

1. Mkrtych Khrimian's ("muh-ker-TEECH khree-MEE-an's") delegation to this event was largely ignored, as the British delegation advanced a modification of Article 61 to allow for slow reform in Western Armenia. This event was called the "darkest page in my life" by Prince Gorchakov, who fell ill afterwards and was assisted in foreign affairs by Dmitry Milyutin. A garrison in Novi Pazar was granted at this event, accomplishing a major goal of Count Andr ssy ("AHN-drah-shee"). It temporarily put to rest the (*) Eastern Question by producing a replacement for the Treaty of San Stefano that had ended the Russo-Turkish War, thus guaranteeing independence to Romania and Bulgaria. Seven years after this event, a meeting in the same city led to the "Scramble for Africa." For 10 points, name this 1878 meeting held in the German capital.

ANSWER: **Congress of Berlin** [or **Berlin Congress**; accept **Treaty of Berlin** until "treaty"; do not accept or prompt on "Berlin Conference"]

<Continental post-600 History, WA>

2. In lattice QCD, the pressure from quarks converges to the limit imposed by this law at infinite temperatures, which is when couplings disappear. The derivation of this law involves performing a variable substitution to convert an integral into a standard form of [read slowly] " x^3 over the exponential of x minus 1." This law's formulator first derived it using data from John Tyndall's experiments on platinum wires and verified it using a cavity in thermal equilibrium. This law can be derived by integrating the (*) Planck formula over all wavelengths. This law's namesake constant has units of [read slowly] "watts per meter squared per kelvin to the fourth" and a magnitude of "5.68 times 10-to-the-negative-8th," and is multiplied by the fourth power of temperature to give an object's irradiance. For 10 points, give this law of blackbody radiation named for two Austrian physicists.

ANSWER: **Stefan-Boltzmann** law [prompt on **Stefan**'s law]

<Physics, WA>

3. A musician with this first name fused his homeland's melodies with Philip Glass's minimalist style on the album *Passages*. With executive Ken Druker, another musician with this first name compiled six songs by a dead artist into a "lost album" released in 2018, titled *Both Directions at Once*. That musician with this name recorded the album *Spirit Fiction*. A musician with this first name worked with Yehudi Menuhin ("yeh-HOO-dee MEN-yoo-in") on the 1996 album *West Meets East*, and wrote the autobiographical *My Music, My Life*, which contains an explanation of classical (*) *raga* music theory. That man with this first name created the music for the *Apu* trilogy. This first name is shared by a son of Alice and John Coltrane and a *pandit* ("pundit") who introduced Hindustani music styles to George Harrison of the Beatles. For 10 points, give this first name of a *sitar* player whose surname was Shankar.

ANSWER: **Ravi** [accept **Ravi** Coltrane or **Ravi** Shankar]

<Other Art: Jazz, WA>

4. This place titles an essay that suggests to end your book with a quote saying "something about rainbows or renaissances," which is one piece of advice on "How to Write About" this place. A poem titled for this place states that "upright man / Seeks his divinity by inflicting pain," and describes the bitter irony of post-conflict calm as "the white peace contracted by the dead." A 1962 conference is described in an essay that declares that the literature of this place "is, or will be, written in (*) English." A poem begins "A wind is ruffling the tawny pelt / Of" this place, and asks whether the author can "choose between" this place "and the English language I love?" and how he can "turn from" this place "and live?" For 10 points, Derek Walcott wrote a poem titled for "A Far Cry" from what continent that, along with Europe, produced his ancestors?

ANSWER: Africa [accept “How to Write About Africa” or “The African Writer and the English Language” or “A Far Cry from Africa”]

<Misc. Lit, WA>

5. In 2016, the Mejlis that governed an ethnic minority in this region was outlawed as an extremist organization. Opposing armies occupy the northern and southern portions of this region’s Arabat Spit. The occupation of a parliament in this region marked the first major international action of masked soldiers known as “little green men.” Major issues in this region stem from a “personal gesture” carried out in (*) 1954, in which control of it was transferred. In 1991, about 95 percent of this region’s voters chose to restore its status as an autonomous SSR, a year before it gained a new constitution; it rejected that 1992 constitution by about the same margin in a 2014 referendum that was opposed by many local Tatars and declared illegitimate by the UN. For 10 points, name this peninsula that was annexed by Russia in 2014.

ANSWER: Crimean Peninsula [or Krim]

<Other/Misc Academic, WA>

6. Efforts to revive this country’s past are presented as a cause of one leader’s fall in *Roots of Revolution* and other works by Nikki Keddie. Richard Frye established a center for studying this country’s heritage in the old house of the Qavam family, and taught other scholars of it like Annemarie Schimmel. In 1971, this country built an elaborate city of golden tents around a tomb as part a 2,500 year anniversary of its history; that event’s central symbol was a (*) cylinder considered to be the world’s oldest human rights document. In the 1960s, this country sought to restore itself as a great civilization through a program of modernization, including land reform and women’s rights, called the White Revolution; it also revived the title of “King of Kings” to emphasize its Achaemenid (“uh-KEE-muh-nid”) heritage. For 10 points, name this country once led by the Pahlavi dynasty.

ANSWER: Iran [or Persia]

<Historiography, WA>

7. Ferruccio Busoni’s (“fair-ROO-choh boo-ZOH-nee’s”) *Klavierübung* (“kla-VEER-oo-boonk”) contains eight of these pieces modeled after the ones by Johann Cramer (“KRAH-mer”). A G-sharp minor piece in this genre takes its theme from the finale of another composer’s Violin Concerto No. 2 in B minor. They’re not sonatinas, but a hundred of these pieces are collected in Muzio Clementi’s Opus 44, titled *Gradus Ad Parnassum*. Hundreds of pieces in this genre were written by (*) Carl Czerny (“CHAIR-nee”). A piece titled “La campanella” is part of a “Grand” set of these pieces based on Paganini’s works. “Chasse-neige” (“shoss-NEZH”), “Feux follets” (“foo foh-LAY”), and “Mazeppa” figure among Franz Liszt’s “Transcendental” examples of, for 10 points, what genre whose name is the French word for “study”?

ANSWER: études [accept *Transcendental Études*; prompt on study or piano study or keyboard study; prompt on exercises]

<Classical Music/Opera, WA>

8. Red sandstone cliff formations called the Cathedrals stretch along this state’s Fraser Island, the world’s largest sand island. The lead and silver ore mining industry in this state’s interior grew out of the Mount Isa shantytown. This state’s sugarcane agriculture has been damaged by an invasive species that was introduced to eliminate the native beetle population, and is centered around Bundaberg. The Kuranda Scenic Railway reaches this state’s Atherton Tableland after crossing the (*) Great Dividing Range from Cairns. The Q1 skyscraper in Gold Coast, this state’s surfing mecca, is the tallest building in the Southern Hemisphere. The Whitsunday Islands off this state’s coast are common attractions for tourists visiting the largest structure in the world created by lifeforms. For 10 points, name this Australian state governed from Brisbane that is home to the Great Barrier Reef.

ANSWER: Queensland

<Geography, BD>

9. Updated versions of this technique include a “spectral” type and a type that incorporates mFISH. The abnormalities identified by this technique can be categorized into constitutional versus acquired and numerical versus structural. Colchicine is used to arrest cells in this technique. The results of this technique are visually represented and further analyzed in ideograms. The structures studied in this technique, which are sometimes categorized as (*) metacentric or acrocentric, are analyzed by length and bands formed by Giemsa (“GEEM-zah”) staining. Prenatal samples for this technique are acquired via chorionic villi (“kor-ee-ON-ic VILL-ee”) sampling or amniocentesis (“AM-nee-oh-sen-TEE-siss”). This technique is the standard means for diagnosing aneuploidy (“AN-yoo-ploy-dee”) in a fetus. For 10 points, identify this technique that images an individual’s chromosomes.

ANSWER: karyotyping [accept equivalents like producing karyotypes]

<Biology, JC>

10. Jean-Francois Lyotard analyzed how several speeches in this novel were taken verbatim from Adorno in “Adorno as the Devil.” The protagonist of this novel rants, “It will be taken back. I will take it back” and “I have found that *it is not to be*,” recalling earlier lectures. This novel opens with the narrator getting sidetracked by the word “genius,” forcing him to start the narration over. Its title character briefly lives in Palestrina with Rudiger Schildknapp, who is later present as he cries while striking a “strongly (*) dissonant chord” during a performance of an “apocalyptic lamentation.” This novel’s title character first encounters music while listening to Kretzschmar’s lectures on Beethoven with the narrator Dr. Zeitblom. For 10 points, name this novel about the madness of the composer Adrian Leverkühn by Thomas Mann.

ANSWER: Doctor Faustus [do not accept or prompt on “Faust”]

<Long Fiction, JC>

11. This god is defeated in battle by an enemy who attacks him for slaying the serpent Lotan. This god is assisted by a figure who brings him two clubs during a fight and then builds him a palace of fragrant cedarwood. This god ascends to his home on Mount Saphon after being brought from the underworld by the torch-carrying goddess Shapash. The word that provides this god’s name was frequently also placed before such deities as (*) Melqart as an honorific, as it simply means “Lord.” In an epic cycle from Ugarit, the smith Kothar-wa-Khasis helps this god defeat Yam. Elijah awes a number of priests of this non-Hebrew god by setting a stone slab on fire. For 10 points, name this storm and fertility god found in many Levantine pantheons, whose name is frequently mentioned in the Bible.

ANSWER: Ba’al Hadad [or Ba’al Hadad or Adad; prompt on Dagon; do not accept or prompt on “El” or “Elohim” or “Ba’al Hammon”]

<Mythology, WA>

12. This organization incorporated Cyril Briggs’s African Blood Brotherhood to help propagandize its ideas. With the NAACP, this organization provided the main funding for the Scottsboro Boys during their lawsuit. The accommodationist positions of this organization’s leader Earl Browder prompted his ouster by William Z. Foster. Freedom of speech was incorporated in a case against a founder of this organization named (*) Benjamin Gitlow, who later testified against this organization in front of HUAC (“HYOO-ack”). Though he opposed this organization’s political activities, W. E. B. Du Bois agreed with its ideology and eventually joined it in 1963. Many black intellectuals such as Gwendolyn Brooks, Claude McKay, and Richard Wright were members of this party during the 1930s. For 10 points, name this Marxist-Leninist organization headed in New York City.

ANSWER: Communist Party, USA [or CPUSA; accept any answers that indicate the Communist Party in the United States of America; prompt on Communist Party]

<US History, EL>

13. This author was labeled as “a penis with a thesaurus” in a David Foster Wallace essay that calls this man a “Champion Literary Phallocrat.” That essay centers on one of this author’s novels whose climactic scene sees Ben Trumbull’s prostate operation leave him impotent. One of this man’s characters claims that a woman’s beauty lies in her spine as he watches beachgoers from his lifeguard’s chair. Another of this man’s characters accuses his wife Janice of deliberately drowning their baby (*) Rebecca before running back to his former mistress Ruth. This author created Sammy, who quits his cashier job after his boss chides Queenie for wearing a bikini at the title supermarket. A former high school basketball star is described in this author’s books about him “Rich” and “at Rest.” For 10 points, name this author of “A&P” who created Harry Angstrom in books like *Rabbit, Run!*

ANSWER: John **Updike** (The first book is *Toward the End of Time*.)

<Short Fiction, EL>

14. A Sufi leader from this present-day country popularized the practice of “hanging *dhikr* (“thicker”),” in which one prays upside down. Both contemporary branches of the Sufi Chishti order were founded in this country. This country was home to Syedna Mohammed Burhanuddin, whose 2014 death caused a succession crisis in the Dawoodi Bohra community. Islamic divorce law here was affected by a 2017 law banning triple *talaq* as well as the (*) Shah Bano case. An 1866 court case in this country placed the Khoja (“KO-juh”) community of one city under the leadership of the first Aga Khan. Though this country has the third highest Muslim population in the world, Islam is not its majority religion. It was once home to the Babri Mosque in the city of Ayodhya. For 10 points, name this country where Islam adapted to a pervasive caste system.

ANSWER: **India** [or Republic of **India**; or **Bharatiya** Ganarajya]

<Religion, WA>

15. This artist claimed to have a “problem of conscience” in painting a self-portrait for a work commissioned by Harry Torczyner, and said that the work created “a sort of conflict” by only showing a glimpse of the eyes. Another self-portrait by this artist is set against an extremely similar background to that of his painting *The Great War*. A third self-portrait shows this artist painting a picture of a bird and is titled (*) *Clairvoyance*.

This artist’s best-known self portrait contains the same elements as his *The Taste of the Invisible* and shows him standing in front of a wall made of concrete blocks. That self portrait uses an outfit similar to the men lying in wait in this artist’s *The Menaced Assassin* and those falling from the sky in his *Golconda*. For 10 points, name this artist who placed a green apple in front of himself in the painting *The Son of Man*.

ANSWER: René **Magritte**

<Painting/Sculpture, PC>

16. Philip Hopkins pranked colleagues by comparing images of real examples of this process to images of it generated by the FIRE simulation. It’s not a collision, but by simplifying the treatment of baryonic physics within each merger tree using data from the Millenium Run, Springel et al. simulated thousands of instances of this process. The Lambda-CDM model predicts that this process occurred where quantum fluctuations during the (*) Big Bang produced higher concentrations of matter; it also predicts that this process began about 500 million years after the Big Bang and produced the first gravity-bound structures in the universe. The products of this process can be classified on a tuning fork diagram and take shapes such as lenticular and barred spiral. For 10 points, what process creates objects such as the Magellanic Clouds?

ANSWER: **galaxy formation** [or **galactic evolution**; accept answers like the creation / coalescing / evolution of **galaxies** or **proto-galaxies**; prompt on gravity-bound structure formation or small-scale structure formation or large-scale structure formation; do not accept or prompt on “galaxy mergers” or “galaxy collisions” or any answer involving “clusters” or “superclusters”]

<Other Science: Astronomy, WA>

17. **Members of this group are the main beneficiaries of unintentionally redistributive schemes according to Director's Law. A 2010 paper from the Brookings Institution estimated that the "global" version of this group encompasses 1.8 billion people. A book whose subtitle refers to this group identifies the "personality market" and "salesmanship mentality" as being behind a form of bureaucratic alienation, which was caused by a shift of this group's main mode of (*) employment from manual labor to working under managers. The emergence of the title new type of job is analyzed in the "study of" this class presented in C. Wright Mills' book *White Collar*. Books such as *Squeezed* analyze the common talking point that in the US, this class is disappearing.** For 10 points, identify this social class of people with an intermediate level of wealth.

ANSWER: **middle classes** [accept **middle** after "class"; accept global **middle class**; prompt on bourgeoisie or or petit bourgeoisie or petty bourgeoisie; prompt on white collar workers before "white collar"]

<Social Science: Sociology, WA>

18. **Dr. Georg Anton Schäffer's failed conquest of the realm of a king with this name led to a lawsuit over the 200,000 roubles he lost his company. A subordinate of a king of this name massacred the crew of Thomas Metcalfe's ship *The Fair American* and brought the crew's only survivor, Isaac Davis, to serve as an advisor. By starting a period of "free eating" in which women ate forbidden foods with men, another king of this name ended his realm's taboo system, known as (*) *kapu*. After being attacked by fishermen, a king of this name declared "let every elderly person, woman, and child lie by the road in safety" in the Law of the Splintered Paddle. Five kings of this name, including the founder, ruled a dynasty whose final member was Lili'uokalani.** For 10 points, give this name of the first king to unify Hawaii.

ANSWER: **Kamehameha**

<World History, EL>

19. **The technique of ranking these species by a parameter denoted "DN," representing the negative enthalpy value of one particular reaction, was introduced by Viktor Gutmann. Triarylphosphines acting as these species react with triarylboranes to form so-called "frustrated" products. Diatomic nitrogen is considered to be a "borderline" example of these species. Reactions involving these species interact with their (*) HOMO, or highest unoccupied molecular orbital. Curved arrows point [emphasize] *away from* these species in diagrams of adduct formation. Carbon monoxide is a "soft" example of these species. All nucleophiles are examples of these species because they form covalent bonds by donating lone pairs.** For 10 points, name these species defined by a namesake American chemist as electron donors.

ANSWER: **Lewis bases** [accept **nucleophiles** before "nucleophiles"; accept **hard bases** or **soft bases**; prompt on bases] (The "DN" value stands for "donor number.")

<Chemistry, WA>

20. **Randall Jarrell claimed that an "unusually simple" way of travelling into the future is to read this author without being prepared to read him as if "one were setting out, naked, to see something that is there naked." George Orwell argued that this man's poetry resulted from his being "half-civilized" in an essay that used this man's line "He travels the fastest who travels alone" as an example of this man as a "good bad poet." This poet of "The Winners" wrote of a character who will be (*) "squattin' on the coals / Givin' drink to poor damned souls" in a poem that tells that character "you're a better man than I." This man included "if all men count on you, but none too much" in a poem that ends "you'll be a man, my son!" The "White Man's Burden" was described by, for 10 points, what poet of "Gunga Din" and "If"?**

ANSWER: Joseph Rudyard **Kipling**

<Non-Epic Poetry, EL>

Bonuses

1. This opera features a celesta player doubling the synthesizer and notably lacks violins, giving the strings a stronger tone. For 10 points each:

[10] Name this minimalist opera whose title character is frequently doubled by the trumpet. The coronation in this opera features a hymn sung in Egyptian.

ANSWER: **Akhnaton**

[10] *Akhnaton* is an opera by this American composer, who grouped it with *Satyagraha* and *Einstein on the Beach* in his “Portrait Trilogy.”

ANSWER: Philip **Glass**

[10] The role of Akhnaten is played by an actor of this vocal type. This vocal type has an almost identical range to the female contralto, which means that Akhnaten sometimes sings higher notes than his wife Nefertiti, a contralto.

ANSWER: **countertenor**

<Classical Music/Opera, BB>

2. The set of all transformations that preserve this property for a given molecule are described by that molecule’s point group. For 10 points each:

[10] Give this property of remaining the same under a given transformation, such as a rotation or reflection.

ANSWER: **symmetry** [or inversion **symmetry**; accept word forms such as **symmetrical**]

[10] Molecular vibrations can be classified by their symmetry using these constructs, which show all possible representations of a given point group. Their columns correspond to a molecule’s symmetry operations.

ANSWER: **character tables**

[10] Molecules with this shape that have conical symmetry are classified in the C-infinity-V point group. Molecules with a central atom, two bonding atoms, and either zero or three lone pairs take this shape.

ANSWER: **linear** molecules

<Chemistry, WA>

3. This philosopher’s main treatise on morality claims that truth must be approached “roughly and in outline” and stipulates that all things should aim at the good. For 10 points each:

[10] Name this philosopher whose book *Nicomachean Ethics* provides a guide to achieving morality via cultivating *arete* (“ah-reh-TAY”), *phronesis*, and *eudaimonia*.

ANSWER: **Aristotle**

[10] This ethical approach advocated by such thinkers as Alasdair MacIntyre argues that cultivation of its central concept, which is a translation of Aristotle’s *arete*, provides the proper foundation for moral philosophy.

ANSWER: **virtue** ethics

[10] This philosopher’s collection *Virtues and Vices* explores the question of whether virtue always results in good action. This philosopher explored Kantian morality in “Morality as a System of Hypothetical Imperatives.”

ANSWER: Philippa **Foot**

<Thought, WA>

4. In this industry, plantations known as *engenhos* (“en-ZHEN-yoos”) employed mills called *trapiches* (“tra-PEE-shees”). For 10 points each:

[10] Identify this industry whose derivative molasses was shipped to New England and manufactured into rum as part of the triangle trade.

ANSWER: **sugar** [accept **sugar** cane]

[10] Brazilian sugar production expanded rapidly with capital influx from this colonial power that occupied Pernambuco in 1630 as part of its “Great Design” plan to expand its territory.

ANSWER: the **Netherlands** [or **Holland**; or **Dutch** Republic or **United Provinces**]

[10] This island became the center of Caribbean production under the pioneering of Englishman James Drax. This island was the center of the British slave trade until it was abolished.

ANSWER: **Barbados**

<World History, NB>

5. Maimonides argued that a man could not be convicted of this practice in court, but nonetheless advised against it, stating that it could result in one developing a foul odor and losing one's eyebrows and teeth. For 10 points each:

[10] Name this practice that is generally prohibited by Jewish law because it results in *hashchatat zerah* ("hosh-kuh-TOT ZEH-rah"), or "wasting of seed." Seventh Day Adventist founder Ellen White condemned it as a "solitary vice."

ANSWER: **masturbation** [accept equivalents indicating **masturbating** or **touching oneself**]

[10] Prohibition of masturbation in Judaism originates from the story of Onan, who was punished by God for practicing coitus interruptus with his sister-in-law. Thus, he was not properly fulfilling the requirement in Jewish law that mandates this type of marriage, in which a deceased man's brother must marry his brother's widow.

ANSWER: **Levirate** marriage

[10] In Chapter 2 of a book titled for this concept, the Talmud states "the hand that reaches below the navel should be chopped off." This Hebrew term refers to cleanliness requirements that apply to menstruating women.

ANSWER: **niddah** ("nee-DAH")

<Religion, WA>

6. A Molly Fischer profile of this poet in which she spends most of the time discussing book design was discussed in a Deadspin article titled this poet "Seems Utterly Uninterested In Reading Books." For 10 points each:

[10] Name this Instagram poet of Sikh ancestry behind the collection *Milk and Honey*. She was dubbed the "Queen of the Instapoets" by *Rolling Stone*.

ANSWER: Rupi **Kaur**

[10] *The New York Times* called Kaur a mix between Cat Power and this author of *Notes from a Dirty Old Man*, who created Henry Chinaski for his novels *Ham on Rye* and *Post Office*.

ANSWER: Charles **Bukowski**

[10] This Kenyan-born Somali poet, who wrote "for women who are 'difficult' to love" and released the collection *Teaching My Mother How to Give Birth*, was dubbed the "laureate" of the social media poets by the New Yorker. Her work was featured on Beyoncé's visual album *Lemonade*.

ANSWER: Warsan **Shire**

<Misc. Lit, EL>

7. This type of behavior is exhibited by prairie dogs giving off a warning signal instead of running from predators. For 10 points each:

[10] Give this term for a form of selfless behavior that reduces the fitness of a given individual, but increases the fitness of another individual or the group as a whole.

ANSWER: **altruism** [accept word forms such as **altruistic** behavior]

[10] Darwin first described this type of selection when looking at altruistic sterile social insects. In this type of selection, an individual behaves altruistically towards other individuals with higher coefficients of relationship.

ANSWER: **kin** selection

[10] This rule explains altruism in terms of kin selection. It states that a gene's frequency will increase when the product of the coefficient of relationship and the reproductive benefit is greater than the reproductive cost of an altruistic act.

ANSWER: **Hamilton**'s rule

<Biology, SO>

8. The Spartan constitution prevented the city from issuing these things, insisting on use of iron rods instead to discourage wealth accumulation. For 10 points each:

[10] Identify these things that were first created in classical antiquity in the kingdom of Lydia. Ancient Greek examples of things were typically units of *drachmai*.

ANSWER: **coins** [prompt on **currency**]

[10] Beginning in the Second Punic War and ending during the 3rd century AD, the Romans issued this standard silver coin. Most medieval Islamic empires named their coins after this Roman one.

ANSWER: **denarius** [prompt on **dinar** by asking “what is the original Latin word?”]

[10] In 312 AD, Diocletian replaced the gold *aureus* with this other gold coin as part of an effort to fight currency debasement, as this coin was worth nearly 300,000 *denarii*. A later name for this coin, the *bezant*, refers to its use throughout the Byzantine empire.

ANSWER: **solidus**

<Ancient History, WA>

9. Name these artists who feature in the wonderful artistic world of Bojack Horseman, for 10 points each.

[10] A portrait in Bojack’s office shows a horse in place of the red-blazer-wearing man in this British artist’s *Portrait of an Artist (Pool with Two Figures)*. In 2013, he began using the iPad as an art medium.

ANSWER: David **Hockney**

[10] At Abe D’Catfish’s house, Bojack and Wanda see a painting that replaces a woman with a shark in this artist’s *Olympia*. This artist also painted *Luncheon on the Grass*.

ANSWER: Edouard **Manet**

[10] During a theft, Princess Carolyn has a daydream in which she lives at a cottage in a parody of this artist called Glowing Fuzzy Nonsense. This commercial artist, who trademarked his self-given nickname “The Painter of Light,” depicted a glowing cottage in *The Christmas Cottage*.

ANSWER: Thomas **Kinkade**

<Painting/Sculpture, EL>

10. A poem states that if we cannot adorn this location with a “bas-relief” sculpted from the “wars of earth and heaven,” we should “let this boundary stone say no / To the dark flights of blasphemy hereafter.” For 10 points each:

[10] Identify this location described in a poem by Stéphane Mallarmé which claims that it is the place where “the Poet” is “Changed by Eternity to himself at last.”

ANSWER: the **tomb** of Edgar Allan **Poe** [accept “The **Tomb of Edgar Poe**” or “Le **tombeau d’Edgar Poe**”]; prompt on **tomb** or **tombeau** by asking “whose tomb?”]

[10] This other French poet said that he found the essential connection between Baudelaire and Poe in the first line of Mallarmé’s poem. He also described visiting tombs in his poem “The Graveyard by the Sea.”

ANSWER: Paul **Valéry**

[10] This Frenchman described visiting his daughter Léopoldine’s grave in “Demain dès l’aube” (“duh-MAN day LOBE”). This man was best known as a poet in France during his lifetime, but today he is known for *Les misérables*.

ANSWER: Victor **Hugo**

<Non-Epic Poetry, WA>

11. An 1833 agreement between these two states created above-ground and below-ground borders, leading to a 1998 Supreme Court case that transferred 90 percent of an island once owned by one of these two states to the other. For 10 points each:

[10] Name these two states. Governors George Pataki and Christine Todd Whitman feuded over that island situated between these two states.

ANSWER: **New Jersey** AND **New York**

[10] That 1998 dispute resulted from New York's artificial enlargement of this island, since at its original size, this island could not handle the amount of buildings needed for its purpose as the largest immigration inspection center in the US.

ANSWER: **Ellis** Island

[10] New Jersey and New York earlier feuded over New Jersey's northwest corner due to the conflicting boundary decisions made by these two men, the two Lord Proprietors of the Province of New Jersey. Name either.

ANSWER: Sir George **Carteret** OR Lord John **Berkeley**

<US History, EL>

12. Answer the following related the construction of Voronoi diagrams, for 10 points each.

[10] Voronoi diagrams separate a plane into cells based on a measure of this quantity with regards to their seed points. The shape of the cells may vary depending on whether the Euclidean or Manhattan type of this value is used.

ANSWER: **distance** [accept Euclidean **distance** or Manhattan **distance**]

[10] Voronoi diagrams can be constructed by Stephen Lloyd's implementation of the k -means algorithm, which is an unsupervised learning algorithm for this task. In general, this task involves placing data points into groups that are more similar to each other than they are to points in other groups.

ANSWER: **clustering** [or data **clustering**; or **cluster** analysis; do not accept or prompt on "classification"]

[10] Voronoi diagrams can also be constructed by this sweep-line algorithm. This algorithm creates a "beach line" composed of piecewise parabolas that widen as it sweeps across the plane.

ANSWER: **Fortune's** algorithm

<Other Science: Math, WA>

13. This principle in common law prevents a person from asserting something contrary to the implied meaning of their previous actions. For 10 points each:

[10] Identify this judicial device, which is one reason that large companies frequently sue over minor infringements of intellectual property. The 2002 SCOTUS case *Festo Corp* examined this doctrine's "prosecution history" variety.

ANSWER: **estoppel**

[10] Estoppel is sometimes used as a defense against lawsuits over this type of intellectual property, which protects original works of authorship fixed in a tangible medium of expression.

ANSWER: **copyright**

[10] Another defense against copyright infringement suits is this doctrine, whose four elements include the purpose of the work, amount of material copied, and effect of the copying on the market of the original work. It is used to protect citations in academic works.

ANSWER: **fair use**

<Other/Misc Academic, BB>

14. This figure tricked Bhasmasura into reducing himself to ash by dancing with him. For 10 points each:

[10] Name this female avatar of Vishnu who took the form of an enchantress to distribute Amrita to the Devas, over the Asuras, following the churning of the ocean.

ANSWER: **Mohini**

[10] Dhanvantari emerged from the ocean with Amrita, fitting his role as the god of this domain. Specifically, Dhanvantari is the god of the ayurvedic form of this domain.

ANSWER: **medicine** [accept reasonable equivalents like **healing**; do not accept or prompt on "hospitality"]

[10] Besides Mohini and Dhanvantari, another avatar of Vishnu present during the churning of the ocean was Kurma, who took the form of this animal to support Mount Mandara on his shell. Hindu and Chinese mythologies both contain a "world" one of these animals.

ANSWER: **turtle** [or **tortoise**; or world **turtle**]

<Mythology, PC>

15. Name these novels that feature horrific World War II bombings, for 10 points each.

[10] Billy Pilgrim becomes “unstuck in time” and relives his survival of the firebombing of Dresden in this novel by Kurt Vonnegut.

ANSWER: **Slaughterhouse-Five** [or **Slaughterhouse-Five**, or, *The Children’s Crusade: A Dance with Death*]

[10] A Soviet bombing sets fire to several of the huts that Jewish prisoners inhabit in Chapter 17 of this memoir, which describes author Primo Levi’s experience of World War II.

ANSWER: **If This is a Man** [or **Se questo è un uomo** or **Survival in Auschwitz**]

[10] Shigematsu Shizuma’s niece Yasuko is affected by fallout from the bombing of Hiroshima in this best-known novel by Masuji Ibuse (“ee-boo-say”), which was adapted into a film by Shōhei Imamura.

ANSWER: **Black Rain** [or **Kuroi Ame**]

<Long Fiction, WA>

16. This adjective describes long-term market trends that move in a singular direction over a long period of time, in contrast with cyclical markets. For 10 points each:

[10] Give this adjective that also names a concept coined by Alvin Hansen during the Great Depression and revived in recent years by Larry Summers, which states there may be fundamental limits on the economy that prevent it from growing quickly or reaching full employment.

ANSWER: **secular** [accept **secular** trend or **secular** stagnation]

[10] Secular markets that consistently trend positively, like any markets that trend positively, are named after this animal. A famous statue of this animal is found on Wall Street.

ANSWER: **bulls** [accept **bull** market]

[10] Both negative secular trends and secular stagnation are often described as consequences of this two-word concept coined by John Maynard Keynes to refer to irrational, emotional forces that drive economic trends.

ANSWER: **animal spirits**

<Social Science: Economics, WA>

17. The Legion of Marat was created to police anti-revolutionaries in this city during the War in the Vendée (“von-DAY”). For 10 points each:

[10] Name this city in which mass drownings were carried out via “republican marriages” in which men and women were tied together and drowned. The Peace of Alais (“ah-LESS”), signed shortly after the 1627 Siege of La Rochelle, altered a law named for this city.

ANSWER: **Nantes** (“nahnt”) [accept Edict of **Nantes**]

[10] The drownings at Nantes were perpetrated by this man who was attacked by Gracchus Babeuf before his execution following the fall of Maximilien Robespierre.

ANSWER: Jean-Baptiste **Carrier**

[10] Babeuf, who led a pamphlet war against Carrier, was himself executed after leading the Conspiracy of the Equals against this government. This five-person government replaced the Committee of Public Safety.

ANSWER: **Directory** [or **Directorate** or **Directoire**]

<Continental post-600 History, EL>

18. Answer the following about the career of cinematographer Karl Freund (“froynd”), for 10 points each.

[10] Freund pioneered the three-camera sitcom technique as the cinematographer for this 1950s show. Its second season begins with the “chocolate scene,” in which two characters are unable to keep up with a conveyor belt.

ANSWER: **I Love Lucy**

[10] Freund made his directorial debut with *The Mummy*, a movie released by this studio, the oldest in the United States. James Whale’s *Frankenstein* is by this studio, which counts Frankenstein among its namesake “monsters.”

ANSWER: **Universal** Studios [or **Universal** Pictures]

[10] Freund debuted his unchained camera technique, which uses moving cameras, in this F. W. Murnau film. It begins with a shot in an elevator descending to the lobby of the Hotel Atlantic, which employs this film's protagonist, an elderly doorman.

ANSWER: *The **Last Laugh*** [or *Der **letzte Mann***]

<Other Art: Film, EL>

19. Cashman Kerr Prince challenged classical renderings of a sex position described by this item for relying on hypothetical depictions of crouching lions on these items without archaeological evidence. For 10 points each:

[10] Identify this cooking item. Lysistrata instructs her followers to repeat "I will not stand a lioness upon" this item.

ANSWER: **cheese-grater** [prompt on **grater**]

[10] Kerr Prince linked the image of lionesses to transgression using a scene in which Teucer instructs Tecmessa in a scene in one of this man's plays. This author also wrote *Oedipus Rex* and *Antigone*.

ANSWER: **Sophocles**

[10] Kerr Prince analyzed the cheese-grater using a scene from this play in which Bdelycleon ("deh-LICK-lee-on") summons a cheese-grater as a witness to defend a dog accused of stealing cheese in a trial that was arranged to assuage Bdelycleon's trial-loving father.

ANSWER: *The **Wasps*** [or ***Sphekes***]

<Drama, EL>

20. In a time-independent transformation between these things, the Lagrangian is only modified by a total time derivative and thus the equations of motion do not change. For 10 points each:

[10] Identify these specifications of scalar and vector potentials that are fixed to deal with redundant degrees of freedom. A commonly used example of them sets the divergence of the vector potential equal to zero, generating the Coulomb potentials.

ANSWER: **gauges** ("gay-jizz") [accept **gauge** invariance or **gauge** fixing or Coulomb **gauge**]

[10] A simple gauge theory is Heaviside and Gibbs' electrodynamics, which unifies electric and magnetic potentials into one vector with this many components. Spacetime has this many dimensions in special relativity.

ANSWER: **four** [accept **four**-vector]

[10] Quantization of gauge theories can be simplified by using this framework and specifying a Faddeev-Popov ("fah-DAY-yeff POP-off") ansatz ("ON-zotts"). This framework uses a weighting factor equal to i times the exponential of the action divided by Planck's constant to calculate probability amplitudes.

ANSWER: **path integral** formulation of quantum mechanics [or Feynman's **path integral** formalism, etc.]

<Physics, WA>

