

1. Sir Charles Trevelyan served as the Assistant Secretary to the Treasury during this event. Three years into this period, William Smith O'Brien led an armed rebellion against the English for ignoring this event. This event saw the phenomenon of "souperism," where the afflicted converted simply to receive soup. This event spread as Munster, Mayo, and Connaught were struck by the namesake blight. For 10 points, identify this famine that, through death and migration, significantly decreased the population of Ireland.

ANSWER: Irish **Potato** Famine [or **Great** Famine; or Gorta **Mor**; or **Drochshaol**]

020-10-24-08101

2. This property is typically measured using the De Nouy (duh-NOY) ring method and it causes a pressure difference as described in the Young-Laplace equation. It is caused since molecules exert small amounts of force on each other and thus molecules on the perimeter will experience a net force pulling them inwards. This property is typically measured in units of Newton per meter and is lowered by materials called surfactants. For 10 points, name this property of a liquid best seen in the ability of certain insects to walk on water.

ANSWER: **surface tension**

064-10-24-08102

3. In one of this author's novels, Anthony Patch and Gloria Gilbert throw wild parties while waiting to inherit Anthony's grandfather's money. In another of his novels, Amory Blaine's pursuit of Rosalind Connage ends after a financial disaster. This author of *The Beautiful and Damned* and *This Side of Paradise* also wrote a novel in which the psychiatrist Dick Diver treats his insane wife, Nicole. For 10 points, name this author of *Tender Is the Night* who also wrote about a man who loves Daisy Buchanan in *The Great Gatsby*.

ANSWER: Francis Scott Key **Fitzgerald**

080-10-24-08103

4. The Bar Confederation fought for the independence of this nation. The thirteenth of the Fourteen Points called for this country's establishment and its access to the sea. The Piasts were one line of kings from this nation, which was home to a parliament called the Sejm ("SAME"). This thrice-partitioned nation was the birthplace of Pope John Paul II. For 10 points, name this country whose first post-communist president was Lech Walesa, who started the Solidarity union in this nation's Gdansk shipyards.

ANSWER: Republic of **Poland** [or Rzeczpospolita **Polska**]

026-10-24-08104

5. One of this composer's symphonies has a horn enter a recapitulation of the theme four bars before the rest of the orchestra, and that work's second movement is a funeral march. This composer wrote the "Waldstein" piano sonata and the "Kreutzer" violin sonata. One symphony by this composer opens with a G-G-G-E flat motif. One symphony he wrote sets the Schiller poem "Ode to Joy" for chorus in its final movement. For 10 points, name this composer of the *Eroica* symphony, whose 5th symphony has a "fate knocking at the door" theme, and who was deaf when he wrote his 9th symphony.

ANSWER: Ludwig van **Beethoven**

027-10-24-08105

6. In one play by this author, the house belonging to the central characters is finally paid off just days before the funeral of the title character, who dies in an automobile crash. This author fictionalized his real-life marriage to Marilyn Monroe in *After the Fall* and wrote a play in which Uncle Ben strikes it rich in Alaska while Happy and Biff are embittered about their father's insistence on living the American Dream. For 10 points, identify this American playwright who wrote about Willy Loman in *Death of a Salesman*.
ANSWER: Arthur Asher **Miller**

020-10-24-08106

7. This poem compares wispy clouds to the “bright hair uplifted from the head / of some fierce Maenad.” In this work, written in Dante’s *terza rima*, the poet asks the title entity to “quicken a new birth” by driving his “death thoughts across the universe.” The title force of this poem is the “breath of autumn’s being.” At the end of this poem, the speaker asks, “If Winter comes, can Spring be far behind?” For 10 points, name this poem about a certain weather phenomenon written by Percy Shelley.
ANSWER: “**Ode to the West Wind**”

080-10-24-08107

8. At one point, this character drinks the balm of Fierabras (FIE-UR-uh-brass). He tells a story about his descent into the cave of Montesinos. This character's story is supposedly chronicled by Cide Hamete Benengeli. Characters encountered by him include the Knight of the Mirrors, who is the squire of Sanson Carrasco. He rides the horse Rocinante, and is accompanied by Sancho Panza on his quest to find Dulcinea. For 10 points, name this title character of a novel by Miguel de Cervantes.
ANSWER: Don **Quixote** de la Mancha [or Alonso **Quijano**]

024-10-24-08108

9. One play by this author features a maid named Sabina and takes place partially in New Jersey and partially during the Ice Age. He also wrote a novel about several characters affected by the collapse of a bridge in Peru. This author of *The Skin of Our Teeth* also wrote a play about Emily Webb, George Gibbs, and other residents of Grover's Corners. For 10 points, name this author of *The Bridge of San Luis Rey* and *Our Town*.
ANSWER: Thornton Niven **Wilder**

024-10-24-08109

10. When this molecule is relaxed, its linking number is divisible by 10.5. G-quadruplexes can be found on the end of this molecule. This molecule, which comes in A, B, and Z forms, winds around proteins called histones. Linear instances of this molecule are capped by telomeres. It is made up of the bases adenine, guanine, cytosine, and thymine. For 10 points, name this material that carries the genetic information of all living organisms.
ANSWER: **DNA** [or **deoxyribonucleic acid**]

026-10-24-08110

11. In a “This is Sportscenter” commercial, one player on this team saves Hannah Storm from a fire by encasing a coffee maker in ice. In 1993, this team traded Chris Webber for three future first round draft picks and Penny Hardaway, who teamed with Shaquille O’Neal when this team won the Eastern Conference in 1995. After slumping in 2010, this team dropped much of its roster and added Jason Richardson, Hedo Turkoglu, and Gilbert Arenas to team with center Dwight Howard. For 10 points, name this Florida based NBA team.
ANSWER: Orlando **Magic** [or **Orlando Magic**]

015-10-24-08111

12. This entity is the subject of the BPP algorithm. Archimedes approximated it by inscribing and circumscribing progressively larger n-gons. The probability that two integers are relatively prime is equal to six divided by the square of this. This is the definite integral from negative one to one of one over square root one minus x square dx. Lambert showed that it is irrational. This is the equal to the inverse cosine of negative one. For 10 points, name this constant multiplied by the square of the radius to find the area of a circle.

ANSWER: **pi**

001-10-24-08112

13. After this battle ended, the losing side captured Fort Bowyer, but had to give it back two days later. Among the leaders who participated in this battle were the Choctaw scout Pierre Jugeant and the French pirate Jean Laffite. Forces under the command of Edward Pakenham (pack-hen-im) could not penetrate the fortifications along a canal, causing over two thousand British casualties compared to the 71 American casualties. Taking place after the Treaty of Ghent was signed, this is, for 10 points, what battle at the end of the War of 1812 that took place near a Louisiana city?

ANSWER: Battle of **New Orleans**

083-10-24-08113

14. The term raised to the negative twelfth power in the Lennard-Jones potential accounts for this rule. White dwarfs exhibit electron degeneracy pressure, a factor limiting how much they can compress based on this rule. In general, this rule applies to half-spin particles called fermions meaning two particles can occupy the same region if and only if they have opposing spins. For 10 points, name this rule of quantum mechanics typically stated as no two electrons can have the same four quantum numbers.

ANSWER: **Pauli exclusion principle**

064-10-24-08114

15. After lying to another deity with the help of a flower, he was cursed, such that he was no longer worshipped on earth. This god's city is found within the heavens situated atop Mount Meru. After assuming the form of a swan, this figure was attacked after lying about reaching one end of the lingam. This led to him losing one of his heads, and left him with four, with which he saw in every direction. Using his own substance, he created his consort, Sarasvati. In his four arms, he carries a water jug, a scepter, a bow or spoon, and the Vedas. For 10 points, identify this creator god among the Hindu trimurti.

ANSWER: **Brahma**

092-10-24-08115

1A. What founder of the Latter Day Saints movement translated the text of buried golden plates and was succeeded as head of the Mormon church by Brigham Young?

ANSWER: Joseph **Smith** Jr.

1B. The Chindwin is the chief tributary of what river, which flows past Mandalay and is the economic spine of Burma?

ANSWER: **Irrawaddy** River [or **Ayeyarwady** River]

2A. Name the Heian-era Japanese novel written by Murasaki Shikibu about the title prince.

ANSWER: *The **Tale of Genji*** [or **Genji Monogatari**]

2B. Name the History Channel program in which Big Hoss, Rick, and the Old Man run the the title Las Vegas establishment, which buys historical items or allows customers to use them as collateral for loans.

ANSWER: **Pawn Stars**

3A. This is a 10-second calculation question. Expand quantity $x + 3$ end quantity times quantity $5x - 7$ end quantity.

ANSWER: **$5x^2 + 8x - 21$**

3B. This is a 10-second calculation question. In terms of pi, what is the circumference of a circle with area 196π square units?

ANSWER: **28** pi units

4A. Name the American playwright who won back-to-back Tony Awards for the two parts of his play *Angels in America*.

ANSWER: Anthony Robert "Tony" **Kushner**

4B. What French philosopher claimed that though he could doubt that everything he observed could be a trick of a demon, he could not deny his own existence because "I think, therefore, I am."

ANSWER: Rene **Descartes**

5A. This is a 20-second calculation question. What is quantity $a^2 + b^3$, end quantity, times quantity $x + y^2$, end quantity?

ANSWER: **$a^2x + b^3x + a^2y^2 + b^3y^2$** [any order of the terms is acceptable]

5B. This is a 20-second calculation question. In terms of x and y , what is the length of the hypotenuse of a triangle with legs length $y + 1$ and $x - 2$?

ANSWER: square **root** of **$x^2 + y^2 - 4x + 2y + 5$**

6A. Name the songwriter of "Octopus's Garden" and "Don't Pass Me By" who was the drummer for the Beatles.

ANSWER: Ringo **Starr** [or Richard **Starkey**; prompt on **Ringo**]

6B. Name the city, nicknamed the "Air Capital of the World," that is the largest in Kansas.

ANSWER: **Wichita**

7A. This is a 30-second calculation question. You have 6 marble loaf cakes, 12 cheese danish twists and 9 raspberry danish twists. If you were to pick from those deserts at random without replacing any, what is the probability of picking 3 raspberry danish twists in a row?

ANSWER: **$\frac{28}{975}$**

7B. This is a 30-second calculation question. What is the geometric mean of the set $\{2, 16, 1024\}$?

ANSWER: **32**

8A. Name the process in Latin in which words are rendered into one of seven grammatical cases.

ANSWER: **declension** [or other forms of the word **decline**; or **inflection**]

8B. What Swiss psychologist expounded his theories of the collective unconscious and those of animus and anima after breaking with his mentor Sigmund Freud?

ANSWER: Carl **Jung**

9A. Name the unit commanded by Leonard Wood during the Spanish-American War, which was organized by Theodore Roosevelt and fought at San Juan Hill.

ANSWER: **Rough Riders** [or U.S. **First Volunteer Cavalry**]

9B. Name the rock that comes in "shocked" form, comprises granite along with feldspars, and is a seven on the Mohs scale.

ANSWER: **quartz**

10A. In October 2010, what Supreme Court justice's wife left phone messages for Anita Hill, urging Hill to recant testimony against him from 1991?

ANSWER: Clarence **Thomas**

10B. What sorting algorithm that runs in big-Oh of $n \log n$ time on average and big-Oh of n^2 time in the worst case uses a "pivot" to move all of the lower values to one side and all of the higher values to the other side?

ANSWER: **quicksort**

1. This man claimed that he had the "Big Mo" after winning the 1980 Iowa primary. This man signed the Americans with Disabilities Act into law. In one speech delivered by this politician, he referred to community service organizations as "a thousand points of light." This man ordered an invasion of Panama to oust dictator Manuel Noriega. While campaigning for the presidency, this man said to voters, "Read my lips: no new taxes." For 10 points, name this President who served one term before being defeated by Bill Clinton in the 1992 presidential election.

ANSWER: George **Herbert Walker Bush** [prompt on **Bush**; accept any answer that correctly distinguishes between the two Presidents Bush such as "the **first Bush**" or "the **older Bush**" or so forth]

030-10-24-08117

2. In Germany, one adherent to this political philosophy, Ferdinand Lasalle, was disdained as an "opportunist." This set of ideas was influenced by the thought of utopian thinkers like Claude-Henri Saint-Simon and Robert Owen. In 1864, thousands of adherents to this ideology gathered at the First International. This philosophy teaches about a revolution that will lead to the rule of the proletariat. For 10 points, name this radical philosophy, based on the ideas of the author of *Das Kapital*.

ANSWER: **Communism** [or **Marxism**; or **Socialism**]

080-10-24-08118

3. The classification scheme for these particles was developed independently by Gell-Mann and Zweig. Evidence for their existence was gathered through deep inelastic scattering experiments at SLAC. These particles have a non-integer electric charge as well as a color charge. These fundamental particles combine to form hadrons. For 10 points, name this set of particles with names like strange and charmed.

ANSWER: **quarks**

084-10-24-08119

4. One equation useful for the simplest type of these circuit components is permittivity times area all divided by distance. The SI unit of these components is defined in coulombs per volt. In parallel, the measure of the effectiveness of these components adds; in series, you must take the sum of the reciprocals of the individual measures. The most basic types of these circuit components are made up of two parallel plates. For 10 points, name these circuit components whose ability to store charge is measured in farads.

ANSWER: **capacitors**

026-10-24-08120

5. This institution is constructing a satellite museum, with a webbed dome roof, in Abu Dhabi. This museum is home to the Code of Hammurabi, and sculptures found in this museum include the *Apollo Belvedere* and Michelangelo's *Dying Slave*. It is found west of the Tuileries (TOOL-er-ies). Gardens, and was opened to the public in 1793. It was renovated in the 1980s to include an expanded entrance through a skylit underground lobby designed by I.M. Pei. For 10 points, name this Parisian art museum which features the Mona Lisa and a glass pyramid.

ANSWER: The **Louvre** [Musée du Louvre]

082-10-24-08121

6. This man participated in his first rescue mission as co-pilot of the *Sea King* in October 2010. This man proposed to his fiancé during a trip to the Lewa reserve in Kenya. Due to marry Kate Middleton in April 2011, for 10 points, name this eldest son of Prince Charles, second in line to the throne of United Kingdom.

ANSWER: **Prince William** Arthur Philip Louis of Wales

084-10-24-08122

7. The pointer of this name does not point to any valid address. This name is given to the ASCII character used to terminate c strings. The kernel of a matrix is also known as this space. This term also applies to the empty set. The statistical results of an experiment can reject the hypothesis of this name which assumes that no significant effect occurred. For 10 points, name this term that refers to things with out value, that when combined with void describes a contract without legal effect.

ANSWER: **null**

001-10-24-08123

8. Max Perutz proposed the mechanism for the action of this protein regulated by the compound 2-3 BPG. According to the Bohr effect, the properties of this protein changes according to the pH. The central active site of this protein contains a ring structure called a porphyrin which has a central iron atom. Carbon monoxide is toxic because of its ability to bind to this protein. A mutation in the gene for this protein found in erythrocytes (UR-ith-rah-sites) causes sickle cell anemia. For 10 points, name this protein found in red blood cells used to transport oxygen.

ANSWER: **hemoglobin**

064-10-24-08124

9. This man wrote a play in which a noblewoman, the lover of the poet Aleel, offers her soul to the devil in exchange for money to feed the poor. In addition to *The Countess Cathleen*, this man wrote a poem in which "the ceremony of innocence is drowned." In that poem by this man, "the falcon cannot hear the falconer," and it asks "what rough beast ... slouches towards Bethlehem to be born?" That poem is this man's "The Second Coming." For 10 points, name this Irish poet who wrote "Sailing to Byzantium."

ANSWER: William Butler **Yeats**

030-10-24-08125

10. In the late 1800's, this scientist claimed that the geometric rise of carbon dioxide in the atmosphere was directly proportional to a linear rise of the Earth's temperature. This man developed an equation that can be extended to transition state theory with the Eyring-Polanyi (EYE-RING POLE-ahn-YEE) equation. That equation based on collision theory contains a term called the pre-exponential factor and relates the rate constant to the activation energy and temperature in chemical kinetics. For 10 points, name this Swedish chemist who names an acid-base theory in which an acid is an electron acceptor.

ANSWER: Svante **Arrhenius**

064-10-24-08126

11. Twentieth-century composers from this country created such works as *The Mask of Orpheus* and *King Priam*. Another composer from this country used a George Crabbe poem as the basis for his opera about a fisherman who is accused of killing his apprentices. Such arias as "Ah, Belinda" and "When I am Laid in Earth" are sung by the queen of Carthage in *Dido and Aeneas*, an opera by a composer from this country. For 10 points, name this country, the birthplace of Henry Purcell and Gustav Holst.

ANSWER: Great **Britain** [or **England**; or the **UK**; or the **United Kingdom**]

083-10-24-08127

12. This man proposed a theoretical framework called "principles and parameters," and he reduced transformations to the operation "move alpha" before reducing them further to "internal Merge." He criticized behaviorist views of language in a review of B.F. Skinner's work *Verbal Behavior*. He discussed the concept of generative grammar in *Syntactic Structures*, and discussed the "language acquisition device" he theorized to be innate in children. For 10 points--name this linguist who works at MIT.

ANSWER: Avram Noam **Chomsky**

027-10-24-08128

13. Along with Jeremiah Black and Dudley Field, this man argued as attorney for Milligan in *Ex Parte Milligan*. Stanley Huntley is thought to have forged a letter in this man's name which supported unlimited Chinese immigration and was addressed to an H.L. Morey. This man commissioned his Postmaster General, Thomas James, to investigate the Star Route frauds. This president's assassination led to the passage of the Pendleton Act, since he was killed by disgruntled office-seeker Charles Guiteau (gih-"TOE"). For 10 points, name this Republican President succeeded by Chester Arthur.

ANSWER: James Abram **Garfield**

080-10-24-08129

14. Ignacy Krasicki wrote a number of fables in addition to writing this type of story. One story of this type tells about a man who loses one of his one hundred sheep, and that story appears before one about a lost coin. Another one is about the Friend at Night, and yet another is about the Good Samaritan. They are distinguished from fables in that they typically feature human characters. Plato's *Republic* contains one about a cave. For 10 points, name these stories, examples of which include one about the Prodigal Son.

ANSWER: **parables**

024-10-24-08130

15. Two of the figures in this painting wear necklaces consisting of multi-colored beads and a cross. On its left side, one can see an eclipsed moon as well as a woman milking a cow, and near its center a man holds a scythe. Red and blue houses are shown upside-down in the background of this painting, which also depicts a glowing tree being held by a man with a green face. Meant to reflect the painter's memories of a Hasidic community outside Vitebsk, Russia, this is, for 10 points, what painting by Mark Chagall?

ANSWER: **I and the Village**

092-10-24-08131

1. This material loses effectiveness after an action called girdling, which leads to tissue death. Ernst Munch proposed that this material works via the pressure flow hypothesis. This material consists of parenchymal, sieve-tube, and companion cells. In trees, this material is found in the inner bark, which is why its name derives from the Greek for "bark." For 10 points, name this living vascular material that transports nutrients within a plant, contrasted with the water-carrying xylem.

ANSWER: **phloem**

026-10-24-08132

2. The "affective" type of these involves judging a text based on its emotional impact, and is described in an essay by Wimsatt and Beardsley, who also wrote an essay about the "intentional" type of these. Another type of these involves ascribing human characteristics to non-human objects, and is the "pathetic" type. In logic, examples of these include the straw man and begging the question. For 10 points, name this term which refers to incorrect forms of reasoning.

ANSWER: **fallacies**

024-10-24-08133

3. During the 16th century, this country saw the establishment of its modern-day capital by Pedro de Valdivia, who died fighting the native Mapuche (mah-POO-chay) people. Independence forces in this country were defeated at the Battle of Rancagua, but later prevailed against Spanish forces at the Battle of Chacabuco thanks to the efforts of José Carrera and Bernardo O'Higgins. Mineral deposits in this country's Atacama Desert caused it to engage in the War of Pacific against Bolivia and Peru. For 10 points, name this narrow country with its capital at Santiago.

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

083-10-24-08134

4. At the end of this novel, the protagonist's daughter, Berthe, must support herself by working in a cotton factory. In this novel, a man named Hippolite has his leg amputated after a botched operation. The protagonist of this novel drinks arsenic in order to avoid the shame of her husband discovering her affairs with Leon and Rodolphe. This novel focuses on a woman bored with her marriage to a country doctor named Charles. For 10 points, name this novel about the adulteress Emma, written by Gustave Flaubert.

ANSWER: **Madame Bovary**

080-10-24-08135

5. This man pirated Georges Méliès film *A Trip to the Moon* and sold it in hundreds of theatres. He demonstrated the use of alternating current on stray animals and advocated for its use in electric chairs as part of his smear campaign against it during the "War of the Currents" against George Westinghouse. He used the term "filament" to describe the innovative glowing strand that made the first commercially successful incandescent lamp possible. For 10 points, name this "Wizard of Menlo Park," inventor of the phonograph and a practical light bulb.

ANSWER: Thomas **Edison**

015-10-24-08136

Inorganic ones include silicone, and an example of an organic one is PVC. Identify these large molecules composed of smaller repeating units.

ANSWER: **polymers**

015-10-24-08137

This is a calculation question. Solve for w in $22w - 1/3 = 2w + 1/2$.

ANSWER: $w = \underline{1/24}$

015-10-24-08137