [or Jheronimus van **Aken**]

088-12-85-1710-1



26. In F. Scott Fitzgerald's "Babylon Revisited," a resident of this city named Charlie Wales tries to get back his daughter Honoria. Hemingway's *A Moveable Feast* is set here, as is *The Autobiography of Alice B. Toklas*. Gertrude Stein described some residents of this city as a "lost generation," referring to the group of expatriate American artists and writers who came to live here after World War I. For 15 points, name this European capital.

ANSWER: **Paris**

015-12-85-17126

BONUS: What machine was first developed by Thomas Savery, to pump water out of mines, and was later improved upon by Thomas Newcomen and James Watt?

ANSWER: **steam** engine

066-12-85-1710-1

27. If all microstates of a system have equal probability of occurring, this quantity equals Boltzmann's constant times the logarithm of the number of microstates. The change in this quantity is often defined as change in heat over unit temperature. It is multiplied by temperature and subtracted from enthalpy to get Gibbs free energy. The second law of thermodynamics states any spontaneous reaction will result in the quantity increasing. For 15 points, name this measure of disorder in a system, usually symbolized S.

ANSWER: **entropy**

121-12-85-17127