1. One novel by this author centers around a script written by a man named Tallis (TAH-liss) about people who have been deformed by a nuclear war caused by intelligent baboons. This author of *Ape and Essence* wrote a work in which Mr. Scogan (SKO-gan) and Denis Scone are among the guests at a party hosted by Henry Wimbush at the title house. He also created a dystopian world in which people drink soma and Bernard Marx travels to a reservation in New Mexico, where he meets John the Savage. For 10 points, name this author of *Crome Yellow* and *Brave New World.*
ANSWER: Aldous Leonard **Huxley**

141-12-56-02101

2. Forces on one side of this war were led by the Comte de MacMahon, who lost battles at Weissenberg (VIE-zen-burg) and a siege of Metz. Adolphe Thiers (A-dolf TEE-ers) became president of one nation during this war, which was ended by the Treaty of Frankfurt. This war began when one side received a heavily-edited Ems dispatch. The Battle of Sedan in this war saw Napoleon III captured, ending the Second Empire for the losers of this war. For 10 points, name this war that led to the creation of a unified Germany.
ANSWER: **Franco-Prussian** War [or **Franco-German** War before "Germany"]

140-12-56-02102

3. This man wrote, "The bloom is gone, and with the bloom go I" in a work in memory of Arthur Hugh Clough, a pastoral elegy entitled "Thyrsis." Another work by this author is framed as an "oft-read tale" from "Glanvil's book" whose title character travels in a grey cloak to "learn strange arts." This author of "The Scholar-Gipsy" described "a darkling plain...where ignorant armies clash by night" in a work that begins, "The sea is calm tonight." For 10 points, name this Victorian poet of "Dover Beach."
ANSWER: Matthew **Arnold**

142-12-56-02103

4. The key step in the production of this compound involves the reduction of mevalonate (meh-vah-LOH-nate) by the enzyme HMG-CoA reductase (ree-DUCK-tase). It structure contains a partially unsaturated steroid with a seven member carbon chain attached. This compound provides structural support for the cell membrane over a wide range of temperatures and is regulated by a class of drugs called statins. For 10 points, name this biological substance that comes in HDL and LDL variants, the so called "good" and "bad" types.
ANSWER: **cholesterol**

064-12-56-02104

5. In one play by this author, Martha meets Herald in Seth Holly's boardinghouse long after Herald was enslaved for seven years at a plantation. This author of *Joe Turner's Come and Gone* wrote a play in which Boy Willie attempts to sell a family heirloom but is prevented by his sister Berniece. Another of his works centers on the garbage man Troy Maxson, who prevents his son Cory from joining the football team. Many of this author's plays are part of his "Pittsburgh Cycle." For 10 points, name the author of *The Piano Lesson* and *Fences.*
ANSWER: August **Wilson** [or Frederick August **Kittel**]

140-12-56-02105

6. This indecisive battle prevented Shigeyoshi Inoue's (SHE-guh-yoshi INOU's) planned invasion of Port Moresby. This battle saw the damaging of the *Zuikaku* and *Shokaku*, preventing them from participating in the later Battle of Midway. The USS *Lexington* was scuttled after being critically damaged in, for 10 points, what May 1942 battle in which Allied carriers under Admiral Fletcher battled with a Japanese carrier fleet in the namesake South Pacific body of water?
ANSWER: Battle of the **Coral Sea**

7. In one story by this author, the protagonist and his friend Bill share drinks and discuss Marjorie, a girl the protagonist broke up with. This author of "The Three-Day Blow," and "The End of Something" wrote about that same protagonist recovering from service in World War I by fishing in the title "Big Two-Hearted River." This author of many stories about Nick Adams wrote a novella in which a Cuban fisherman catches a marlin, but it is eaten by sharks. For 10 points, name this American author of *The Old Man and the Sea.*
ANSWER: Ernest Miller **Hemingway**

8. This man got into a feud with John Easton shortly after the siege of Fort Ticonderoga. Bad weather and starvation weakened this man's forces enough that he and John Montgomery could not win the Battle of Quebec, during which he got shot in the leg. This man, despite his earlier heroics, fell from grace when John Andre was caught with plans from this man to sell West Point to the British. For 10 points, name this man who fought in the American Revolution but switched sides during it.
ANSWER: Benedict **Arnold**

9. One character in this film goes on a three-day voyage to get seashells to make white paint. While drowning in a cave, a man in this movie admits that his real name is Eugene Fitzherbert. In this film, Maximus hunts Flynn Rider, who had earlier escaped from him at The Snuggly Duckling. Mother Gothel traps the protagonist of this movie, who wants to see the lanterns released on her birthday and has magic hair that glows when she sings. For 10 points each, name this Disney version of Rapunzel.
ANSWER: *Tangled*

10. The president of this country was involved in the fraudulent publication of the "earthquake saferoom" invention. It implemented a failed 2007 gasoline rationing plan. This country arrested Sarah Shourd, Shane Bauer, and Joshua Fattal, who claimed to be recreational hikers. One of its nuclear experts was killed in January 2012 by a magnetic car bomb, which brought about accusations against Mossad. This country has recently threatened to shut down the Strait of Hormuz's (HORE-mooz's) oil traffic. For 10 points, name this country whose president is Mahmoud Ahmadinejad (MAH-mood AH-mah-DIN-uh-jad).
ANSWER: Islamic Republic of **Iran**

11. This element is found with calcium and titanium in perovskite (puh-RAF-skite). The temperature of ancient oceans can be determined by looking at the ratio of two isotopes of this element. Two atoms of aluminum and three of this element are found in corundum. An allotrope of this element found in a namesake layer in the upper atmosphere helps prevent ultraviolet light from reaching the Earth's surface. For 10 points, name this element found with silicon in quartz, the most abundant element by mass in the Earth's crust.
ANSWER: **oxygen**

12. Loki disguised himself as a flea to enter the sleeping quarters of this goddess. She weeps tears of red gold to mourn the absence of her husband. After the jotunn (YO-tun) Thrym steals Mjollnir (mee-OLE-near) , this deity lends out her feathered cloak in the quest for its recovery. This goddess lives in a large hall called Sessrumnir (sess-ROOM-near) and rides in a chariot driven by cats. She also owns the ring Brisingamen (brih-SING-guh-men) which Thor wears when he disguises herself as this goddess. For 10 points, name this Norse goddess of love and fertility, the sister of Frey.
ANSWER: **Freya**

13. The ratio of this quantity for hydrogen and deuterium is given by the kinetic isotope effect. The Eyring (EH-ring) equation uses the energy needed to form a transition state to calculate this quantity. Its equals the pre-exponential factor raised to the negative activation energy over temperature times the gas constant by the Arrhenius (uh-RAY-nee-uhs) equation. For a first order reaction, this quantity is equals the natural log of 2 divided by the half life. For 10 points, name this speed of a reaction.
ANSWER: reaction **rate**

14. Under the command of Trajan, the oldest bridge across this river was constructed in the second century by Apollodorus of Damascus. Important cities on this river include Ulm, Novi Sad and Mohacs (MOE-hach). The Iron Gate hydroelectric dam was built at an important site in this river's course. Fed by rivers such as the Inn and the Sava, this river empties into the Black Sea after originating in the Black Forest, and it flows past four capital cities: Bratislava (BRAH-tee-slah-vah), Belgrade (BELL-grehd), Budapest and Vienna. For 10 points, name this central European waterway, termed "beautiful" and "blue" by Johann Strauss.
ANSWER: **Danube** River

15. In a 2010 interview, the then-governor of this state controversially praised the White Citizens Councils of the civil rights era. In 2011, that governor of this state suspended the prison sentences of the Scott sisters, two black women who were jailed for life after stealing eleven dollars. On his last day in office in 2012, that same governor here pardoned nineteen convicted murderers, including several who had worked at the governor's mansion. For 10 points, Johnny Dupree was defeated by Phil Bryant in the race to succeed the controversial Haley Barbour as governor of what Deep South state?
ANSWER: **Mississippi**

1A. What psychologist conducted an experiment involving leaving broken-down Oldsmobiles in two different neighborhoods, as well as the Stanford Prison Experiment?
ANSWER: Philip **Zimbardo**

1B. What cousin of Celia marries Orlando at the end of Shakespeare's *As You Like It*?
ANSWER: **Rosalind**

2A. This is a 10-second calculation question. Consider the data set {3, 8, *x*, *x*, 20, -4, 16}. If the data set has range 24 and median 12, what is *x*?
ANSWER: **12**

2B. This is a 10-second calculation question. If the weight of widgets is normally distributed with mean 10 grams and variance 25, out of every box of 100 widgets, how many, to the nearest integer, are expected to be heavier than 15 grams?
ANSWER: **16** widgets

3A. What American author wrote about George Willard in *Winesburg, Ohio*?
ANSWER: Sherwood **Anderson**

3B. What energy-carrying molecule produced in the Krebs cycle consists of a nitrogenous (nie-TRAH-geh-nuhs) base, ribose (RIE-bose), adenine (AH-deh-neen), and a chain of three phosphate groups?
ANSWER: **ATP** [or **adenosine triphosphate**]

4A. This is a 20-second calculation question. What is the third-degree polynomial whose roots are 6, -1 + i, and -1 - i and whose x-cubed term has coefficient 1?
ANSWER: $\underline{x^3 - 4x^2 - 10x - 12}$

4B. This is a 20-second calculation question. A square of side length *l* is drawn. Four circles of radius *l*/2 are drawn, each centered at a different corner of the square. In terms of *l* and pi, what is the area inside the circles and outside the square?
ANSWER: $\underline{3/4 \text{ pi } l^2}$

5A. Name the thirty-first President of the United States who served as Secretary of Commerce for most of the 1920s.
ANSWER: Herbert Clark **Hoover**

5B. What late Renaissance artist, who allegedly killed a man over a tennis game, painted *Bacchus* and showed an apostle who has fallen off a horse in *The Conversion of St. Paul?*
ANSWER: Michelangelo Merisi da **Caravaggio**

6A. Name the French composer who included such sections as "Aviary," "Kangaroos," and "The Swan" in *The Carnival of the Animals.*
ANSWER: Charles-Camille **Saint-Saens**

6B. What operation in calculus is used to calculate the area under the graph of a function?
ANSWER: **integral** [or **antiderivative**; accept word forms like **integration**]

7A. What common name is shared by the king who won the Battle of Towton and the victor at the battle of Poitiers, known as the Black Prince?
ANSWER: **Edward** [or **Edward** IV]

7B. Name the religious leader who described turning away from the Manichees (MAN-uh-chays) in his *Confessions.*
ANSWER: Saint **Augustine** of Hippo [or Aurelius **Augustinus**]

8A. This is a 30-second calculation question. Solve the system of equations: x + 3y + z = 1; 2x - y - 3z = -6; 6x + y - z = 2.
ANSWER: **(1, -1, 3)** [or **x = 1, y = -1, z = -3**; do not accept partial answers]

8B. This is a 30-second calculation question. Solve for x on the interval 0 to 2 pi, inclusive: tangent to the fourth of x, plus tangent squared of x, equals two.
ANSWER: **{pi/4, 3pi/4, 5pi/4, 7pi/4}** [do not accept or prompt on partial answer]

9A. What 2011 DICE first person shooter has a campaign that follows Sergeant Blackburn, and a multiplayer set on maps such as Caspian Border, Operation Firestorm, and Operation Metro?
ANSWER: ***Battlefield 3*** [do not accept or prompt on "Battlefield"]

9B. The Rescript of the Rose Chamber of 1839 was the first major piece of Tanzimat in what empire?
ANSWER: **Ottoman** Empire

10A. Substances like lycopene (LIE-koh-pene) are an example of what biological compound that inhibit the formation of free radicals?
ANSWER: **antioxidant**

10B. Franz Hals was an artist during the "Golden Age" of what modern-day country?
ANSWER: the **Netherlands**

1. This poet addressed Charles Lamb, a man "to whom no sound is dissonant which tells of life," in his poem "The Lime-Tree Bower My Prison." He also wrote a poem in which Death and Life-in-Death roll a die for a man's soul as punishment for the title character's slaying of an albatross. That poem was included in a collection he collaborated on with William Wordsworth entitled *Lyrical Ballads.* For 10 points, name this poet of "The Rime of the Ancient Mariner."
ANSWER: Samuel Taylor **Coleridge**

149-12-56-02117

2. This element bears a +7 oxidation state in a compound used in photography to tone silver images. A compound with three chlorine atoms forms when this relatively unreactive metal is exposed to chlorine gas. Its +3 ion will also form when reacted to one part nitric acid and three parts hydrochloric acid, a mixture known as aqua regia (ACK-wah REJ-ia) that also dissolves platinum. The purity of this group 11 element in alloys is measured in carats. The most malleable and ductile metal is, for 10 points, what precious metal with chemical symbol Au.
ANSWER: **gold**

020-12-56-02118

3. In one of this man's novels, Rufus Scott jumps off the George Washington Bridge. This author of *Another Country* described David's affair with an Italian man who murders Guillaume (GEA-yom) in *Giovanni's Room.* He wrote the essays "My Dungeon Shock" and "Down at the Cross," which was included in his book *The Fire Next Time.* He created Pastor Gabriel's stepson, John Grimes, who has a religious awakening on fourteenth birthday. For 10 points, name this African American author of *Go Tell It on the Mountain.*
ANSWER: James **Baldwin**

079-12-56-02119

4. This President names a Paraguayan department because he settled arbitration in Paraguay's favor after the War of the Triple Alliance. He dispatched Winfield Scott Hancock to West Virginia to settle the Great Railroad Strike. His wife was called "Lemonade Lucy" because of her support of temperance. Congress overrode his veto of the Bland-Allison Act. He defeated Samuel Tilden after agreeing to end Reconstruction. For 10 points, name this winner of the Election of 1876.
ANSWER: Rutherford Birchard **Hayes**

079-12-56-02120

5. One way in which certain features of this region are thought to be formed is by dense, sediment-laden currents that are triggered by earthquakes and called turbidity currents. Those features of this region are also thought to be formed by rivers flowing into this region when sea level were depressed and are submarine canyons. This region marks the boundary between the continental crust and oceanic crust. For 10 points, name this steep section of the continental margin that ends in the continental rise.
ANSWER: **continental slope**

066-12-56-02121

6. In one novel by this writer, whether or not Fukimo (FOO-kee-moh) commits suicide is left ambiguous. In another novel by this writer, a sick man on a train is taken care of by a young girl named Yoko. The former novel by this author begins with a tea party set as the background for a visitation to Mrs. Ota, a former mistress of Kikuji's father, while the latter novel details an affair between a geisha named Komako and an intellectual named Shimamura. For 10 points, name this Nobel Prize-winning Japanese writer of *Thousand Cranes* and *Snow Country*.
ANSWER: Yasunari **Kawabata**

7. An argument that this law is violated by reversible processes is known as Loschmidt's (LOW-schmidts) paradox. Boltzmann's H-theorem is generally regarded as a proof of this law. One thought experiment devised to violate this law has an imaginary creature open a door to separate a gas into hot and cold sides. That imaginary creature is Maxwell's demon and this law predicts the heat death of the universe. For 10 points, name this law of thermodynamics that states that the entropy of a system always increases.
ANSWER: **Second** Law of Thermodynamics

8. This island is home to the largest chestnut tree in the world, the Hundred Horse Chestnut. Its Valley of the Temples is home to the Temple of Concordia. This island's city of Zafferana (ZAH-fur-ahna) was once threatened by a volcanic eruption. To its northeast are the Aeolian Islands, which are also home to volcanoes. This island's gigantic opera house is named after Victor Emanuel. It is separated from the mainland by the Strait of Messina and is home to Mount Etna. For 10 points, name this Italian island, the largest in the Mediterranean Sea.
ANSWER: **Sicily** [or **Sicilia**]

9. In one opera by this composer, Minnie runs away with a bandit known as Dick Johnson. This composer of *The Girl of the Golden West* also wrote the aria "O mio babbino caro," (OH MEE-OH BAH-bean-oh CAH-rah) which appears in his opera *Gianni Schicchi* (JAH-ni "SKI"-ki). In another of his works, Liu and Timur fail to stop Calaf from answering the three riddles proposed by the title princess. Another opera by this man sees Sharpless reveal that Pinkerton has married a new wife, after which the title character kills herself. For 10 points, name this composer of *Turandot* and *Madama Butterfly*.
ANSWER: Giacomo **Puccini**

10. The most used type of this device can operate in the cut-off, triode or saturation region, depending on Vgs and Vds (V G S and V D S). Another type of this device comes in pnp and npn varieties and has three contacts: a collector, base, and emitter. Field-effect and bipolar junction are types of these devices. They are smaller than vacuum tubes and are found in computer microprocessors and namesake radios. For 10 points, name these circuit components that amplify and switch electronic signals.
ANSWER: **transistor**s

11. This team severed a naming rights deal with Ameriquest in 2007. An outfielder for this team hit a record twenty-eight home runs in the first round of the 2008 Home Run Derby at Yankee Stadium. That player was acquired in a trade for Edinson Volquez, threw a ball to Shannon Stone resulting in a fatal fall and is Josh Hamilton. In 2009, this team was purchased by a group led by Nolan Ryan, who threw his 5,714th strikeout for this club. For 10 points, name this team that lost both the 2010 and 2011 World Series to opponents from the National League.
ANSWER: **Texas** Rangers [or Texas **Rangers**]

12. Biscayan and Zuberoan are two dialects of this language, which, in the sixteenth century, combined with the eastern Canadian language of Micmac to form a trading pidgin. Some linguists hypothesize that it is related to Caucasian languages such as Georgian. Spoken in a namesake Autonomous Community, this language is also known as "euskara" (yoo-SCAR-uh) and is non-Indo-European, making it an isolate within Europe. For 10 points, name this language, which is spoken by a namesake group in the Pyrenees area of Spain and France.
ANSWER: **Basque** [or **Euskara** before it is read]

13. This operation is the basis for both of the two universal logic gates that can be used to build any logic circuit. In C and Java, the bitwise form of this operation is represented by a tilde. Performing this operation on the first bit of an IEEE (I triple E) 754 floating point number changes its sign. In C and many other programming languages, the logical form of this operation is represented by an exclamation point. For 10 points, name this operation that returns 1 if the input is 0 and 0 if the input is 1.
ANSWER: **not** [or **negation**]

14. Herodotus recounts a legend about this man being the father of the Scythians with the monster Echidna. This man married the goddess of youth, Hebe (HAY-bay). He was forced to wear a woman's clothes while serving as the slave to queen Omphale (ohm-FAH-lay). On the island of Erytheia, this figure stole the cattle of Geryon, a task assigned to him by Eurystheus (yoo-RIS-thee-us). His deeds include slaying the Nemean Lion and the Hydra. For 10 points, name these Greek hero who performed Twelve Labors.
ANSWER: **Heracles** [or **Hercules**]

15. The "Day Needle" on this mountain was named after Hulda Crooks, who climbed it twenty-three times as a senior citizen. A proposal tried to rename it to Mount Churchill, and its current namesake also names a glacier on Mount Shasta. The John Muir (MWEER) Trail runs from Happy Isles in the north to this mountain in the south. The Badwater Ultramarathon begins at Death Valley and ends at this peak, whose western slope is in Sequoia National Park. For 10 points, name this California mountain, the highest in the contiguous United States.
ANSWER: Mount **Whitney**

1. A civil war fought during the nineteenth century in this country was known as the Liberal Wars. This country also fought a long and bloody war with UNITA in one of its colonies. A member of the House of Aviz of this country sponsored expeditions to Ceuta and Tangiers in Africa. This country was the home of Prince Henry the Navigator. For 10 points, name this country that, through the Treaty of Tordesillas, split the New World with its fellow Iberian nation, Spain.
ANSWER: **Portugal**

141-12-56-02132

2. This process is initiated by a compound called fMet ("F"-"met"). In prokaryotes (pro-KAH-ree-yotes), this process starts at the Shine-Dalgarno sequence. One organelle that plays a key role in this process is formed by the association of a 50S and 30S subunit to form a 70S complex. Molecules enter this process at the A site and exit at the E site in this process. This process involves the pairing of anticodons on tRNA to codons on mRNA, and it occurs in the ribosome. For 10 points, name this cellular process in which proteins are produced.
ANSWER: **translation**

140-12-56-02133

3. At the beginning of this work, the protagonist encounters a bizarre red-haired tourist near a cemetery and resolves to go on vacation to a type of swampland. While on vacation, he sees Health Department warnings that advise against eating shellfish and constantly smells disinfectant. In this work, the Polish boy Tadzio becomes the object of obsession for the aging author Gustav von Aschenbach. For 10 points, name this Thomas Mann novella that takes place during a cholera outbreak in the title Italian city.
ANSWER: ***Death in Venice*** [or *Der **Tod in Venedig***]

064-12-56-02134

4. A conjecture named for this scientist states that hexagonal packing is the most efficient way to pack spheres. This author of *Cosmological Mysteries* formulated a law that states that the square of a planet's orbital period is directly proportional to the cube of the semi-major axis of its orbit. He also stated that a line joining the Sun and a planet sweeps out equal areas in equal time and that planets follow an elliptical orbit. For 10 points, name this student of Tycho Brahe (TIE-coh BRAH-hey) who formulated three laws of planetary motion.
ANSWER: Johannes **Kepler**

079-12-56-02135

5. One of this man's novels centers around an operation in which the professor Filip Preobrazhensky (PRAY-oh-brah-ZHEHN-skee) places a human pituitary gland and testicles into the body of an injured canine named Sharik. In another novel by this man, the love of the author of a novel about Pontius Pilate and Christ encounters Satan, who is visiting the earth disguised as Woland. That novel by this man also features a talking black cat named Behemoth. For 10 points, name this Soviet author of *The Heart of a Dog* and *The Master and Margarita.*
ANSWER: Mikhail Afanasyevich **Bulgakov** (bull-GAH-koff)

141-12-56-02136

The Pearl of Great Price and *Doctrine and Covenants* are scriptures in what religion, which also uses a book subtitled "another testament of Jesus Christ?"

ANSWER: Church of Jesus Christ of **Latter-Day Saints** [or **Mormons**; or **Mormon** Church; or **LDS**]

This is a calculation question. Two socks are randomly drawn from a drawer without replacement. If the drawer contains 4 white socks and 6 black socks, what is the probability of drawing a matching pair? Express your answer as a fraction in lowest terms.

ANSWER: **7/15**