1. This city was evacuated by William Berkeley when it was attacked and then burned to the ground during Bacon's Rebellion. This settlement was started by colonists carried by three ships under Christopher Newport. One settler in this colony developed a new form of tobacco and was named John Rolfe. This settlement went through a Starving Time before relations with the Powhatan improved. For 10 points, name this colony that was home for a time to Pocahontas and John Smith and served as the first permanent English settlement in North America.
ANSWER: **Jamestown** Settlement [or **Jamestown** Colony]

023-10-18-02101

2. A constant named for these substances appears in the Henderson-Hasselbalch (HOSS-el-bock) equation. That constant, their namesake "dissociation constant," measures their strength in solution. Lewis defined them as electron pair acceptors, while Bronsted and Lowry defined them as proton donors, contrasting them with proton receivers, or bases. For 10 points, name these substances which have a pH of less than seven.
ANSWER: **acid**s

024-10-18-02102

3. This author wrote about the golf caddy Dexter Green's unrequited love for Judy Jones in "Winter Dreams." He wrote of Charlie Wales's separation from his daughter Honoria as he is haunted by his past excesses in "Babylon Revisited." He wrote about the Princeton student Amory Blaine in his debut novel *This Side of Paradise*, and partially based the character of Daisy Buchanan in another novel on his own wife Zelda. For 10 points, name this author who included Nick Carraway as the narrator of *The Great Gatsby*.
ANSWER: Francis Scott Key **Fitzgerald**

015-10-18-02103

4. In one story, the cloud nymph Nephele is created in the form of this goddess in order to trick Ixion. She blinds Tiresias after he disagrees with her side of an argument. She curses Echo to a life of repeating the words of others, and forces Leto to give birth on the floating island of Delos. She employs the hundred-eyed giant Argus as a watchman and sends a gadfly to pursue Io around the world. She is often depicted jealously punishing her husband's love interests. For 10 points, name this wife of Zeus in Greek mythology.
ANSWER: **Hera** [or **Juno**]

015-10-18-02104

5. Algorithms for completing this process include AES and DES, both of which use block cipher algorithms. The asymmetric type of this process creates two components, on private and the other public, to do this action.Output from machines that did this process made up the British ULTRA. One of those machines was the Enigma machine. For 10 points, name this operation that uses keys to modify information into unreadable and readable forms through the use of ciphers.
ANSWER: **encryption** [or **cryptography**]

023-10-18-02105

6. Like capacitors, when these objects are placed in parallel, their effective namesake constant becomes equal to the addition of the two individual values of those constants. The angular frequency of a weight connected to one of these objects is given by taking the square root of that constant over the mass. That constant for these objects also shows up in a law that relates the displacement of an object to the restoring force. For 10 points, Hooke's Law problems are often given in the context of a mass on one of what elastic objects?
ANSWER: **spring**s [prompt on simple harmonic **oscillator**s]

7. This state's colonial governor William Stone was defeated by a puritan army at the Battle of the Severn after a period of instability called "the plundering time." This state was the site of the Battle of Bladensburg, and in another War of 1812 action, forces under George Armistead withstood a 25 hour bombardment at its Fort McHenry. During the Civil War, a battle in this state was the bloodiest single-day battle in American history. For 10 points, name this state which was first colonized by Cecilius Calvert, the 2nd Baron Baltimore.
ANSWER: **Maryland**

8. The red-haired woman depicted in this painting also appears in its artist's work *Summertime* and was modeled on the artist's wife Jo. This painting contains an advertisement for Phillies cigars and depicts seven stools, one of which is occupied by a man in a fedora with his back towards the viewer. Supposedly based on a restaurant in Greenwich Village, it also shows a worker in white looking up at a couple sitting at the bar. For 10 points, name this Edward Hopper painting depicting three customers and a worker at a late-night diner.
ANSWER: *Nighthawks* [do not accept "The Nighthawks"]

9. This man led a failed coup against former President Carlos Perez in his early career. In 2005, he criminalized libel against government officials; in 2009, he had his country's constitution amended to eliminate term limits. In 2005, he announced a program to provide cheap heating fuel to poor U.S. citizens. In a 2006 speech at the United Nations, he referred to the President Bush as the devil. For 10 points, name this president of Venezuela.
ANSWER: Hugo Rafael **Chavez** Frias

10. Born in Isreal, his Hebrew name is Chiam Witz. He immigrated to Jackson Heights in Queens, New York at the age of eight and took the name of a "jumpin'" rockabilly musician as his stage name. He helped found the band Wicked Lester in the early seventies before donning black and white Kabuki-style makeup and playing bass for one of the most popular bands of that decade. For 10 points, name this fire-breathing performer, the bassist for the rock group KISS and the patriarch on his own "Family Jewels" reality series?
ANSWER: Gene **Simmons**

11. According to many economists, a factor in controlling inflation is avoiding attempts to drop this other quantity below its "natural" level. Its types include "frictional," "cyclical," and "structural." The Phillips Curve posits an inverse correlation between this quantity and inflation, which was discredited by the "stagflation" phenomenon of the 1970s. As of August 2010, it stood at 9.5 percent in the U.S. For 10 points, give this term for the percentage of adults who are able and willing to work but do not have jobs.
ANSWER: **unemployment** rate

12. This philosopher argued complex ideas, such as modes, substances, and relations, are created by combining, comparing, or abstracting simple ideas. He claimed people have the natural right to objects they mix their labor with in his book outlining a theory of government's based on the protection of private property, his *Second Treatise on Government*. He distinguished between the primary and secondary qualities of objects in his *Essay Concerning Human Understanding*. For 10 points, name this British philosopher who argued that the mind was a tabula rasa, or blank slate.
ANSWER: John **Locke**

13. This man presided over Robert Bork's confirmation hearing as chairman of the Senate Judiciary Committee, a post he held from 1987 to 1995. He currently serves as the head of the Middle Class Working Families Task Force. In 2008, this man erroneously claimed that FDR appeared on television at the outset of the Great Depression. For 10 points, name this former Delaware senator and current Vice President.
ANSWER: Joe **Biden**

14. Sanderson developed the principle of the equalization of this quantity. Allred and Rochow developed a scale for it, as did Robert Mulliken. Like the two measures that average to form this quantity via the Mulliken scale, it increases from left to right on the periodic table and decreases from top to bottom. The most commonly used scale, developed by Linus Pauling, assigns fluorine a value of four. For 10 points, name this measure of an atom's ability to attract electrons.
ANSWER: **electronegativity**

15. He was forced to wear women's clothing while working for the Lydian queen Omphale. He accidentally killed his music teacher Linus, and killed his wife Megara in a fit of madness. He killed the giant Antaeus by lifting him off the ground. He scared away the Stymphalian birds and killed the Nemean Lion with his club. This figure rerouted some rivers to clean the Augean Stables as part of a series of tasks completed for Eurystheus. For 10 points, name this demigod son of Zeus known for his twelve labors.
ANSWER: **Hercules** [or **Heracles**]

1A. What is the name of the geometrical device that can be used to plot genotypes of parents to figure out the probable outcome of an offspring's genotype?
ANSWER: **Punnet** square

1B. What numbers like pi and e are not algebraic, meaning they are not the roots of any polynomial with rational coefficients?
ANSWER: **transcendental** numbers

2A. Name the desert in southern Africa that covers most of Botswana and was crossed by David Livingstone.
ANSWER: **Kalahari** Desert

2B. People with standard mental health may become depressed during certain parts of the year if they suffer from what temporally named disorder?
ANSWER: **seasonal affective disorder** [prompt on **winter depression**; prompt on **winter blues**]

3A. What lake is connected to Lake Huron by the Straits of Mackinac (MAK-uh-naw) and also borders Chicago?
ANSWER: Lake **Michigan**

3B. This is a 10-second calculation question. What is the value of z in 4z+3=15?
ANSWER: $z = $ **3**

4A. This is a 10-second calculation question. What is the mode of the list of numbers {2, 3, 8, 2, 8, 8, 2, 4, 2}?
ANSWER: **2**

4B. Name the work of fiction set in Macondo that depicts the Buendía family and was written by Gabriel García Márquez.
ANSWER: *__One Hundred Years of Solitude__* [or *__Cien Años de Soledad__*]

5A. This is a 20-second calculation question. For what values of x is the polynomial $x^2 + 2x - 8$ equal to 0?
ANSWER: $x = $ **-4** and $x = $ **2**

5B. This is a 20-second calculation question. If the probability of picking a blue coin is one third and the probability of picking a red coin is one half, what is the probability of picking a coin that is not blue or red?
ANSWER: **1/6** (one sixth)

6A. What television show based on a British show created by Ricky Gervais stars Steve Carell as Michael Scott, an employee at Dunder Mifflin?
ANSWER: *The __Office__*

6B. Name the father of Esau and Jacob who was almost sacrificed when God tested the will of his father Abraham.
ANSWER: **Isaac**

7A. This is a 30-second calculation question. What is the perimeter of a square whose diagonal is the square root of two?
ANSWER: **4**

7B. This is a 30-second calculation question. What is the rectangular coordinate 1,1 in polar coordinates with theta expressed in degrees?
ANSWER: $r = $ **square root 2** theta $= $ **45** degrees

8A. Name the English monarch who had Mary, Queen of Scots, executed and succeeded her half sister Mary I to the throne.
ANSWER: **Elizabeth I** of England [prompt on **Elizabeth**]

8B. What is the German phrase that idiomatically means "goodbye," and more literally translates to "until we see each other again"?
ANSWER: "**Auf Wiedersehen**"

9A. "Neptune, the Mystic" is a movement of what orchestral suite by Gustav Holst?
ANSWER: the **Planets**

9B. What NFL quarterback played for the Philadelphia Eagles for ten years before being traded to the Washington Redskins in 2009?
ANSWER: Donovan **McNabb**

10A. What planet has the largest canyon in the solar system in Valles Marineris and the tallest volcano in the solar system with Olympus Mons?
ANSWER: **Mars**

10B. What figure of speech uses a part to represent the whole, such as using wheels to represent a car?
ANSWER: **synecdoche**

1. A snub of Hiram Johnson, the holder of this office in 1916, may have cost Charles Evans Hughes that year's election. After losing to incumbent Pat Brown in the 1962 election for this office, one man declared that "you won't have Nixon to kick around anymore." Brown was defeated four years later by Ronald Reagan, who promised that in this office he would "clean up the mess at Berkeley." For 10 points, name this office held by Gray Davis until a 2003 election recalled him and replaced him with Arnold Schwarzenegger.
ANSWER: **governor** of **California** [prompt on partial answer]

003-10-18-02117

2. A series of two transesterification reactions removes unwanted parts of this molecule via the spliceosome. This molecule can be monocistronic or polycistronic. 7-methyl-guanosine is added to the five prime end of this molecule, and a poly-A tail to the three prime end, after this molecule is created in transcription. This molecule's codons contain uracil instead of the thymine found in DNA. For 10 points, name this type of RNA that is transported to the ribosome in order to make proteins.
ANSWER: **messenger RNA** [or **mRNA**; accept **messenger** RNA or **m**RNA after "RNA"]

003-10-18-02118

3. In some bacterias, this process is carried out in molecules containing retinal similar to rhodopsin ("row"-DOP-sin). This process takes place in the mesophyll, the first part in the thylakoids and the second part in the stroma. That second part of this process involves the creation of a glucose molecule during the light-independent reaction, which includes the Calvin cycle. For 10 points, name this process by which plants convert light energy into chemical energy using chlorophyll in chloroplasts.
ANSWER: **photosynthesis**

023-10-18-02119

4. This man acted as an advisor to the Minister of War Diego Hidalgo. He first gained fame as a general during the Rif War of 1920. This man consolidated the Carlists with a party founded by José Antonio Primo de Rivera, the Falange (fah-LON-hay). This leader suppressed minority languages such as Catalan and Basque after taking power in his country's civil war. This man was in power from 1939 until his 1975 death, after which power went back to a monarchy under Juan Carlos I. For 10 points, name this military dictator of Spain.
ANSWER: Francisco Paulino Hermenegildo Teódulo **Franco** Bahamonde

024-10-18-02120

5. George Meredith's bitter collection *Modern Love* is composed of works in a modified form of this style. Edmund Spenser's *Amoretti* is composed of eighty-nine of these, and Elizabeth Barrett Browning wrote a collection of them "from the Portuguese." Works in the English variety of this form can be divided into three quatrains and a couplet, and the Petrarchan type is divided into an octave and a sestet. For 10 points, name these fourteen-line poems.
ANSWER: **sonnet**s

015-10-18-02121

6. Apocryphally, this man's gravestone featured a cylinder that was two-thirds the volume of the sphere in which it was inscribed; that relation was something this man had proven. His namesake claw may have been used in war, but it is unlikely that his heat ray ever existed. Also the inventor of a screw for transporting water, this man determined what metal a crown was made of by applying the buoyancy principle in his bathtub to determine the crown's density. For 10 points, name this ancient Greek who ran around naked shouting "Eureka!" after that discovery.
ANSWER: **Archimedes** of Syracuse

7. In one work by this poet, the narrator describes being an "inebriate of air" and a "debauchee of dew" because they "taste a liquor never brewed." Another poem by this writer describes a "blue, uncertain, stumbling" sound that occurred at the title moment in "I heard a fly buzz when I died." This poet also wrote a poem about horses whose "heads were toward eternity" during a carriage ride with Immortality and another figure. For 10 points, name this writer of "Because I could not stop for Death," a reclusive and prolific female poet who lived in Massachusetts.
ANSWER: Emily Elizabeth **Dickinson**

8. A minor character in this play can be summoned by a bell that does not always work, and does not have eyelids. Near the end, a woman who drowned her illegitimate child attempts to stab another woman in the Second Empire-style room in which the entire play takes place. For 10 points, Estelle and Ines are characters in which existentialist play in which Joseph Garcin claims "Hell is other people," by Jean-Paul Sartre?
ANSWER: *No Exit* [or *Huis Clos*]

9. The first generation of leptons consists of these particles and their respective neutrinos. The transitioning of these particles is the basis for the Balmer series. The positron is the anti-particle of this particle, which emits a photon when it drops in energy level. Robert Millikan determined their charge in the oil-drop experiment. They were first discovered by J.J. Thomson and were the only particle in his "plum pudding" model. For 10 points, name this negatively charged particle that orbits an atom's nucleus.
ANSWER: **electron**

10. This artist created a painting in which swans on a pond have reflections that look like elephants. This artist symbolically depicted the horrors of the Spanish Civil War in his painting *Soft Construction with Boiled Beans*, and collaborated with Luis Buñuel on the film *Un Chien andalou*. In another of his paintings, ants cover one of several melting clocks. For 10 points, name this Spanish surrealist painter of *The Persistence of Memory*.
ANSWER: Salvador Felipe Jacinto **Dalí** y Domenech

11. This man wrote about a creature that "launch'd forth filament, filament, filament" in a poem about a "noiseless patient spider." He wrote "Flood-tide below me! I see you face to face!" in his "Crossing Brooklyn Ferry." He published a "deathbed edition" of his continually revised masterpiece, which includes a poem beginning "I celebrate myself, and sing myself." For 10 points, name this American poet who included "Song of Myself" in his *Leaves of Grass*.
ANSWER: Walt **Whitman**

12. This country organized a response to a plane hijacking called Operation Thunderbolt that successfully released hostages in the Entebbe Raid. Another reaction by this country came in the Operation Wrath of God, which was a response to Black September's actions at the Munich Olympics. This country launched a highly successful attack in the Six-Day War and was itself attacked in the Yom Kippur War. For 10 points, name this country in the Middle East that was created in 1948 and has been led by David Ben-Gurion and Golda Meir as a Jewish state.
ANSWER: State of **Israel** [or Medinat **Yisra'el**]

13. This author wrote about a violence-obsessed train driver named Jacques Lantier in the novel *The Human Beast*. That novel is part of a twenty-novel cycle detailing the life of the Rougon-Macquart family, which also includes the novels *Nana* and *Germinal*. He also wrote an open letter accusing the French government of anti-Semitism for imprisoning Alfred Dreyfus. For 10 points, name this French naturalist author of "J'accuse."
ANSWER: Emile **Zola**

14. This author of the mystical *A Vision* wrote about "the foul rag and bone shop of the heart" in his late poem "The Circus Animals' Desertion" and lamented that "a terrible beauty is born" in a poem about the failed Easter Rising, "Easter, 1916." He also wrote a poem involving a "rough beast / Slouching toward Bethlehem to be born" and one which states "This is no country for old men." For 10 points, name this Irish poet of "The Second Coming" and "Sailing To Byzantium."
ANSWER: William Butler **Yeats**

15. This ruler set up a system of authority and law in his namesake Capitulary. A biography of this ruler was written by Einhard. This ruler originally split lands with his brother Carloman after the death of his father, Pepin the Short. This man was unexpectedly crowned while kneeling to pray in St. Peter's Basilica on Christmas by Pope Leo III, becoming by that action "Emperor of the Romans" in the year 800. For 10 points, name this grandson of Charles Martel and Carolingian ruler who greatly expanded the Frankish empire.
ANSWER: **Charlemagne** [or **Charles I**; or **Charles the Great**; or **Charles le Grand**; or **Karl der Grosse** ; or **Carolus Magnus**; prompt on **Charles**]

1. This author wrote of a place "Where the flying fishes play, and the dawn comes up like thunder out of China 'cross the bay." Another poem notes that the qualifications for manhood include to "dream –and not make dreams your master" and to "talk with crowds and keep [one's] virtue." The ending of another poems tells the "finest man" the narrator knew that, "You're a better man than I am." For 10 points, name this author of "Mandalay," "If," and "Gunga Din," who created the characters of Akela, Bagheera, and Mowgli in *The Jungle Book*.
ANSWER: Rudyard **Kipling**

003-10-18-02132

2. These species are formed from carbon in an intermediate step of E1 and SN1 reactions. Type A of these species can be formed from alkali and alkaline earth metals. These species are created at the anode in an electrochemical cell, and are most easily formed from elements with low ionization energies. These species have an oxidation number equal to their positive charge. For 10 points, name these species that bind to anions in ionic solutions, and which are positively charged ions.
ANSWER: **cation**s [prompt on **ion**s; accept **carbocation**s before "Type A"; prompt on **positively charged ion**s or equivalents]

003-10-18-02133

3. The monk Nennius described this man's twelve battles, inspiring Geoffrey of Monmouth, who popularized the exploits of this figure. This man is at the center of a series of twelve narrative poems by Alfred Tennyson, *Idylls of the King*. In a Mark Twain novel, he employs a resident of Connecticut named Hank Morgan. T. H. White is known for a four-part work about this man, whose "death" titles a work written in prison by Thomas Mallory. For 10 points, name this legendary king who possesses a round table.
ANSWER: King **Arthur**

015-10-18-02134

4. This property stays constant after the CMC, or critical micelle concentration, is reached, which comes after a certain amount of surfactants have been added to a solution. Laplace's Law describes why this property is responsible for the nearly spherical form taken on by bubbles and drops of water. This property occurs due to certain molecules of a liquid not being surrounded by attractive charges, leading to stronger cohesion for those molecules. For 10 points, name this property of liquids that is responsible for the ability of water striders to move atop water.
ANSWER: **surface tension**

023-10-18-02135

5. The title of this play was allegedly discovered in the bathroom of a New York City bar. One character in this play tells her husband, "if you existed, I'd divorce you," and makes fun of his failed attempts at writing a novel and his inability to become the head of the history department. The other couple in this play married due to a "hysterical pregnancy" and chooses not to have children, unlike the older couple who merely pretends to have a son. For 10 points, name this Edward Albee play in which Martha responds, "I am!" to the title question.
ANSWER: *Who's Afraid of Virginia Woolf?*

003-10-18-02136