1. This character chooses exile over marrying Menoeceus (meh-NOY-eh-kus) in *The Phoenician Women.* In another play, she is betrothed to Haemon, who kills himself in a cave alongside her. This character is her blind father's guide in *Oedipus at Colonus,* and she beseeches her sister Ismene (iz-MEH-nee) to help her in a play in which she defies Creon's order and buries her brother Polynikes (pahl-ee-NIE-keez). For 10 points, name this title character of the chronologically last play of Sophocles' Theban trilogy.
ANSWER: **Antigone** (an-TIG-uh-nee)

019-11-44-02101

2. In particle physics, an analogue of this quantity is called color. One experiment that determined this quantity balanced one force with an opposing calculated by using Stokes law for the drag on a sphere. Kirchhoff's junction rule is based on the conservation of this quantity. The Millikan oil drop experiment determined this quantity for an electron and this quantity is equal to current multiplied by time. For 10 points, name this quantity denoted with the symbol Q and measured in Coulombs.
ANSWER: electric **charge**

064-11-44-02102

3. In one of this man's poems, the speaker notes that a certain plant is "hung with bloom along the bough and stands about the woodland ride." This author of "Loveliest of trees, the cherry now" also authored a poem which recalls the advice, "give crowns and pounds and guineas but not your heart away." That poem, "When I was one-and-twenty," is included in a collection with a poem which recounts "the time you won your town the race." For 10 points, name this poet of "To an Athlete Dying Young" and the collection *A Shropshire Lad.*
ANSWER: Alfred Edward **Housman**

141-11-44-02103

4. After changing into a snake to slither into a mountain, this god seduced Gunnlod for three nights in order to gain the mead of poetry. He impaled himself upon the world tree for nine days to gain the knowledge of runes. This deity is accompanied by two wolves named Geri and Freki. This god wields a spear that never misses its target, Gungnir, with which he will kill, but be killed by, the Fenris Wolf at Ragnarok. For 10 points, name this one-eyed chief of the Norse gods.
ANSWER: **Odin** [or **Wotan**]

080-11-44-02104

5. Thomas Kessner wrote a biography of this man, who once banned the sale and possession of artichokes. This man confiscated a bunch of slot machines run by Frank Costello. This man defeated Recovery Party candidate Joseph McKee and incumbent John O'Brien. This politician ordered Thomas E. Dewey to go after mob boss Lucky Luciano. With a senator from Nebraska, this man names an act that forbids yellow-dog contracts. For 10 points, name this politician with the nickname of "Little Flower," a mayor of New York City and namesake of an airport.
ANSWER: Fiorello Henry **La Guardia**

048-11-44-02105

6. This creature's Pokédex entry in Ruby and Sapphire states that it can hit empty cans from over 160 feet. Strangely enough, it shares a species with Kabuto and Kabutops. Cissy uses this Pokémon in a Wave Race against Ash's Lapras. In the episode "The Ties that Bind," this Pokémon is seen using Hydro Pump. This is the final evolution of Gary's starter Pokémon, and it is the mascot of Pokémon Blue. For 10 points, name this Pokémon that evolves from Wartortle, the final stage of Squirtle.
ANSWER: **Blastoise**

7. This artist depicted an orange bed and many of his own works on the wall in the painting *Bedroom at Arles*. This artist painted his physician in the *Portrait of Dr. Gachet* and showed five peasants sitting around a table eating the title food in *The Potato Eaters*. In another work, this painter depicted the cypress trees and swirling sky he saw from the window of his asylum. For 10 points, name this Dutch Post-Impressionist, who painted *Starry Night* and cut off his own ear.
ANSWER: Vincent Willem **van Gogh**

8. Cramer's rule uses these structures to solve a system of equations. The spectral theorem applies to the Hermitian (her-MIHT-ee-uhn) variety of these structures. Gaussian (GOW-see-uhn) elimination can be used to find the rank of one of these. Eigenvalues (EYE-guhn-val-yoos) are important for the square type of them. Multiplication with these objects is not commutative. For 10 points, name these mathematical objects represented by rows and columns of numbers.
ANSWER: **matrix**

9. This man's church music includes the eleven *Chandos Anthems*. This composer once beat Domenico Scarlatti in an organ-playing contest. One of this man's works comprises three suites in F, D, and G major, the second of which contains a famous "Alla Hornpipe" movement. As court composer for George I, this man composed the *Water Music* and the *Music for the Royal Fireworks*. For 10 points, name this composer of the oratorio *Messiah*, which includes the "Hallelujah Chorus."
ANSWER: George Frideric **Handel** [or Georg Friedrich **Haendel**]

10. Patrick Kearney apprehended the perpetrator of this event, who wrote a letter to William Sherman asking for protection before carrying this out. This event occurred at the Baltimore and Potomac Railroad Station. In the aftermath of this event, Alexander Graham Bell created a metal detector. Its perpetrator shouted "I am a Stalwart of the Stalwarts!" after carrying it out, and it resulted in the passage of the Pendleton Act. For 10 points, name this assassination carried out by Charles Guiteau on a President in 1881.
ANSWER: assassination of James Abram **Garfield**

11. Eclogite is an unusual one of these objects that may be important in driving convection. These objects can be formed due to a process named after Barrovian. Those that have layers are called foliated while the non-foliated type includes hornfels, which is formed in these objects' namesake contact process. They include schist, gneiss, and marble and are formed through extreme heat and pressure. For 10 points, name this class of rocks, which are so named due to having undergone a transformation.
ANSWER: **metamorphic rock**s

12. This event was set into motion by businessman George Rappleyea in order to gain publicity. This event was covered by Baltimore Sun reporter H.L. Mencken, who called it a sham. It was presided over by John T. Ralston, and its defendant was accused of violating the Butler Act. Clarence Darrow represented the defendant in this case, and the other side was argued for by William Jennings Bryan. For 10 points, name this trial in Tennessee in which the namesake schoolteacher illegally taught evolution.
ANSWER: **Scopes Monkey Trial** [or **Scopes** trial; or The State of Tennessee vs John Thomas **Scopes**]

13. This element was once produced via electrolysis (ee-leck-TROH-lih-sis) of its hydroxide in the Castner process. The Solvay process produces soda ash, the carbonate salt of this element, which is a water softener. Lye is the hydroxide of this element, which burns bright yellow in a flame test. The body has a pump to regulate levels of potassium ions and ions of this elements, whose bicarbonate salt is called soda. Its chloride is table salt. For 10 points, name this element symbolized Na.
ANSWER: **sodium** [accept **Na** before mentioned]

14. This man gave a speech in which he stated that slavery was a "positive good" and that all societies relied on an underclass. This man's wife Floride socially ostracized Peggy Eaton. This man wrote *Disquisition on Government* as an expansion of a previous work. This man's home state refused to obey the Tariff of Abominations, a move based on this man's *South Carolina Exposition and Protest* that led to the nullification crisis. For 10 points, name this man who resigned as Vice President to Andrew Jackson.
ANSWER: John Caldwell **Calhoun**

15. One character in this work asks Micaela for news from his mother and sings the "Flower Song." Its title character repeatedly sees an omen of death while telling fortunes with Mercedes and Frasquita in the "Card Trio," and compares love to a "rebellious bird" and a "gypsy child" in one solo. At the end of this opera, the title character is stabbed by Don Jose as Escamillo plies his trade nearby. For 10 points, name this opera by Georges Bizet, which features the "Habanera" and the "Toreador Song".
ANSWER: *__Carmen__*

1A. What French author created Quasimodo and Jean Valjean in *The Hunchback of Notre-Dame* and *Les Miserables*?
ANSWER: Victor Marie **Hugo**

1B. What evil cheerleading coach is running for Congress in the third season of TV's *Glee?*
ANSWER: **Sue** Sylvester [or Sue **Sylvester**]

2A. This is a 10-second calculation question. If Reinhold has 3 different choices for a sandwich, 5 choices for a beverage, and 1 choice of fruit, how many different lunches can he prepare assuming a lunch has one sandwich, one beverage, and one fruit?
ANSWER: **15**

2B. This is a 10-second calculation question. What is the value of x if the average of x, 5, and 7 is 10?
ANSWER: **18**

3A. What national park in Wyoming contains the Old Faithful geyser?
ANSWER: **Yellowstone**

3B. Which Renaissance sculptor created an equestrian statue of Erasmo di Narni, or "Gattamelata", as well as a notably effeminate bronze David?
ANSWER: **Donatello** [or Donato di Niccolo di **Betto Bardi**]

4A. What is the name of the Korean alphabet, instituted during the reign of King Sejong the Great?
ANSWER: **Hangul**

4B. What New Jersey governor endorsed Mitt Romney for President after definitively declining to enter the race in September 2011?
ANSWER: Chris **Christie**

5A. In what nation did Ollanta Humala defeat the daughter of Alberto Fujimori for the presidency in a 2011 election?
ANSWER: Republic of **Peru**

5B. Which hero of Irish mythology fathered Ossian and sucked on his thumb to gain the wisdom of the Salmon of Knowledge?
ANSWER: **Finn McCool** [or **Fionn mac Cumhaill**]

6A. This is a 20-second calculation question. Suppose point A of triangle ABC is the center of a circle with radius AB and BC is tangent to the circle. If the length of AC is 12 and the length of BC is 9, what is the length of AB?
ANSWER: **3*sqrt(7)**

6B. This is a 20-second calculation question. If the tangent of the first quadrant angle T is 3/2, then what is the sine of angle T?
ANSWER: **3*sqrt(13)/13** [or **3/sqrt(13)**]

7A. Which class of particles consists of particles with integer-valued spins, named for an Indian physicist?
ANSWER: **boson**

7B. What psychologist conducted the Small World Experiment and told teachers to deliver shocks to learners in his obedience study?
ANSWER: Stanley **Milgram**

8A. What dynasty began with the rise of the Hongwu Emperor and was succeeded by the Qing?
ANSWER: **Ming** Dynasty

8B. What is the name of the pillar of Islam that requires Muslims to make a pilgrimage to Mecca?
ANSWER: **Hajj**

9A. Which letter designates a type of radioactive decay involving the emission of an electron or positron?
ANSWER: **beta**

9B. Name the Toronto Blue Jays right fielder who had a breakout year in 2010, tripling his previous single-season high by hitting fifty-four home runs.
ANSWER: Jose Antonio **Bautista**

10A. This is a 30-second calculation question. Given the system of equations $3y + 7x + 10 = 2z$, $8x - y = 5z$ and $z + y + x = 19$, what is the value of x in simplest form?
ANSWER: x = **363/29**

10B. This is a 30-second calculation question. Solve for y in $y^5 - 129 = 16678$.
ANSWER: y = **7**

1. Removing a hydrogen atom from this compound forms a functional group that differentiates aniline from benzene. It is oxidized to form nitric acid and is produced by bacteria like rhizobia (rie-ZOH-bee-ah). Carl Bosch scaled up a process used to make this compound. Derivatives of this compound are called amines and it is mainly used a fertilizer. For 10 points, name this compounds that is produced by reacting nitrogen gas with hydrogen gas in the Haber process, with chemical formula NH3.
ANSWER: **ammonia** [or **NH3** before mentioned]

064-11-44-02117

2. One character in this work is disappointed when she chooses to relive her twelfth birthday after dying in childbirth. Other characters in this play include the paperboy Joe Crowell and the drunkard choir-director Simon Stimson. This play centers on a couple who drink sodas after their high school class election. Those characters are Emily Webb and George Gibbs. For 10 points, name this play whose title location is Grover's Corners, New Hampshire, written by Thornton Wilder.
ANSWER: *Our Town*

014-11-44-02118

3. This statement is the reason that water is refluxed out of condensation reactions, and this statement is the reason that the Haber-Bosch process usually is performed at very high pressures. Adding sodium chloride to a solution of silver chloride causes the silver chloride to precipitate out in accordance with this statement, which is called the common-ion effect. For 10 points, name this statement that says that a reaction's equilibrium shifts in order to oppose outside stresses.
ANSWER: **Le Chatelier's** (LEH shah-tuh-lee-AIR) principle

048-11-44-02119

4. This man names a technique for determining discrete states along with Sommerfeld. He also developed the complementarity principle. This scientist criticized the EPR paradox, and he engaged in a series of debates with Einstein over the meaning of quantum theory. Along with Werner Heisenberg, this man developed the Copenhagen interpretation of quantum mechanics. For 10 points, name this Danish physicist who developed a namesake model of the hydrogen atom.
ANSWER: Niels **Bohr**

127-11-44-02120

5. This disease is marked by reduced levels of the CREB binding protein, and its namesake protein binds to Hip1 and is SUMOylated [SUE-moh-EE-late-ed] by rhes. The Westphal variant of this disease onsets at an especially young age. It is caused by expansion of CAG repeats on chromosome 4, which result in the production of a glutamine chain called the polyQ tract. For 10 points, name this neurodegenerative autosomal dominant disease that causes involuntary muscle movements and sets on during middle age.
ANSWER: **Huntington's** disease

127-11-44-02121

6. This empire sparked the fourth Ashanti War by demanding the surrender of the Golden Stool. It fought one of its former dependencies for control of the San Juan Islands in the Pig War. This empire was granted a slave-trading monopoly called the "asiento" in the Treaty of Utrecht, which also granted Gibraltar to this empire. Israel, Nigeria, and India all became independent from, for 10 points, what empire upon which, at one point, "the sun never set?"
ANSWER: **British** Empire

7. A group of compounds released by this organ is deficient in Addison's disease. Those compounds cause reabsorption of sodium ions and are known as mineralcorticoids. This organ also releases a compound that causes smooth muscle relaxation in the airways. This pair of glands sits atop the kidneys and secretes aldosterone, along with a hormone released during high levels of stress. 10 points, name these glands that secrete epinephrine, thus directing the body's "fight or flight" response.
ANSWER: **adrenal** glands

8. This poet defined a writer's ability to suppress his own personality in contemplating his subject as "negative capability." He wrote a poem in which the title woman's "faery song" enchants the "knight-at-arms" and leaves him "alone and palely loitering." He described an object decorated by "happy boughs that cannot shed their leaves" and a fair lady who "cannot fade" in a poem that states, "Beauty is truth, truth beauty." For 10 points, name this Romantic poet of "La Belle Dame sans Merci" and "Ode on a Grecian Urn."
ANSWER: John **Keats**

9. It's not emphysema, but people with alpha-1-antitrypsin deficiency develop this condition. It causes the pressure in the portal vein to increase, leading to esophageal bleeding and spleen enlargement. It causes fibrous tissue bands to appear in its target organ. Jaundice is a common symptom of this disease, which can be caused by chronic hepatitis infection. For 10 points, name this disease also caused by excessive alcohol use, in which the liver shrinks and becomes nonfunctional.
ANSWER: **cirrhosis**

10. The protagonist of this work is able to buy land using jewels obtained by his wife during the looting of a city which had been abandoned by the wealthy. The protagonist's first daughter is referred to as "the poor fool" for her mental retardation. Later, the protagonist falls in love with a woman he meets at a tea shop, Lotus Blossom, and takes her as a concubine, upsetting his wife O-lan. For 10 points, name this novel about the farmer Wang Lung written by Pearl S. Buck.
ANSWER: *The **Good Earth***

11. One portion of this treaty was later modified by the Dawes and Young Plans; that "war guilt clause" applied to a country that, by this treaty, was forbidden to operate a general staff or manufacture airplanes. It created the Polish Corridor, made Danzig a free city, and made several League of Nations mandates out of former German colonies. For 10 points, identify this treaty negotiated by the "Big Four" including Woodrow Wilson, which was signed in Paris as part of the resolution to World War I.
ANSWER: Treaty of **Versailles**

12. This author created a character who accidentally drowns her baby Rebecca in a bathtub after becoming drunk. That character, Janice, struggles with a husband who works selling "Magipeel" and moves in with the former prostitute Ruth Leonard. That novel features this author's recurring character, the washed-up basketball star Harry Angstrom. For 10 points, name this American novelist who wrote the series of novels beginning with *Rabbit, Run.*
ANSWER: John **Updike**

13. This ruler accompanied the Grand Embassy in disguise on a tour of Europe. The Bulavin Rebellion and Streltsy Uprising occurred during the reign of this brother of Ivan V, who captured the port of Azov from the Ottomans. This ruler defeated Charles XII at the Battle of Poltava, bringing Russia to victory over Sweden in the Great Northern War. This man created the Table of Ranks and imposed a beard tax. For 10 points, name this westernizing tsar of Russia.
ANSWER: **Peter the Great** [or **Peter I** of Russia; or **Pyotr Veliky**; or **Pyotr Alekseyevich**; prompt on **Peter**; prompt on **Pyotr**]

14. This author created the Day of the Hundred Martyrs to Democracy in a work in which the narrator determines to climb to the top of Mt. McCabe and poison himself with ice-nine. This creator of Eliot Rosewater also wrote a novel in which the Tralfamadorians couple porn star Montana Wildhack with the World War II soldier Billy Pilgrim, who survives the firebombing of Dresden. For 10 points, name this American author of *Cat's Cradle* and *Slaughterhouse-Five.*
ANSWER: Kurt **Vonnegut**

15. This poem's speaker expresses the hope that "something ere the end, some work of noble note, may yet be done" after lamenting, "I am become a name." The speaker begins by describing himself as an "idle king" but concludes by affirming himself as "strong in will to strive, to seek, to find, and not to yield." For 10 points, name this dramatic monologue written by Alfred, Lord Tennyson and spoken by Odysseus, whose Latin name titles the poem.
ANSWER: "**Ulysses**"

1. A tourist resort in this country is called Monkey Mia and is known for featuring bottlenose dolphins. A proposed new state in this nation would have had a capital at Kalgoorlie. This country is home to a flat region called the Nullarbor Plain and a sandstone formation referred to by the natives as Uluru. This nation contains Ayers Rock and has its eastern landmass dominated by the Great Dividing Range. For 10 points, name this country whose longest river is the Murray and whose states include New South Wales and Queensland.
ANSWER: **Australia**

052-11-44-02132

2. One of this man's poems begins, "Yet once more, O ye laurels, and once more ye myrtles brown." His longer works include a masque about the evil sorcerer Comus. This poet, who elegized Edward King in "Lycidas," wrote an address to Parliament demanding unlicensed printing entitled *Areopagitica.* He also sought to "justify God's ways to men" in an epic whose antagonist tempts a woman in the form of a serpent. For 10 points, name this poet who wrote about Adam and Eve's banishment from Eden in *Paradise Lost.*
ANSWER: John **Milton**

142-11-44-02133

3. Cattle are raised along this country's important transportation river, the Napo. This country's international trade is concentrated at its largest city, Guayaquil (guy-uh-KEEL). This country's highest peak is the inactive volcano located at Chimborazo, and it also contains the world's highest continuously active volcano at Cotopaxi. For 10 points, name this South American country with a capital located at Quito.
ANSWER: Republica del **Ecuador**

130-11-44-02134

4. The DDR3 type of this device supports triple-channel architecture. Its most common type stores data by charging and discharging capacitors in an integrated circuit. Both that dynamic type and its static variety require a constant power supply to function. Unlike x86 architecture, 64-bit processor architectures support more than four gigabytes of this storage. For 10 points, name this volatile computer memory in which programs and data are stored while they are being run.
ANSWER: **RAM** [or **random-access memory**]

132-11-44-02135

5. This author wrote about his experience as an impoverished waiter and bum in *Down and Out in Paris and London.* He used his experience as a police officer in Burma to write the essay "Shooting an Elephant." This author wrote one novel in which the protagonist throws things down a "memory hole" as part of his job for the Ministry of Truth. He wrote about the rise of the totalitarian pig Napoleon in another novel. For 10 points, name this author of *Animal Farm* who wrote about Big Brother in *Nineteen Eighty-Four.*
ANSWER: George **Orwell** [or Eric Arthur **Blair**]

015-11-44-02136