

ACF Regionals 2019

Packet by the editors (Matt Bollinger, Rob Carson, Will Holub-Moorman, Bruce Lou, Dylan Minarik, Eric Mukherjee, Will Nediger, Graham Reid, and Jennie Yang)

Tossups

1. In lintels from the Mayan city Yaxchilan (“yahsh-chee-LAHN”), Lady Xoc (“shoke”) ritually pulls a barbed rope through this body part. During the Triumvirate’s proscriptions, Marc Antony’s wife Fulvia repeatedly stabbed one of these body parts with a hairpin. In an oft-parodied line preceding the Catalogue of Ships in the *Iliad*, Homer wishes for ten of these body parts. Kali (“KAH-lee”) used this body part to prevent the demon Raktabija from creating new demons from the ground. The Hindu god Agni (“AG-nee”) has seven of these body parts that he uses during offerings of *ghee*. A daughter of Pandion who loses this body part weaves a tapestry with a message for her sister Procne (“PROCK-nee”). For 10 points, name this body part that Tereus (“TARE-ee-us”) cuts out of Philomela to prevent her from speaking.

ANSWER: **tongue**

<Mythology>

2. A woman in this play warns her son that “the future becomes the present, the present the past, and the past turns into everlasting regret if you don’t plan for it.” In a monologue, a character in this play muses that “nowadays the world is lit by lightning.” A blown-up photograph of an absentee father hangs on the living room wall in this play’s setting, which prominently features a fire-escape. The character who serves as this play’s narrator and calls it a “memory play” works at a shoe factory even though his true desire is to be a poet. Near the end of this play, Jim O’Connor dances with a woman with a limp but bumps into a table, breaking her miniature unicorn. For 10 points, name this Tennessee Williams play in which Amanda Wingfield invites a “gentleman caller” to meet her daughter Laura, who owns the title collection of animal figurines.

ANSWER: *The **Glass Menagerie***

<American Literature>

3. Saunders’s isotopic perturbation of equilibrium method was first applied to three of these entities. Coates names one of these entities derived from pentacyclononane that has a bridged, symmetric structure. An m value equal to or greater than one in the Grunwald–Winstein equation suggests the formation of one of these entities. Scholz et al. crystallized one of these entities to show that it has fivefold symmetry, thus confirming that the 2-norbornyl one is nonclassical. Matrix isolation using antimony pentafluoride allowed George Olah to perform spectroscopy on one of these entities. Hydride and methyl shifts can occur when these species are intermediates. These species are stabilized by nearby sigma bonds via hyperconjugation, which is why tertiary ones are more stable than secondary ones. They are intermediates in SN1 and E1 reactions. For 10 points, name these species with positively-charged carbon.

ANSWER: **carbocations** (“carbo-cat-ions”) [prompt on cations; prompt on ions]

<Chemistry>

4. A wooden thermometer is superimposed on a beige square in a non-figurative portrait of a person of this profession by Kazimir Malevich (“ka-ZEE-meer mull-YEV-itch”). Nine members of this profession were depicted at Laventie (“lah-von-TEE”) in the best-known painting by Eric Kennington. A person of this profession with a prominent “24” on his collar smokes while playing a game of chess in a work by Jean Metzinger (“met-sahn-ZHAY”). A member of this profession named Karl von Freyburg was eulogized in a portrait by Marsden Hartley that mostly depicts him as flags and badges. A line of blindfolded people with this profession grip the shoulders of those ahead of them in a painting by John Singer Sargent. For 10 points, name this profession, whose members were depicted in paintings such as *Gassed* and *Reservist of the First Division* during World War I.

ANSWER: **soldiers** [accept any specific type or nationality of soldier, including **officers**, **privates**, **reservists**; accept *Portrait of a German **Officer***]

<Painting>

5. This empire won a battle in which a white war elephant in its army grabbed the enemy commander with its trunk and dashed him to the ground. A monument that references the conquest of this empire consists of two crossed swords forming an arch. The backbone of this empire's army was a force made of members of the aristocracy with cataphracts at its core called the *Aswaran*. The son of this empire's last ruler escaped to Chang'an ("chong-on"), where he was given a position with the Tang ("tong") court. This empire was defeated at the Battle of Nineveh, the decisive battle in a long conflict against the armies of Heraclius. Muslim forces overran this empire's capital of Ctesiphon ("TESS-ih-fon") in 636. For 10 points, name this arch-rival of the early Byzantine Empire, the Persian successor to the Parthian Empire.

ANSWER: **Sassanid** Empire [or **Sassanian** Empire]

<Ancient History>

6. "Hybrid" forms of this theory introduce a second field to meet a very flat potential condition allowing for a "slow" reparameterization of the equations of motion. The degree of clustering found in quasar observations from the Sloan Digital Sky Survey agrees with predictions of this theory. This theory predicts a nearly scale-invariant CMBR power spectrum that closely matches observations. This theory predicts primordial gravitational waves, which the BICEP2 experiment mistakenly reported observing in the B-mode polarization of the CMBR. This theory introduces a reheating problem, but it resolves the horizon, flatness, and magnetic monopole problems. For 10 points, name this paradigm of cosmology developed by Alan Guth that proposes a period of rapid expansion that followed the Big Bang.

ANSWER: cosmic **inflation** [accept any answers indicating **inflationary** cosmology]

<Other Science (Astronomy)>

7. While dedicating a bust of this man in Central Park, William Cullen Bryant accidentally fell down and later died. Brothers Attilio and Emilio Bandiera were executed for revolutionary activities as a result of this man's letters being opened and read by the British Foreign Office, leading many British liberals to rally to his cause. As a *triumvir* of the short-lived 1849 Roman Republic, this man led the resistance against Napoleon III's invasion to restore Pius IX to power. This formulator of the concept of "thought and action" also founded a movement whose slogan was "God and the People" that tried to establish a democratic Italian state, in opposition to Count Cavour's attempts to establish a monarchy. For 10 points, name this Risorgimento ("ree-sor-jee-MEN-toh") leader who founded the Young Italy movement.

ANSWER: Giuseppe **Mazzini**

<European History>

8. Along with their method of calculating the date of Easter, a form of this practice among Ionan ("eye-OH-nin") monks was rejected at the Synod ("SIN-uhd") of Whitby. In Hinduism, the eighth *samskara* is a form of this practice called the *Mundan*. After an animal sacrifice, Muslim men perform a form of this practice called *tahallul* near the end of the hajj. Touching corpses, drinking wine, and performing this action are forbidden by the Nazirite vow. In Orthodox Judaism, it is central to the *upsherin* ("UP-share-in") ceremony for three-year-old boys, for which some Jews go to Meron ("mair-OWN") during Lag b'Omer ("LOG buh-OH-mair"). This action is forbidden to those practicing *kesh*, one of the Five K's. Until 1973, Catholic monks were initiated with a form of this practice called tonsure. For 10 points, identify this practice forbidden in Sikhism, which Delilah performed on Samson to take away his strength.

ANSWER: **cutting** the **hair** [or **haircut**; or **tonsure** until it is read; or **shaving the head**; or equivalents]

<Religion>

9. Garry Wills dedicated a book of translations of some poems in this form to D. R. Shackleton Bailey. An epitaph written in this form tells a “stranger passing by” to tell the Spartans that “here, obedient to their law, we lie”; that poem by Simonides commemorates the Spartan dead at Thermopylae (“ther-MAH-pih-lee”). Meleager (“meh-lee-AY-ger”) of Gadara collected these poems in a no-longer-extant anthology called the *Garland*, which served as one of the sources for the *Greek Anthology*, which consists mostly of poems in this form. The nursery rhyme “I do not like thee, Doctor Fell” supposedly derives from an impromptu translation of one of these poems about Sabidius. These poems very often took the form of a single elegiac couplet. For 10 points, the Roman poet Martial wrote twelve books of what short, witty poems?

ANSWER: **epigrams** [prompt on “elegiac couplets” until “couplet” is read]

<Other Literature>

10. These entities possess an “ontological incompleteness” that creates an “amenability to social completion” according to Elizabeth Grosz, who authored a book titled for the “volatile” type of these things. A different philosopher argued that these entities enter into “chiasmatic” (“kai-az-MAT-ick”) structures characterized by “reversibility” and the presence of the *écart* (“ay-CAR”) in a work that terms these things “sensible sentient.” These entities typically exist in a state of “being-toward-the-world,” according to Maurice Merleau-Ponty’s book *The Phenomenology of Perception*. Another philosopher argued that these “extended things” were controlled via the pineal gland and, in the sixth of his *Meditations on First Philosophy*, argued that as a “thinking thing,” he could exist without one of these entities. For 10 points, dualists such as René Descartes argued that what entities are distinct from the mind?

ANSWER: human **bodies** [or the human **body**; accept *Volatile Bodies*; prompt on answers such as humans or people]

<Philosophy>

11. Yvonne Loriod (“lore-YO”) only took eight days to learn a concerto by this composer that András Schiff described as “finger-breaking” and “the single most difficult piece” he’s played. This composer died before orchestrating the end of his Third Piano Concerto, which uses a technique he termed “polymodal chromaticism.” This composer also left sketches of a concerto for William Primrose that was completed by his student Tibor Serly. The second movement of a piece by this composer opens with a drum played without snares, followed by the bassoons playing a jaunty melody a minor sixth apart. This composer’s second piano concerto exemplifies his “arch form,” and its slow movement is in his “night music” style. The second movement of a piece by this composer is a “Game of Pairs.” For 10 points, name this Hungarian composer of a *Concerto for Orchestra* and the opera *Duke Bluebeard’s Castle*.

ANSWER: Béla **Bartók** [or Béla Viktor János **Bartók**]

<Music>

12. One of these devices is used to test a trigger mechanism without setting off a bomb in the Elitzur–Vaidman (“EH-leet-soor VYDE-mahn”) thought experiment. These devices are homodyne if they use only one frequency. A resonant cavity with two partially reflective surfaces is one of these devices with a free spectral range inversely proportional to length, sometimes called an *étalon*. Modern gyroscopes make use of a form of these devices in which a closed fiber optic loop is rotated based on the Sagnac (“sahn-YAHK”) effect. In addition to the type developed by Fabry and Pérot, one of these devices consists of a beam splitter aligned with two perpendicular arms. One of these devices was used in an experiment that failed to detect movement through the luminiferous aether. LIGO (“LIE-go”) uses the Michelson type of, for 10 points, what devices that produce namesake patterns of light and dark fringes?

ANSWER: **interferometers** [accept Mach–Zehnder **interferometers**, Michelson **interferometers**, Fabry–Pérot **interferometers**, or Sagnac **interferometers**; anti-prompt (ask “can you be less specific?”) on étalon]

<Physics>

13. This novel's main character often compares himself to a man named William Blackstone who decided to "live among the Indians." This novel takes place while the Battle of the Ebro is raging in Spain, and a character in it considers himself responsible for the battle's outcome. This novel's protagonist sees a sign that he mistranslates as "You like this garden? Why is it yours? We evict those who destroy!" Recurring symbols in this novel include a poster for the film *The Hands of Orlac* and a horse branded with the number seven, which tramples the protagonist's wife Yvonne to death. This novel is set in the town of Quauhnahuac ("k'wow-NAH-wock") and mostly takes place on November 2, 1938, the last day in the life of the alcoholic consul Geoffrey Firmin. For 10 points, name this novel by Malcolm Lowry.

ANSWER: **Under the Volcano**

<British Literature>

14. This event directly violated the rules set by the United States government's very own Operation Staunch. A secret channel named "Private Blank Check" was used to facilitate communication between two inside planners of this event. Lawrence Walsh wrote the book *Firewall* describing his experiences as an independent counsel investigating this event. Juvenal's quote "Who watches the watchmen?" was used in a report investigating this event chaired by former Texas Senator John Tower. Oliver North helped funnel funds to rebels fighting Daniel Ortega's Sandinista government in this event. For 10 points, name this scandal that rocked the Reagan administration in which arms were sold to a Middle Eastern country to fund anti-government rebels in Nicaragua.

ANSWER: **Iran-Contra** scandal [or **Iran-Contra** affair]

<American History>

15. The speaker of a poem by this author complains "My struggle is harsh and I come back with eyes tired at times from having seen the unchanging earth," and tells the addressee "Take bread away from me, if you wish, take air away, but do not take from me [the title phenomenon]." In Nathaniel Tarn's translation, a poem by this author describes moving "from air to air, like an empty net." This author included the poem "Your Laughter" in his collection *The Captain's Verses*. This poet commands "Arise to birth with me, my brother" in a section of a long poem whose cantos include "The Sand Betrayed" and "America, I Do Not Invoke Your Name in Vain." For 10 points, name this author who included "The Heights of Machu Picchu" in his *Canto General* ("kahn-toh hay-nay-RALL") and wrote *Twenty Love Poems and a Song of Despair*.

ANSWER: Pablo **Neruda** [or Ricardo Eliécer Neftalí **Reyes** Basoalto]

<World Literature>

16. In a 1997 article, Timothy Frye and Andrei Shleifer claimed that this concept described a system in Warsaw, contrasting it to a different one characteristic of Moscow. In a book titled for a modified version of this concept, Nancy Folbre argues for a "family state" organized around the ethics of love and reciprocity. R. H. Tawney claimed that this concept expressed the earlier Christian idea of the "operation of a providential plan." One thinker used this two-word concept to characterize a figure who, in "preferring the support of domestic to that of foreign industry... intends only his own security," and earlier used it to describe the distribution of resources by the rich in his *Theory of Moral Sentiments*. For 10 points, name this force that leads people to promote the interest of society by pursuing their self-interest, a metaphorical appendage that appears in the work of Adam Smith.

ANSWER: the **invisible hand** (The Nancy Folbre book is *The Invisible Heart*.)

<Social Science>

17. Ships owned by this faction that were evacuated to the port of Bizerte ("bih-ZUR-tuh") were impounded by French forces and handed over to their opponents. Writer André Malraux organized a makeshift air force to assist this faction. The slogan "They shall not pass" was adopted by this faction during a siege following a speech given by Dolores Ibárruri ("ee-BAH-roo-ree"), also known as "Passionflower." This faction transferred 510 tons of gold to

Moscow in exchange for Soviet armaments. This faction's territory was split in two after it lost the crucial stronghold of Teruel ("tare-WELL"). Volunteers from the United States who fought for this faction's cause were organized into the Abraham Lincoln Brigade. For 10 points, name this faction which lost the Spanish Civil War to the Francisco Franco-led Nationalists.

ANSWER: Spanish Republicans [accept Spanish Loyalists; accept republicanos; accept rojos]

<European History>

18. This politician was succeeded as the leader of his party by a chemical engineer whose pregnancy at age 12 prompted her mother to give her a new, Polish name. This man's immunity from state prosecution was stripped in 2005, though he was ultimately not prosecuted, allowing him to represent the Coalition for the Good of All in a 2006 election. In July 2018, this man announced that he was dissolving his security detail and asserted that "the people will protect me." Yeidckol Polevnsky now leads the party he formed after leaving the PRD; his party is known by the acronym MORENA. This man used the slogan "hugs, not bullets" to summarize his plans for dealing with a drug war and promised a "Fourth Transformation" during a 2018 campaign in which he won a rare outright victory over José Antonio Meade and Ricardo Anaya. For 10 points, name this current president of Mexico.

ANSWER: Andrés Manuel López Obrador [prompt on partial answer; accept AMLO]

<Current Events>

19. In one of this man's works, a nude angel leaning on a sleeping lion looks on as a man and two girls with bowed ("bow'd") heads enter a doorway bearing the legend "Uxori optimae Albertus." A gilded model Nike standing on an orb is held by the huge central figure of a sculpture by this man that is currently displayed in a Robert Adam stairwell at Apsley House. This man's tomb for Maria Christina of Teschen has the same pyramidal form as his cenotaphs for Clement XIII and Clement XIV. This artist of *Napoleon as Mars the Peacemaker* depicted a different Bonaparte in his statue of a reclining Pauline Borghese ("bor-GAY-zay"). A recently-awakened Psyche reaches up towards Cupid's head in another sculpture by, for 10 points, what artist of *Venus Victrix*, an Italian neoclassical sculptor?

ANSWER: Antonio Canova

<Other Arts>

20. CGG repeat expansions in PABPN1 cause the oculopharyngeal ("oculo-fuh-RIN-jul") form of this condition. Another form of it is caused by mutations in fukutin ("FOO-koo-tin"). It's not progeria, but another form of this disease is caused by mutations in Lamin A/C or in Emerin. The protein that is mutated in another form of this disease contains 24 spectrin-like repeats with four hinge domains interspersed. The severity of one form of this condition can be reduced by using the morpholino drug Eteplirsen to skip exon 51 of the gene mutated in this condition. The protein affected by this disease normally forms a complex called a costamere. Classic indications of this disease include Gowers' sign and unusually large calves at birth. A non-frameshifting deletion causes the milder Becker form of this disease instead of the Duchenne type. For 10 points, name this disease that causes a progressive wasting of skeletal muscle.

ANSWER: Duchenne muscular dystrophy [or MD; or Becker muscular dystrophy]

<Biology>

21. The flux of these particles through an RDE is given by the Levich equation. In the non-adiabatic case, the transfer of these particles occurs more slowly when ΔG is made very negative. The rate of transfer of these particles is inversely proportional to the reorganization energy. These particles are transferred across a bridging ligand in an inner-sphere mechanism, and the kinetics of their transfer in both inner and outer-sphere mechanisms is given by Marcus theory. In solutions of alkali metals in ammonia, these particles become solvated. The repulsion between two of these particles renders the quantum mechanical helium atom unsolvable. Solving the Schrödinger

equation for a radial potential shows that these particles occupy atomic orbitals. For 10 points, name these negatively charged particles that orbit the nucleus.

ANSWER: **electrons**

<Chemistry>

Bonuses

1. Adherents of this religion believe that individuals are guided by their immortal souls, or *fravashi* (“fruh-VAH-shee”), which is thought to be depicted in the winged *faravahar* symbol. For 10 points each:

[10] Name this dualistic ancient religion. In this religion’s cosmology, the world is divided between the forces of *asha* (“AH-shuh”), created by Ahura Mazda (“uh-HOO-ruh MAZZ-duh”), and those of *druj* (“droodge”), represented by Angra Mainyu (“ANG-ruh MINE-yoo”).

ANSWER: **Zoroastrianism** [prompt on **Mazdaism**]

[10] Zoroastrians gather for the *Yasna* (“YUSS-nuh”) service at these places of worship, where only priests covered in cloth masks may enter the *ateshgah* chamber to present sandalwood offerings to a namesake phenomenon.

ANSWER: **fire temples** [prompt on **temples**]

[10] At the age of seven or ten, Zoroastrians receive this girdle made of 72 threads of wool, which they ritually untie and retie after ablutions.

ANSWER: **kushti** girdle [or **kusti**]

<Religion>

2. Answer the following about literary treatments of the policy of enclosure, for 10 points each.

[10] An Oliver Goldsmith poem about a “deserted” one of these places is often interpreted as a critique of enclosure. In a Longfellow poem, a blacksmith in one of these places works “under a spreading chestnut-tree.”

ANSWER: **villages** [accept “The Deserted **Village**”]

[10] This author of *Quarantine* won the James Tait Black Memorial Prize and the IMPAC Dublin Literary Award for his novel *Harvest*, which ends with Walter Thirsk leaving a village that has been devastated by the Enclosure Act.

ANSWER: Jim **Crace** [or James **Crace**]

[10] Enclosure is the subject of a 2017 D. C. Moore play of this title. A man described by this adjective serves as the narrator of Robert Bolt’s play *A Man for All Seasons*.

ANSWER: **common** [accept the **Common** Man]

<British Literature>

3. Answer the following about vaccines and their development, for 10 points each.

[10] This disease, which preferentially targets the anterior horn of the spinal cord, is prevented by vaccines developed by Jonas Salk and Albert Sabin.

ANSWER: **polio** [or **poliomyelitis**]

[10] Many vaccines, like DTaP, contain small amounts of these chemicals that modify or amplify an immune response. Precipitated aluminum hydroxide, AS04, and CpG are common examples of them.

ANSWER: **adjuvants**

[10] A quadrivalent vaccine covering serogroups A, C, W-135, and Y of this bacterium is used to prevent bacterial meningitis. Additionally, this bacterium can cause adrenal hemorrhage in Waterhouse–Friderichsen syndrome.

ANSWER: ***N. meningitidis*** [or ***Neisseria meningitidis*** or ***Meningococcus***]

<Biology>

4. The tendency to act on these things can be either “functional” and “dysfunctional,” depending on whether it is beneficial, according to Scott Dickman. For 10 points each:

[10] Name these psychological events. The DSM-V (“D-S-M-five”) classifies a number of disorders associated with the inability to manage these events as ICDs.

ANSWER: **impulses** [accept **impulsiveness**, **impulsivity**, or **Impulse** Control Disorders; prompt on **urges**]

[10] In his *Three Essays on the Theory of Sexuality*, this Austrian founder of psychoanalysis argued that impulses are often defended against through the cathartic process of “reaction formation.”

ANSWER: Sigmund **Freud**

[10] This two-word phrase was coined by Roy Baumeister et al. to describe a process in which self-control is “used up” in managing impulses.

ANSWER: **ego depletion** [or word forms, such as **depleting** the **ego**; do not accept or prompt on any other terms]
<Social Science>

5. The death of one of these two monarchs caused the other to invade the Netherlands in the War of the Devolution. For 10 points each:

[10] Name these two kings of neighboring countries. They signed the Treaty of the Pyrenees to end a war between their countries that included the Battle of the Dunes.

ANSWER: **Louis XIV** of France AND **Philip IV** of Spain [accept **Louis** the **Great**, **Louis** the **Grand**, the **Sun King**, **Louis le Grand**, **Louis de Grand Monarque**, **Le Roi Soleil** in place of “Louis XIV”; accept **Philip III** of **Portugal** in place of “Philip IV,” but do not accept or prompt on “Philip III” by itself; accept **Felipe IV** in place of “Philip IV”; prompt on **Louis**; prompt on **Philip**]

[10] During the Franco-Spanish War, Philip IV supported the Grand Condé’s revolt as part of this larger uprising against Louis XIV. The crushing of this revolt, which had phases “of the *parlements* (“par-luh-MAWN”)” and “of the nobles,” led to Louis XIV’s absolutist rule.

ANSWER: the **Fronde**

[10] The Fronde (“frond”) occurred in the aftermath of this large European conflict, which was ended by the 1648 Treaty of Westphalia. Spanish military dominance was crushed after France’s victory in this war’s Battle of Rocroi (“ro-KWAH”).

ANSWER: **Thirty Years’ War**

<European History>

6. Answer the following about disorder in condensed matter physics, for 10 points each.

[10] In disordered 3D or higher-dimensional systems, this phenomenon results in a lack of electron diffusion. Its developer also worked on symmetry breaking in particle physics, and the many-body analogue of this phenomenon is a contemporary research topic.

ANSWER: **Anderson localization** [prompt on **localization**] (The analogue is just called “many-body localization.”)

[10] Disorder can be added to these real materials through doping. That process produces p-type or n-type examples of these materials, which have an increased concentration of electrons or holes depending on the element used.

ANSWER: **semiconductors**

[10] In addition to temperature-dependent contributions from electron–phonon scattering, this material property has contributions from electron-impurity scattering. This quantity is the inverse of a quantity symbolized sigma.

ANSWER: **resistivity** [or electrical **resistivity**; or **specific resistance**; prompt on **rho**; do not accept or prompt on “resistance”]

<Physics>

7. An enormous number of these artworks adorn the walls of the Sanctuary of Chalma in Malinalco. For 10 points each:

[10] Name these small paintings that often feature a section of written text at the bottom, and which are ordinarily created on sheets of tin by residents of Mexico as thanks for divine intervention or miracles.

ANSWER: **votive** paintings [or **retablos**, **láminas**, or **ex-votos**; prompt on **milágras**, as that term refers to folk charms and offerings in general]

[10] This Mexican artist’s extensive collection of votive paintings can be viewed at her former residence, the Casa Azul (“KAH-sah ah-SOOL”). This artist inserted sections of written text at the bottom of paintings such as *The Suicide of Dorothy Hale*.

ANSWER: Frida **Kahlo** [or Frida **Kahlo** de Rivera; or Magdalena Carmen Frida **Kahlo** y Calderón]

[10] Kahlo used the votive style in a 1932 depiction of this event occurring under a portrait of a weeping Virgin of Sorrows. She also depicted the aftermath of a failed one of these events in the painting *Henry Ford Hospital*.

ANSWER: child**births** [accept giving **birth**, and also **being born** or **her birth**, as the most common reading of the Kahlo painting is that she's giving birth to herself; prompt on miscarriage]

<Painting>

8. Answer the following about *musique concrète* ("moo-ZEEK con-KRET"), a genre of experimental music from the 1920s and '30s that uses recordings and synthesizers instead of live performance, for 10 points each.

[10] *Musique concrète* inspired this sound collage from 1968. The exchange "Will you forgive me?" "Yes" occurs at the beginning of this piece, followed by a looped recording of a man saying "number nine."

ANSWER: "**Revolution 9**" [do not accept "Revolution" or "Revolution 1"]

[10] This German composer of electronic and serialist music, who also dabbled in *musique concrète*, wrote the opera cycle *Licht*, whose third part includes the *Helicopter String Quartet*.

ANSWER: Karlheinz **Stockhausen** ("SHTOCK-how-zin")

[10] "Revolution 9," an avant-garde track on *The White Album*, was created primarily by this member of the Beatles, who was heavily influenced by both Stockhausen and his lover Yoko Ono.

ANSWER: John **Lennon** [or **John** Winston Ono **Lennon**; accept either underlined portion]

<Other Arts>

9. In a Kenneth Rexroth poem named after this object, an old poker chip reminds the speaker of his father. For 10 points each:

[10] Name this item that the narrator of a novel dips in his tea, bringing back a flood of memories of his childhood in Combray.

ANSWER: the **madeleine** from *Remembrance of Things Past* [or the **madeleine** from *In Search of Lost Time*; accept, but DO NOT REVEAL, "Proust's **Madeleine**"; prompt on sponge cake or pastry]

[10] The episode of the madeleine ("MAD-uh-lin") is from this author's magnum opus, *Remembrance of Things Past*.

ANSWER: Marcel **Proust** [or Valentin Louis Georges Eugène Marcel **Proust**]

[10] In his youth, the narrator of *Remembrance of Things Past* is obsessed with this actress who often appears in Jean Racine's ("rah-SEEN's") plays. In Volume 2, the narrator finally gets to see her perform, but is let down by her acting.

ANSWER: **Berma**

<European Literature>

10. Answer the following about Patriot spy Hercules Mulligan, for 10 points each.

[10] This man lived with Mulligan after arriving in New York City. He attended Columbia University and served as the first Secretary of the Treasury.

ANSWER: Alexander **Hamilton**

[10] Mulligan was part of the crowd that did this specific action in New York's Bowling Green Park after hearing the Declaration of Independence read. The target of this action was then melted down into bullets.

ANSWER: **tearing down** the equestrian **statue** of **George III** [accept equivalents for "tearing down" like toppling the statue; prompt on just tearing down a statue by asking "of whom?"]

[10] Mulligan's slave of this name helped Mulligan in his Culper Ring activities. An Anti-Federalist Paper author with this pseudonym was most likely George Clinton.

ANSWER: **Cato**

<American History>

11. This philosopher identified power, prestige, self-esteem, and security as “critical social goods” that are unjustly distributed due to gender roles in the family, leading to a “cycle of vulnerability” for women. For 10 points each:
[10] Name this New Zealand-born liberal feminist author of *Justice, Gender, and the Family* and *Women in Western Political Thought*.

ANSWER: Susan Moller **Okin**

[10] According to Okin, the family’s inequitable nature undermines this thinker’s claim that families should be the basis for the development of societal justice. This thinker argued that inequalities should be arranged via the “difference principle” in his *A Theory of Justice*.

ANSWER: John **Rawls**

[10] A controversial essay by Okin asks whether this political program is “bad for women” because it perpetuates patriarchal norms through minority group rights. This political program is sometimes called “ethnic pluralism.”

ANSWER: **multiculturalism** [accept “Is **Multiculturalism** Bad for Women?”]

<Philosophy>

12. The proof of this theorem constructs a log-squared solution to the ST connectivity problem. For 10 points each:
[10] Name this theorem which says that deterministic computers need quadratically more space for a given task than their non-deterministic counterparts.

ANSWER: **Savitch**’s theorem

[10] Space or time complexity is quantified in terms of asymptotic bounds. This letter denotes an asymptotic lower bound. Chaitin’s (“CHY-tin’s”) constant, defined in terms of the halting probability for a random algorithm, is also denoted with this letter.

ANSWER: **big omega** [or **capital omega**; or **uppercase omega**; prompt on **omega**]

[10] This other notation is used to define the asymptotic upper bound for an algorithm complexity. A similar “little” version of this notation requires a stricter bound.

ANSWER: **big O** notation [prompt on **O**; do not accept “little O notation”]

<Other Science (Computer Science)>

13. Answer the following about Antonio Stradivari’s instruments that [emphasize] *aren’t* violins, for 10 points each.

[10] Only one of these Stradivarius instruments is still playable today. The modern form of this six-string instrument features in Joaquín Rodrigo’s *Concierto de Aranjuez* (“kon-SYAIR-toh day ah-rahn-HWESS”).

ANSWER: **guitar** [accept baroque **guitar**]

[10] This musician owned Stradivari’s *Dupont* cello until his death in 2007. This Soviet cellist premiered Prokofiev’s Symphony-Concerto and Shostakovich’s cello concertos.

ANSWER: Mstislav **Rostropovich** [or Mstislav Leopoldovich **Rostropovich**]

[10] Peter Schidlöf of this quartet once played Stradivari’s “MacDonald” viola, which was auctioned (but not sold) for 45 million dollars in 2014. This now-disbanded quartet, led by Norbert Brainin, settled in the UK after fleeing Austria post-*Anschluss*.

ANSWER: **Amadeus** Quartet

<Music>

14. Thrasybulus (“thrass-ih-BYOO-liss”) recalled this man from exile as part of a 411 BC coup that established an oligarchy known as the Four Hundred. For 10 points each:

[10] Name this Athenian general who defected to Sparta after he was accused of treason before the Sicilian Expedition. He later defected after he was not well-received in Sparta either.

ANSWER: **Alcibiades**

[10] Alcibiades defected to this empire, which at the time was ruled by the Achaemenid Dynasty, founded by Cyrus the Great.

ANSWER: **Persian** Empire [or First **Persian** Empire]

[10] The treason trial of Alcibiades was based on the mutilation of these statues on the eve of the Sicilian Expedition. These statues consisted of just a head and a set of male genitals.

ANSWER: **herm** [or **hermai**]

<Ancient History>

15. In a story named after this place, Jane escapes her controlling mother Mrs. Rimmle to live in this place, though her two sisters are not so lucky. For 10 points each:

[10] Name this place. In a novel named after residents of this place, the frivolous but upbeat Felix woos his cousin Gertrude, while his sister Eugenia resists the overtures of Robert Acton.

ANSWER: **Europe** [accept *The Europeans*]

[10] The title characters of *The Europeans* visit their cousins in this American city. In another novel by the same author, Basil Ransom meets Verena Tarrant while visiting this city.

ANSWER: **Boston** [accept *The Bostonians*]

[10] This author of *The Europeans* and *The Bostonians* contrasted Europe and America in novels like *The Ambassadors*.

ANSWER: Henry **James**

<American Literature>

16. During this event, Thor kills the Midgard Serpent, but dies from its poison after walking nine steps. For 10 points each:

[10] Name this event in Norse mythology that begins with the crowing of three roosters. During this event, the Aesir fight the army of Surt (‘‘sert’’), whose fires destroy the world.

ANSWER: **Ragnarok** [or **Twilight of the Gods**]

[10] After Ragnarok, the world is repopulated by these two humans. This husband-and-wife pair emerges from Hoddmimis Holt, which may be the world tree Yggdrasil (‘‘IG-druh-sill’’).

ANSWER: **Lif** AND **Lifthrasir** [or **Life** AND **Vitality**]

[10] This god and survivor of Ragnarok is born from the princess Rindr (‘‘rinned’’), who is entrapped with the help of magic runes. He grows to full adulthood in a single day without cutting his hair.

ANSWER: **Vali**

<Mythology>

17. Answer the following about highlights of the 2019 edition of Awesome Games Done Quick, for 10 points each.

[10] The longest run in the AGDQ marathon was a nine-and-a-half-hour trip through this 2000 JRPG, the last entry in a Square series released for the PS1. Its main characters include the thief Zidane and the black mage Vivi.

ANSWER: **Final Fantasy IX** (‘‘nine’’) [or **Fainaru Fantajī Nain**]

[10] The crowd really got into TGH’s run of this 2018 platformer developed by Matt Thorson, in which a woman named Madeline attempts to climb the title mountain while using mid-air dashes to avoid obstacles.

ANSWER: **Celeste**

[10] The marathon’s final game was *Super Metroid* played in reverse boss order, meaning that the first boss the player faced was this dragon-like Space Pirate, who is now playable in *Super Smash Bros. Ultimate*.

ANSWER: **Ridley**

<Trash>

18. Using a faster scan rate in this technique leads to a smaller diffusion layer and larger current. For 10 points each:

[10] Name this family of technique that measures the current produced by an electrochemical cell as a function of the applied voltage. Its cyclic variety is commonly used to study intermediates in redox reactions.

ANSWER: **voltammetry** [accept specific forms of voltammetry, such as cyclic **voltammetry**, linear sweep **voltammetry**, or stripping **voltammetry**]

[10] One choice for the working electrode in voltammetry is a hanging drop of this poisonous metal, which is a liquid at room temperature. It is also used in reference calomel electrodes.

ANSWER: **mercury** [or **Hg**]

[10] This other electrochemical technique abruptly changes the voltage applied to the working electrode and measuring the subsequent faradic currents. The Cottrell equation is used in this technique.

ANSWER: **chronoamperometry**

<Chemistry>

19. Answer the following about the literary history of waiting in line, for 10 points each.

[10] The first known written description of people waiting in line comes from this author's history of the French Revolution. In a novel by this man, a professor named Diogenes Teufelsdröckh ("TOY-fulls-druck") develops a "philosophy of clothes."

ANSWER: Thomas **Carlyle** (The novel is *Sartor Resartus*.)

[10] The voices of various people waiting in line make up the text of a novel from this country called *The Queue*. Classic novels from this country include *Anna Karenina* and *Oblomov*.

ANSWER: **Russia** [or **Russian** Federation; or **Rossiyskaya** Federatsiya] (*The Queue* is by Vladimir Sorokin.)

[10] The absurdist play *Line*, about five people waiting in line for an unspecified event, is by an author with this first name. Isaac Bashevis Singer's brother shares this name with a playwright who popularized the term "melting pot."

ANSWER: **Israel** [accept **Israel** Horovitz or **Israel** Joshua Singer or **Israel** Zangwill]

<Other Literature>

20. The deadliest railway disaster in history occurred when this event caused a train in Galle, Sri Lanka, to tip over. For 10 points each:

[10] Name this event that killed more than a quarter million people in Indonesia, Thailand, India, and many other South Asian countries.

ANSWER: **2004** Indian Ocean **tsunami** [or 2004 **Indian Ocean tsunami**; accept **tidal wave** in place of tsunami; accept **Boxing Day tsunami**; accept **Sumatra-Andaman tsunami**; accept **South Asian tsunami**; prompt on 2004 **Indian Ocean earthquake**]

[10] The tsunami hit this northern area of Sumatra hardest. Hasan di Tiro founded a movement for the independence of this region, which was the location of a long-running insurgency.

ANSWER: **Aceh** ("AH-chay") [accept Free **Aceh** movement]

[10] This company was accused of human rights violations in Aceh. A ship belonging to this company and captained by Joseph Hazelwood ran aground on Prince William Sound.

ANSWER: **Exxon** Mobil [accept **Exxon** Valdez]

<World History>

21. Examples used to illustrate this concept include the attempted seizure of the steel mills in 1952 and the secret bombing of Laos. For 10 points each:

[10] Name this two-word term coined by Arthur Schlesinger in a book of the same name. In it, Schlesinger argued that the title office had become too powerful.

ANSWER: "**imperial presidency**"

[10] Schlesinger served as "court historian" to this president, whose term he wrote about in *A Thousand Days*. This president's handling of the Cuban Missile Crisis was not counted as an example of presidential overreach by Schlesinger.

ANSWER: John Fitzgerald **Kennedy**

[10] Before the Kennedy administration, Schlesinger served as a speechwriter to this man, who was described as an "egghead" by Richard Nixon. He was ambassador to the UN during the Cuban Missile Crisis, during which he had a heated exchange with Soviet representative Valerian Zorin.

ANSWER: Adlai **Stevenson** II
<American History>