



ACADEMIC
COMPETITION
FEDERATION

ACF NATIONALS 2019

PLAYOFFS 4

Packet by

The Editors (4)

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Tossups

1. John Harvey Kellogg grafted his own skin onto this woman's legs while she was dying in his sanitarium. She names an organization aligned with the New Communist Movement that published the collection *Workplace Papers*, featuring a preface by Noel Ignatiev. A history by Sean Wilentz and Paul Johnson recounts how this woman was accused of serving poisoned blackberries to Elijah Pierson while serving a carpenter who founded a religious community called "the Kingdom." This one-time servant of the prophet Matthias supported herself through sales of an autobiography she dictated to Olive Gilbert. A publication by Frances Gage popularized a speech in which this woman boasts that she is not helped into carriages or over mud puddles. For 10 points, name this woman, a black abolitionist who gave a speech to the Akron Women's Convention commonly titled "Ain't I a Woman?"

ANSWER: Sojourner **Truth** [or Isabella **Baumfree**; or Isabella **van Wagenen**]

<American History>

2. The 1980 article by Theodore Reff that first identified the subjects of this painting traces its odd combination of subjects to its artist's studies for a painting set "at the bistro." According to Willem de Kooning, Fernand Leger muttered, "Pauvre [POOV-ruh] [this painting's artist]," whenever Leger looked back and forth between it and Leger's painting of the same title, which includes a black-suited man wearing a red vest buttoned the wrong way. The version of this painting at the Philadelphia Museum of Art does not feature the well-disguised brown dog whose head and tail peer out from under a table, which appears in the better-known version at the MoMA. In this late Synthetic period painting, several bright red and yellow triangles constitute the outfit of the middle figure, who is flanked by representations of Max Jacob and Guillaume Apollinaire as a monk and Pierrot. For 10 points, name this Picasso painting of some instrumentalists.

ANSWER: **Three Musicians**

<Painting and Sculpture>

3. Wallace Broecker has written several books on this set of chemical processes, including one which analogized it to a "great" conveyor belt. The f-ratio is often used to quantify a part of these processes, and is often used to characterize a portion of them that are controlled by the "biological pump." This set of processes is often divided into "permafrost", "terrestrial", "oceanic", and "atmospheric" components. Scientists recommend keeping a "budget" to balance this set of geochemical processes, and creating reservoirs to sequester the namesake element artificially, since the destruction of forests eliminates a major sink for it. The decay of organisms and respiration by heterotrophs are two primary inputs into, for 10 points, what geochemical cycle centering on the sixth element of the periodic table?

ANSWER: **carbon** cycle [prompt on thermohaline circulation before "f-ratio"]

<Other Science>

4. In the first act of a play, the protagonist notes that one of these objects "doesn't go at all well" with the other things in the room, and in act two, it is moved to her private "inner room" further upstage. That protagonist is admonished by her husband for using one of these objects following the deaths of his aunt and his academic rival. In another play, the male protagonist lectures his wife, "Not so violently," while using one of these objects that is next to the Helmers' Christmas tree. One of these objects in John Gabriel Borkman's private room, which causes him to reminisce about his childhood in the mines, is frequently used by Frida Foldal. It's not a gun, but George Tesman's wife uses one of these objects *prior* to an action that causes Judge Brack to yell "Good God! People don't do these things!" For 10 points, Hedda Gabler's suicide is preceded by her playing a "frantic" dance melody on what musical instrument?

ANSWER: **piano** [or **pianoforte**; prompt on musical instrument before it is mentioned]

<European Literature>

5. An observatory initially built to stop shipwrecks off this geographical feature made the earliest calculation of the stellar parallax of Alpha Centauri. The peninsula named for this feature houses a statue honoring Just Nuisance, the only dog to ever be enlisted in the Royal Navy, in Simon's Town. This geographical feature lends its name to the smallest of the world's six floral kingdoms, comprising 6,200 endemic plant species growing in the *fynbos* biome. Bright, pastel-colored houses line a neighborhood on the slopes of Signal Hill which was a once a historical center of the namesake "Muslims" or "Malays" of this feature. The Chacma baboons are a protected species within the section of the Table Mountain National Park that houses this feature. King Joao II [zhu-ow "the second"] gave this cape its current name after Bartolomeu Dias sighted it in 1488. For 10 points, name this "Great Cape" in South Africa.

ANSWER: Cape of **Good Hope** [or Kaap die **Goeie Hoop**; or Kaap de **Goede Hoop**; prompt on the Cape or Kaap; do not accept or prompt on "Cape Town"]

<Geography>

6. Based on experiments with "same-different" tasks, these things were posited to be sorted into frequency-based "bins" in a 1966 paper by R. C. Oldfield. In the 1980s, experiments with "shadowing" led William Marslen-Wilson to devise the "cohort model," which proposed a winnowing process that ends when one of these things is uniquely identified. In a 1998 paper, Paul Luce and David Pisoni combined factors of intelligibility, confusability, and frequency to propose the "neighborhood activation model" of the recognition of these things. James McClelland and Jeffrey Elman created a computer program called TRACE to simulate how, starting from an initial stimulus, the brain narrows down these things from a list of candidates. The "segmentation problem" concerns the fact that people understand these things discretely from an input of continuous sound. For 10 points, name these units that psycholinguistics conceptualize as being stored in the brain's "lexicon."

ANSWER: **words** [accept **lexemes**]

<Social Science>

7. Fifty-seven emigrants of this ethnicity drowned when their ship, the *Kater*, collided with a ship enforcing a blockade, the *Sibilla*. So-called Salvation Committees formed in an attempt to govern people of this ethnicity during a crisis caused by the failure of groups such as Vefa and Suda, during which people of this ethnicity looted hundreds of thousands of guns from government arms depots with tacit permission from President Berisha. People of this ethnicity were the target of the Račak Massacre, whose perpetrators claimed to be targeting a paramilitary group led by Hashim Thaçi [THAH-chee]. A country of people of this ethnicity descended into civil war after the failure of a pyramid scheme that involved 43% of the country's GDP and 2/3 of the population. The KLA fought for the interests of, for 10 points, what majority ethnic group of Kosovo, at odds with Serbian occupiers in a 1998-99 war?

ANSWER: **Albanians** [or **Kosovar** Albanians until "Kosovo" is read; prompt on Gheg Albanians or Tosk Albanians]

<European History>

8. One of these objects is replaced three times each year by the priests maintaining the *meoto-iwa* [may-oh-toh-ee-wah], two "wedded rocks" off of Ise [ee-say] Bay. Zigzag-shaped paper streamers called *shide* [shee-day] are often attached to a class of objects of this type that mark out special items called *yorishiro*. Visitors toss coins for good luck at a gigantic five-ton object of this type that distinguishes the Kagura Hall of Izumo Grand Shrine. Eastern Orthodox Christians credit Saint Pachomius with inventing one of these objects called a *komboskini* to help count repetitions of the Jesus Prayer. The top rank in sumo wrestling, the *yokozuna*, is named after one of these objects given to the wrestler, in reference to a type of these objects called the *shimenawa* [shee-may-nah-wah] that is sacred in Shintoism. For 10 points, name this type of object that Shinto worshipers use before entering a shrine to ring a sacred bell.

ANSWER: **ropes** [or **shimenawa** before it is read; prompt on belt before *shimenawa* is read]

<Religion>

9. An author who lived in this empire chained seven pairs of repeating syllables at the start of a poem, as seen in a translation that begins: "Searching and searching, seeking and seeking." The son of a patriot of this empire nicknamed "Skyfury" is the protagonist of a novel whose first-ever English translation was published in 2018 as *A Hero Born*. This empire's wars against its northern neighbors are the initial subject of the popular "Condor Trilogy" by *wuxia* novelist Jin Yong. The female poet Li Qingzhao [ching-jao] wrote a treatise on the *ci* [tsih] form, which reached the peak of its popularity during this dynasty. This dynasty loses a fictional battle in which its enemies dive underwater to poke holes in boats commanded by Gao Qiu. This dynasty offers amnesty to the alcoholic axeman "Black Whirlwind," the tiger-fighting "Pilgrim," and other members of the 108 "Stars of Destiny" in a novel by Shi Nai'an. For 10 points, the classic Chinese novel *Water Margin* fictionalizes an early-12th-century revolt against what dynasty?

ANSWER: **Song** Dynasty [or Northern **Song** Dynasty; or Southern **Song** Dynasty; or **Sung** Dynasty; prompt on China with "what dynasty?" until "Chinese" is read]

<World Literature>

10. Performing this technique at a sharp "grazing angle" allows it to characterize monomolecular thin films. SPECTRON is a software package available for calculating spectra of a 2-dimensional form of this technique, which can analyze doubly excited states and coupling between transitions. Azzedine Hammiche pioneered a nanoscale variety of this technique which couples its measurements to an atomic force microscope. Solid and liquid samples can be analyzed in this technique with little preparation through a method which probes the sample with an evanescent wave, called attenuated total reflectance. Transition moments in this technique transform as x, y, or z. This technique is complementary to Raman spectroscopy. For 10 points, name this technique which probes vibrational modes of molecules using light at energy typically ranging from 40 to 4000 inverse centimeters.

ANSWER: **FTIR** spectroscopy [or Fourier transform **infrared** spectroscopy]

<Chemistry>

11. A philosopher's approach to this concept was likened to the US Air Force's approach to Vietnamese villages, since "he destroys [this concept]" in order to save it. That critique by Ned Block is recounted in a Galen Strawson essay about the "Great Silliness," which mocks "Deniers" of this concept. In a paper titled for this concept, the author refers to himself as a "freak" of this concept and considers sea-slug philosophers called "slugists." A paper whose title ends with this word outlines the "Modal" and "Knowledge" arguments and defends the view that these things have no causal effects in the physical world in the section "The Bogey of Epiphenomenalism." In another paper titled for these things, Daniel Dennett used "intuition pumps" featuring cauliflower and wine to argue against these things; that paper is titled "Quining [these things]." For 10 points, name this term for subjective sensory experiences.

ANSWER: **qualia** [or **quale**; accept "Quining **Qualia**" or "Epiphenomenal **Qualia**"; prompt on consciousness until "these things" is read; prompt on subjective or sensory experiences]

<Philosophy>

12. The van Cittert-Zernike theorem relates the Fourier transform of the intensity of a distant source to a measure of this property. In microlithography, this property partially names a factor denoted sigma which is equal to the source diameter divided by the aperture diameter. Roy Glauber received the Nobel Prize in Physics for developing the quantum theory of the optical form of this property. States with this property are generated by the displacement operators of a quantum harmonic oscillator acting on the ground state. It is not a Gaussian shape, but those states with this property satisfy the minimum uncertainty relation of $\hbar/2$, and are eigenstates of the annihilation operator. In addition to being monochromatic and directed, laser light is distinguished from ordinary light by having this property. For 10 points, name this property of waves which maintain a constant phase difference.

ANSWER: **coherence** [accept spatial **coherence** or temporal **coherence**; accept **coherent**; accept **correlation** or **auto-correlation** or **cross-correlation** before "sigma", do not prompt afterwards]

<Physics>

13. This man's support for Berk Yaruq's claim to a throne angered the queen Terken Khatun, who wanted her own son to succeed. According to an apocryphal story, this man offered government posts to two friends with whom he made a pact while studying in Nishapur, one of whom was Omar Khayyam. Al-Ghazali received his first professorship when this man gave him a job at his namesake *madrasah* in Baghdad, part of a network of namesake universities that he founded. Near the city of Nahavand, this official's litter was approached by a man disguised as a Sufi dervish, who stabbed and killed him. At the request of Malik Shah, he compiled his advice on ruling into a "Mirror for Princes" called the *Siyasatnameh*, or the "Book of Government." For 10 points, name this victim of the original Assassins, a vizier who administered the Seljuq empire during the reign of Alp Arslan.

ANSWER: **Nizam** al-Mulk [or the **Order of the Realm**; or Abu Ali Hasan ibn Ali **Tusi**]

<World History>

14. In an "Appreciation" of this author, Denise Levertov claims this poet "showed a way to penetrate mystery." In *The [this poet] Book*, Robert Duncan identifies a Kabbalist influence in this English-language poet's "Sagesse." This author was inspired by her visits to a recording studio and by translating Euripides' *Ion* to create prose interludes in a poem whose foreword emphasizes that the subject "*herself is the writing*." This author wrote "fear nothing of the future of the past" in a poem set where "the old enchantment holds / here there is peace." Susan Friedman criticized sexist psychoanalysis of this author's works that fixate on her sessions with Freud. An epic by this poet asks, "Did her eyes slant in the old way? / was she Greek or Egyptian?" That poem by her includes the section "Eidolon" and claims "The Greeks and the Trojans alike fought for an illusion." For 10 points, name this Imagist poet who wrote *Helen in Egypt*.

ANSWER: **H.D.** [or Hilda **Doolittle**]

<American Literature>

15. The *adagio* section of the *grand pas de deux* in a work by this choreographer originally ended with one dancer grasping the bent knee of the other dancer, and extending her other leg in the opposite direction. This choreographer's first major success was a ballet with a scene where dancers represented rivers such as the Thames and Congo, that work was *Daughter of the Pharaoh*. Pavel Gerdt forced this choreographer to change Abderakhman's first entrance from a vision scene to a party scene in his design for *Raymonda*. As a dancer, this choreographer was skilled in pantomime, which he incorporated liberally in his *Coppélia*. This choreographer's final appearance dancing was as Conrad in *Le Corsaire*, and he added "white acts" for the *corps de ballet* to both *Le Corsaire* and *Don Quixote*. This choreographer added a *pas seul* variation for Elena Cornalba in his revival of *Giselle*. Lev Ivanov frequently collaborated with this choreographer. For 10 points, name this co-choreographer of *The Nutcracker* and the 1895 revision of *Swan Lake*.

ANSWER: Marius **Petipa**

<Other Fine Arts>

16. After noblemen seized a shipment of this resource in 1374 AD, Austria fought a three-month war named for this crop against the city of Basel. The largest turf maze in England is located in an Essex town that was known as Walden before being renamed for being a 17th century hub for this crop's trade. This spice is unusually baked into buns that are eaten throughout Scandinavia on St. Lucy's Day during Advent. The streets of Rome were sprinkled with water mixed with this spice prior to Nero's entry. Both the broth and the *rouille* [roo-eel] of *bouillabaisse* [boo-yah-bayss] are seasoned with this spice, which gives jewelled rice its color. Corms are dug up, manually divided, and replanted to cultivate sterile purple crocuses, roughly four thousand of whose stigmas are ground up to yield one ounce of this spice. For 10 points, Iran produces 90% of the world's supply of what fragrant and costly spice that comes in red threads?

ANSWER: **saffron** [or **crocuses** before they are mentioned] (the town is now called Saffron Walden)

<Other Academic>

17. Level 1 modules can undergo this procedure to become level 2 or level M modules in an approach to this technique that uses type IIS ["type two S"] enzymes. Many reagents that are used in this technique follow the BioBrick standard. In one approach to this technique, a 3' ["three prime"] deoxy-thymidine residue is covalently attached to a topoisomerase I enzyme. A single-tube form of this procedure, which avoids forming "scars" by using 20 bp overlaps, is known as Gibson assembly. The sample used in this technique contains lacZα ["lack-Z-alpha"] or another reporter gene, a selectable marker, and a polylinker housing multiple restriction sites. In a simple example of this procedure, a bacterial culture is exposed to ampicillin after being transformed with a plasmid containing an ampicillin resistance marker. For 10 points, name this technique that uses a vector to produce many copies of a recombinant piece of DNA.

ANSWER: molecular **cloning** [or Golden Gate **cloning**; or Topo **cloning**; or Gibson **assembly** until "assembly" is read; accept DNA **assembly** until "assembly" is read; prompt on **transformation** by asking "what procedure is that a part of?" until "transformed" is read; prompt on answers such as **restriction digest** or being **digested by restriction enzymes** by asking "what procedure is that a part of?" until "restriction" is read]

<Biology>

18. This city is not Halicarnassus, but the inscription "I am the badge of Phanes" appears on two electrum coins discovered in a coin deposit here, the earliest such deposit ever discovered. In 406 B.C., while his fleet blockaded this city, Alcibiades instructed his subordinate Antiochus not to engage; when Antiochus engaged anyway, the Spartans defeated and killed him at the Battle of Notium. This city, where Lysander based Sparta's Persian-backed fleet, was the site of the third-largest library in the Roman Empire, the Library of Celsus. Dioscorus of Alexandria oversaw a council in this city that Pope Leo I called the "Robber Synod." Croesus of Lydia commissioned the architect Chersiphron to redesign a building in this city whose wooden roof beams were set on fire by Herostratus in a bid for fame. For 10 points, name this Greek city in Asia Minor whose Temple of Artemis was among the Seven Wonders of the World.

ANSWER: **Ephesus**

<European History>

19. In this symphony's third movement, B-flat clarinets and violins repeatedly dovetail the theme to E-flat clarinet arpeggios marked "*mit humor*." When the composer of this symphony played a piano version of its first movement for a conductor and friend, his response was "If what I have just heard is still music, then I no longer understand anything about music!" This symphony begins with low strings playing a fast stepwise C, B, C, D, E-flat under high strings holding tremolo G octaves. This symphony's triple-meter third movement begins with a timpani repeating an ascending G-C motif. This symphony briefly quotes the *Dies Irae* hymn in its very long first movement, a performance of which can last over twenty minutes, and which was originally written as a standalone tone poem called *Totenfeier*, or *Funeral Rite*. In this symphony's fifth movement, an *a cappella* chorus sings "*aufersteh'n*," or "arise," setting two stanzas of a poem by Friedrich Gottlieb Klopstock. For 10 points, name this symphony by Gustav Mahler, nicknamed "Resurrection."

ANSWER: Gustav **Mahler's** Symphony No. **2** [accept "**Resurrection**" before mention; accept **2** after "Mahler" is read] (The conductor was Hans von Bülow)

20. A character in this novel thinks an ideal marriage is one "where your husband was a sort of father, and could teach you even Hebrew, if you wished it." That character in this novel is teased by her sister because she enjoys "giving up" luxuries, and she tries to interest a wealthy suitor in planning "cottages" to help the poor. A character in this novel discovered his vocation as a child when he flipped open an encyclopedia to the section on anatomy; that character ironically becomes known for a treatise on "a disease which has a good deal of wealth on its side," gout. Virginia Woolf's claim that "despite its imperfections," this book is "one of the few English novels written for grown-up people," is dissected in Rebecca Mead's 2014 memoir titled *My Life in* [this novel]. One of this novel's protagonists marries a dry and learned reverend, while the other marries a society beauty named Rosamond Vincy. For 10 points, name this novel centered on Dorothea Brooke, by George Eliot.

ANSWER: **Middlemarch: A Study of Provincial Life**

<British Literature>

Bonuses

1. In *Empire of Magic*, Geraldine Heng attributes the emergence of King Arthur legends in the 12th century to trauma from reports of the capture of this city. For 10 points each:

[10] Name this city in present-day Syria that surrendered to Bohemond of Taranto after a 1098 siege. According to many sources, including the Crusaders' own chronicler Fulcher of Chartres, the Crusaders then massacred 20,000 Muslim residents of this city, roasted their bodies, and ate them.

ANSWER: **Ma'arrat** al-Nu'man [or **Ma'ara**]

[10] The Crusaders who cannibalized Ma'arat had recently been besieged in this city, where they also probably engaged in cannibalism. This former Seleucid capital on the Orontes River became the center of a Crusader state ruled by Bohemond.

ANSWER: **Antioch** [or **Antiocheia**]

[10] During the Siege of Antioch, the Crusaders took heart from the supposed discovery of the Holy Lance by a man of this first name. Along with Walter the Penniless, a priest of this name recruited the forces that took part in the People's Crusade.

ANSWER: **Peter** [or **Peter** Bartholomew; or **Peter** the Hermit]

<European/World History>

2. This scholar praised the "clear incisive prose" of Old Scandinavian literature in her first book, an examination of the Norse conception of the dead titled *The Road to Hel*. For 10 points each:

[10] Name this influential English antiquarian whose authoritative *Gods and Myths of Northern Europe* was first published in 1964.

ANSWER: H. R. Ellis **Davidson** [or Hilda Roderick Ellis **Davidson**; or Hilda Roderick **Ellis**]

[10] Davidson wrote a 1965 monograph on this mythical weapon that analyzes the use of amulet versions of it as protection against lightning. Its short handle reinforces the idea that it, like other gods' thunderbolts, was usually thrown.

ANSWER: **Mjöl**nir [accept **Thor**'s **hammer**]

[10] Another book by Davidson examines two major stories about this figure, a Norse one in which he was kidnapped and forced to work for King Nidhad and an English one in which he was invisible and lived at a burial mound where one could leave horses and coins.

ANSWER: **Wayland** (the Smith) [or **Weland** or **Völundr**]

<Myth>

3. Additions using one of these compounds typically produce it from a bridged diazene to prevent it from closing into an MCP. For 10 points each:

[10] Name this class of compounds which may be used in cycloadditions to form cyclopentanes. They are derived from a neutral four-carbon diradical.

ANSWER: **tri-methylene-methanes** [accept **TMMs**]

[10] Trimethylenemethane is an example of a conjugated hydrocarbon that cannot be described with a structure named for Friedrich August Kekulé, who discovered the structure of this compound.

ANSWER: **benzene**

[10] An early non-Kekulé biradical was synthesized by this pioneer of methods for air-free technique who designed a setup that uses a vacuum pump and a source of inert gas for use with air-sensitive compounds.

ANSWER: Wilhelm **Schlenk**

<Chemistry>

4. A three-quarters profile portrait of this man features a book inscribed on its edges with a Greek and Latin phrase mentioning his “Herculean labors.” For 10 points each:

[10] Name this man, the subject of three portraits by an artist on whose behalf this man wrote a 1526 letter of introduction to a colleague in England.

ANSWER: Desiderius **Erasmus** (Roterodamus) [or **Erasmus** of Rotterdam]

[10] Armed with that letter by Erasmus, this Northern Renaissance artist decamped for England, where he painted Thomas More and, several years later, members of Henry VIII’s court.

ANSWER: Hans **Holbein** the Younger

[10] In his studies for the Erasmus portraits, Holbein drew three of these objects. In a pen-and-ink drawing on blue-colored paper, Albrecht Durer sketched two of these objects touching.

ANSWER: **hands** [or **Hände**]

<Painting and Sculpture>

5. A man passes out in his son’s college dorm while frantically searching for a place to use the bathroom in a story originally written in this language, titled “Piss and Pride.” For 10 points each:

[10] Identify this language, many of whose modern poets use the eight-syllable metrical line from an epic poem whose hero wins his kingdom by riding his magical steed to victory in a horse race.

ANSWER: **Tibetan** [or Standard **Tibetan**; or Classical **Tibetan**; or Lhasa **Tibetan**; or **Bod skad**; or **Böké**; or **Lha-sa'i skad**; or **Lhaséké**; the epic is *The Epic of King Gesar*]

[10] Tsering Dondrup’s story about a lazy everyman, “Ralo,” prompted an examination of Tibetan national character similar to the one in China occasioned by this novella, whose protagonist rationalizes all of his mishaps as “spiritual victories.”

ANSWER: *The True Story of Ah Q* [or *Ā Q Zhèngzhuàn*] (by Lu Xun)

[10] Another modern Tibetan author, Jamyang Norbu, is best known for a novel in which Sherlock Holmes joins forces with Hurree Babu, a spy who directly supervises the title orphan of this Rudyard Kipling novel.

ANSWER: **Kim**

<World Literature>

6. A pair of 2012 papers, one from each of these collaborations, reported promising decay events near a mass of 125 GeV [“giga electron volts”]. For 10 points each:

[10] Name *either* of these two particle detectors near Geneva, Switzerland. Each of them is comprised of an inner tracker, electromagnetic calorimeter, hadronic calorimeter, and muon detector.

ANSWER: **ATLAS** [or **A Toroidal LHC ApparatuS**] or **CMS** [or **Compact Muon Solenoid**]

[10] The greatest success so far of ATLAS and CMS at the Large Hadron Collider was the discovery of this final missing particle in the Standard Model. Its namesake field allows other fundamental particles to acquire mass.

ANSWER: **Higgs** boson

[10] In 2018, ATLAS and CMS observed the decay of the Higgs into this particle and its antiparticle. Although that mechanism is believed to comprise 60% of all Higgs decays, it was previously unobserved due to background events that also produced this particle.

ANSWER: **bottom** quark [or **b**]

<Physics>

7. The narrator of this poem says, "It isn't me, someone else is suffering. I couldn't. / Not like this." For 10 points each:
[10] Name this poem whose opening prose paragraph is set near Leningrad prison. This collection mourns the author's son and husband, who were arrested by the Stalinist regime.

ANSWER: Requiem [or Rekviyem]

[10] This 10th part of *Requiem* opens, "Weep not for me, mother. / I am alive in my grave." In this last section before the epilogue, not "one person dared to look" at where "the mother stood silent."

ANSWER: "Crucifixion"

[10] *Requiem's* line "silent flows the river Don" may be a reference to the folk songs of these people. Tolstoy wrote about the romance between Olenin and Maryanka in a novella about this Slavic ethnic group.

ANSWER: Cossacks

<European Literature>

8. Together with Rolf Gutbrod, this architect designed a steel mesh web covered by a transparent polyester fabric to serve as his country's pavilion at Expo 67. For 10 points each:

[10] Name this German architect who promoted lightweight, tensile designs, such as the roof of the main stadium of the 1972 Munich Olympics. He was awarded the 2015 Pritzker immediately after his death.

ANSWER: Frei (Paul) Otto

[10] Otto collaborated with this architect on a pavilion design for Expo 2000 featuring a roof made entirely of paper. Eight shipping containers form the walls of this architect's Cardboard Cathedral in Christchurch.

ANSWER: Shigeru Ban

[10] Another celebrated example of lightweight, tensile architecture is the Teflon-coated fiberglass peaked roof of the Jeppesen terminal in this American city's international airport, which evokes Native American teepees or the peaks of the nearby Rocky Mountains.

ANSWER: Denver

<Other Fine Arts>

9. James Creelman was the first to report on a massacre of residents of this city by soldiers under Yamaji Motoharu during the Sino-Japanese War. For 10 points each:

[10] Name this city on the Liaodong Peninsula which was also the site of a 1904 surprise night attack on a docked Russian fleet by Japanese ships at the command of Admiral Togo.

ANSWER: Port Arthur [or Lushunkou]

[10] This Japanese commander captured Port Arthur in 1894 during the Sino-Japanese War and directed the siege of Port Arthur in the Russo-Japanese War. This man shocked the public by committing *seppuku* along with his wife after the death of Emperor Meiji.

ANSWER: Count Nogi Maresuke [or Kiten]

[10] Russia was forced to return Port Arthur to China as a result of this treaty ending the Russo-Japanese War, which was negotiated in New Hampshire under the auspices of Theodore Roosevelt.

ANSWER: Treaty of Portsmouth

<World History>

10. Hito Steyerl incorporated hours of footage from a game in this series in her 2015 video installation *Factory of the Sun*, which invokes artificial sunshine as a metaphor from the light given off by digital screens. For 10 points each:

[10] Name this video game series. Critic Tim Rogers called a 2001 entry in this series “the first postmodern video game” for its tortuous, misdirection-laden plot that intentionally features a simulacrum of its predecessor’s gameplay, subverting the audience’s expectations of it as a sequel.

ANSWER: Metal Gear Solid [or Metaru Gia; the leadin refers to *Metal Gear Solid 4* and the part itself is about *Metal Gear Solid 2*]

[10] Hideo Kojima, the designer of the *Metal Gear* series, is often referred to by this French-language term originally applied to directors who exert total control over the creation of a film.

ANSWER: auteurs [or auteur theory]

[10] In an interview with Rogers, Kojima revealed that *Metal Gear Solid 2* was influenced by this author’s final novel, whose protagonist sprouts radish shoots upon inventing a “Kangaroo Notebook.” The jury’s still out as to whether the cardboard box Snake hides in is a reference to this man’s novel *The Box Man*.

ANSWER: Kōbō Abe [or Kimifusa Abe]

<Other Academic>

11. This work’s third and final movement, “Fly Forward,” features a bluegrass-inspired cadenza that incorporates shuffle rhythms. For 10 points each:

[10] Identify the composer and genre of this orchestral piece, which won its composer the 2010 Pulitzer Prize for Music.

ANSWER: Violin Concerto by Jennifer Higdon [prompt on partial answer]

[10] Higdon’s *Violin Concerto* was written for this violinist, who released a debut Bach album in 1996 at 17 years old and released another Bach album in 2018.

ANSWER: Hilary Hahn

[10] The Curtis Institute, the Indianapolis and Toronto Symphonies, and this other orchestra commissioned Higdon’s *Violin Concerto*. This orchestra’s Music Director Marin Alsop teaches at the Peabody Institute at nearby Johns Hopkins University.

ANSWER: Baltimore Symphony Orchestra [prompt on “BSO”]

<Music>

12. This play was inspired by James Gleick’s 1987 book on chaos theory. For 10 points each:

[10] Name this Tom Stoppard play set in the early 1800s and the 1990s about the precocious mathematician Thomasina Coverly, who imagines an early version of the law of entropy.

ANSWER: Arcadia

[10] Thomasina opens the play by asking her tutor Septimus the meaning of this phrase. Septimus answers by defining this phrase as “the practice of throwing one’s arms around a side of beef.”

ANSWER: “carnal embrace”

[10] Thomasina savages this woman, saying, “I never knew a heroine that makes such noodles of our sex.” In *Villette*, Lucy sees a painting of this woman and scorns her “inefficient raiment.”

ANSWER: Cleopatra

<British Literature>

13. For 10 points each, name some blinged-out paraphernalia that Christian bishops get to use or wear.

[10] Pope Benedict XVI eschewed the papal tiara for a papal version of this item, the big-ass pointy hat that bishops get to wear.

ANSWER: miter [or mitre]

[10] These objects are used by high-ranking officials including abbots and abbesses. They have a loop shaped like a shepherd's hook on top, and are often gilded or silver-plated below.

ANSWER: croziers [or paterissa; or pastoral staff; or bishop's staff; generously prompt on staff]

[10] In the Concordat of Worms ["vurms"], Holy Roman Emperor Henry V recognized that he could not give power to bishops by investing them with "[this item] and staff."

ANSWER: ecclesiastical rings

<Religion>

14. This arch-conservative ideology, which formed after the July Revolution, was opposed to republicanism, Bonapartism, and Orleanism. For 10 points each:

[10] Name this political alignment from the July Monarchy onward whose adherents included Honoré de Balzac.

Partisans of this ideology supported the restoration of the Bourbon dynasty to the French throne.

ANSWER: Legitimism [or the Legitimists]

[10] The Legitimists formed the Party of Order along with the Orleanists, who supported the restoration of this "King of the French" who ruled France during the July Monarchy.

ANSWER: Louis Philippe I

[10] The Legitimists supported the claim of this Bourbon pretender, who managed to gain the support of the Orleanists after the fall of the Second Empire but ruined his own cause by demanding that France give up the tricolor flag.

ANSWER: Henri, Count of Chambord [or the Comte de Chambord; accept Henry V of France from Legitimists]

<European History>

15. In 2018, Rui Costa's group at Columbia provided a biological basis for Thorndike's law of effect by optogenetically stimulating this area of the brain using musical tones. For 10 points each:

[10] Identify this part of the midbrain from which the mesolimbic and mesocortical pathways originate. Addictive drugs act both in this region and in the nucleus accumbens.

ANSWER: ventral tegmental area (of Tsai) [or VTA; or the ventral tegmentum]

[10] Neurons originating in the ventral tegmental area transmit this neurotransmitter involved in the brain's reward system, which is deficient in Parkinson's disease.

ANSWER: dopamine [or 3,4-dihydroxyphenethylamine]

[10] Addictive drugs increase the responsiveness of the ventral tegmental area to excitatory inputs, upregulating the expression of GluR1 ["glue R one"], a key subunit of these glutamate receptors. They produce much larger postsynaptic currents than kainate or NMDA receptors.

ANSWER: AMPA receptor [or AMPAR; or quisqualate receptor; or α -amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid receptor]

<Biology>

16. This type of program was credited with lowering crime rates in Milwaukee, but by 2001 the Surgeon General issued a warning saying that they increased gang participation rates. For 10 points each:

[10] Identify this activity dreamed up by G. Van Standifer to give young men something structured to do. This type of program was derided by Newt Gingrich when included in a Clinton anti-crime bill.

ANSWER: **midnight basketball** [prompt on basketball]

[10] Although popularized during the Clinton administration, midnight basketball was one of the programs spotlighted in this broad initiative by George H. W. Bush to encourage volunteerism. Its name was coined in a 1988 speech written for Bush by Peggy Noonan.

ANSWER: a **thousand points of light**

[10] In the same year as his "thousand points of light" speech, Bush told listeners to "read my lips" and know he would not enact any new examples of these things.

ANSWER: **taxes**

<American History>

17. Answer the following about contemporary American fiction that references 19th century Russian literature, for 10 points each.

[10] In this author's debut novel, Ashoke suggests the name "Gogol" for his and Ashima's child, since he had once used a page of "The Overcoat" to draw the attention of medics after a train accident.

ANSWER: Jhumpa **Lahiri** (the novel is *The Namesake*)

[10] Elif Batuman, who mirrored Prince Myshkin's journey to Petersburg with Selin's trip to Hungary in her 2018 novel *The Idiot*, first rose to fame with this collection of essays subtitled "Adventures with Russian Books and the People Who Read Them."

ANSWER: *The **Possessed***

[10] A copy of *Anna Karenina* lies on the floor as the protagonist and her father play "airplane," foreshadowing his suicide, in the first panel of this autobiographical graphic novel.

ANSWER: ***Fun Home*** (by Alison Bechdel)

<American Literature>

18. Adi Shankara argued that because subjective experience exists, this thing must also exist. For 10 points each,

[10] Name this concept that in Vedanta philosophy is held to be distinct from mere cognitive mental processes.

ANSWER: **atman** [prompt on soul or self]

[10] This other school of thought holds that atman does not exist. Adherents of this religion seek to attain a "blowing out" or "quenching" in which one accepts the non-existence of the soul.

ANSWER: **Buddhism** [accept specific types of Buddhism]

[10] This materialist school of thought argues that the self is the result of and dependent on the physical body. The *Arthashastra* contrasts this ancient tradition with Yoga and Samkhya.

ANSWER: **Lokāyata** [accept **Charvaka** or **Cārvāka** or **Bārhaspatya**]

<Philosophy>

19. The namesake of this distribution used it to derive a "loss formula" to calculate the likelihood that a call may be dropped. For 10 points each:

[10] Name this distribution which has "shape" and "rate" parameters. It was developed to model phone traffic through switchboards.

ANSWER: **Erlang** Distribution

[10] The Erlang Distribution models waiting times between ~k~ of these kinds of processes. These processes follow a namesake discrete distribution in which a single parameter lambda characterizes the rate of independent occurrences of events.

ANSWER: **Poisson** Process [or **Poisson** distribution]

[10] The Erlang distribution is the simplest nontrivial example of a phase-type distribution, which are formed by performing this operation on exponential distributions. This integral transform is often represented with a star.

ANSWER: **convolution**

<Other Science>

20. Despite leading a shift to empirical methodology in American social science, a work on immigrants from this modern-day country fell into neglect, largely because one of its co-authors was charged with violating the Mann Act after the publication of the second of its five volumes. For 10 points each:

[10] William I. Thomas sifted through primary documents to co-author a groundbreaking study on “peasants” from what country “in Europe and America”?

ANSWER: **Poland** [or Republic of **Poland**; or Rzeczpospolita **Polska**; accept *The **Polish Peasant** in Europe and America*]

[10] *The Polish Peasant* influenced Robert Park and other members of the school of sociology in this city, which is home to the largest population of ethnic Poles outside of Poland.

ANSWER: **Chicago**, Illinois

[10] Thomas’s assertion that, if people “define situations as real, they are real in their consequences,” is the fundamental statement of this approach to sociology set forth in the book *Mind, Self, and Society*.

ANSWER: **symbolic interactionism** [accept **symbolic interactionists**; prompt on “interactionism” or “interactionists”]

<Social Science>