



ACADEMIC COMPETITION FEDERATION

2023 ACF NATIONALS

Play-In

Packet By

Florida B, JHU A, Purdue A

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TOSSUPS

1. An operator that changes this quantity by two is included in theories that allow for neutron–antineutron oscillation. This quantity is the topological charge of skyrmions, which are used to model nuclei. This quantity is the alphabetically [emphasize] *first* of the two quantities that change in a transition across a sphaleron (“s’FAY-lur-on”) barrier. In GUTs (“guts”) based on the gauge group SU(5) (“S-U-5”), this quantity minus a different quantity is conserved, but this quantity itself is not conserved. The violation of C and CP symmetry, the existence of out-of-equilibrium processes, and non-conservation of this quantity are the Sakharov conditions on the early universe. One third times the difference between the number of quarks and the number of antiquarks equals this quantity, which is denoted with a capital B. For 10 points, name this quantity that equals one for particles composed of three quarks and equals zero for mesons (“meh-zahns”) and leptons.

ANSWER: **baryon number** [accept **B minus L** or **baryon number minus lepton number** until “skyrmions” is read; prompt on capital **B** until read] (The other quantity in the second and third sentences is lepton number.)

<Physics>

2. A pioneer in this field who coined the acronym MIDVAS, which includes “motivation” and “desensitization,” was named Charles Van Riper. A set of five tools used in this field — the Rabbit Buddy, the Seal Buddy, the Shark Buddy, the Cheetah Buddy, and the Lion Buddy — is based on the principle of tactile feedback. In this field, effortful closure techniques are often used to treat the neurological condition dysarthria (“diss-ARTH-ree-uh”). It’s not a branch of psychology, but Wendell Johnson ran a 1939 study in this field that controversially involved belittling some of the subjects, which is known as the Monster Study. Anomia (“uh-NOH-mee-uh”) is among the conditions dealt with in this field, whose practitioners often treat patients after strokes, tracheostomies (“tray-kee-OSS-tuh-meez”), and laryngectomies (“lair-in-JECK-tuh-meez”). For 10 points, name this discipline that aims to treat conditions such as stuttering.

ANSWER: **speech-language pathology** [or **speech** and language **pathology**, **SLP**, **speech** and language **therapy**, or **speech and hearing**; accept **speech correction**; accept treatment of **communication disorders**; accept treatment of **speech** and language **disorders**; until “stuttering” is read, prompt on **stuttering treatment** or **stuttering correction** by asking “what broader field is that part of?”]

<Social Science>

3. This city’s history was the subject of the only work by Narshakhi, who said that Qutayba (“koo-TAY-bah”) ibn Muslim had to convert its populace four times to Islam before they stopped apostatizing. Nuh I ruled an empire based in this city after stopping an army coup that sought to depose his father, Nasr II. This city’s ruler Ubaydullah Khan defeated a Safavid army at the Battle of Ghazdewan and built the mosque that accompanied its Kalyan minaret. It’s not Tabriz, but this city’s massive fortress called the “Ark” was the site of a library used to write the scientific encyclopedia *Kitāb al-Shifā’*. This city is the site of the mausoleum of Ismail Samani, who made it the capital of the Samanid Empire. This city twice traded off with Samarkand as capital of its namesake khanate. For 10 points, what home city of Ibn Sina and the author of the most authentic *Ṣaḥīḥ* collection of *hadith* is found in modern-day Uzbekistan?

ANSWER: **Bukhara** [or **Bukhoro** or **Buxoro**; accept Khanate of **Bukhara**; accept Ark of **Bukhara**; accept *History of Bukhara* or *Tarikh-i Bukhara*]

<Other History>

4. Sigmund Freud’s relationship to Judaism is analyzed in a book titled for this phenomenon by Ann Pellegrini. This phenomenon titles a film in which Richard Todd’s character is crushed by a curtain after smearing blood on a dress to Marlene Dietrich’s Charlotte; that 1950 film titled for this phenomenon was directed by Alfred Hitchcock. After becoming fixated on dropped nails while experiencing this phenomenon, Konstantin Stanislavski created a series of lit circles as part of his idea of “public solitude” to counter it. A 2003 study of golfers found that the yips was tied to this phenomenon, which is caused in part by perfectionism. Barbara Streisand refused to sing publicly for 27 years after this phenomenon occurred during a Central Park concert, causing her to forget her lyrics. For 10 points, name this phenomenon caused by the “fight or flight” response in which people perform worse in front of an audience.

ANSWER: **performance anxiety** [accept **stage fright** or **audience anxiety**; accept *Performance Anxieties: Staging Psychoanalysis, Staging Race*; prompt on nerves, anxiety, panic, fear, or fright; prompt on stress; prompt on choking] (The Alfred Hitchcock film is *Stage Fright*. The 2003 study is “The ‘Yips’ in Golf: A Continuum Between a Focal Dystonia and Choking.”)

<Other Academic>

5. In 2019, a unique point-based system in which these people could purchase their salary was introduced under Laurent Pietraszewski (“lor-AWN pee-ay-trah-SHEV-skee”). These people are supported by FRR investments administered through the ASPA (“A-S-P-A”). Protesters against policies affecting these people blocked petrol deliveries on Black Thursday and barricaded Europe’s largest trash incinerator. Ballerinas performed Swan Lake to oppose policies affecting these people that, after gas prices, preceded the [emphasize] *second* phase of the yellow vest movement. A bill affecting these people was opposed by Les Républicains (“lay ray-poob-lee-CAWN”) and was intended to stabilize a “pay-as-you-go” system with a high replacement rate. The bill affecting these people was pushed through by Article 49.3 (“49-3”) in March 2023. For 10 points, Élisabeth Borne has survived two non-confidence votes emerging from a bill affecting what people in France, which may soon exclude those younger than 65?

ANSWER: French **retirees** [accept **pensioners**; accept descriptions of people who are **retired** or people who are receiving a **pension**; prompt on the elderly or old people or equivalents; prompt on French people or français until “France” is read; prompt on workers, laborers, employees, or equivalents]

<Current Events>

6. A symptom of this condition can be elicited by extending your hand for a handshake, but telling the subject to not shake your hand. Ambitendency, negativism, and twenty-one other symptoms of this condition are scored in the Bush–Francis scale. ECT is first-line treatment for this condition’s malignant form, which is differentiated from serotonin syndrome or neuroleptic-malignant syndrome by the presence of spastic or lead-pipe rigidity, respectively. The Lazarus effect is a dramatic improvement in this condition upon challenge with lorazepam. A patient’s limbs hanging in the air after being moved into position is a characteristic finding of this condition called waxy flexibility. Patients with this condition tend to be mute and do not respond to external stimuli. For 10 points, name this condition characterized by abnormal movements and withdrawal that once named a subtype of schizophrenia.

ANSWER: **catatonia** [or **catatonic** state; prompt on schizophrenia until read by asking “What condition associated with schizophrenia?”; prompt on psychosis]

<Biology>

7. In a story by this author, a devout Christian who is falsely accused of stealing bacon is forced to wear a ham, causing him to believe he is becoming a piece of meat and to eventually hang himself in a smokehouse. In a story by this author, Tenie transforms her husband into a tree, only for his body to be sawed into planks of wood while he is still alive. Many stories by this author begin and end by focusing on a Northern man and his wife Annie, who have recently moved to this author's adopted state of North Carolina. This author of "Dave's Neckliss" and "Po' Sandy" mimicked the form of sentimental, dialect-filled stories by writers like Thomas Nelson Page to depict the brutality of slavery. In a story by this author, Uncle Julius McAdoo warns of a ritual curse put on a plantation vineyard. For 10 points, name this African-American author who included "The Goophered ("goo-FERD") Grapevine" in his collection *The Conjure Woman*.

ANSWER: Charles **Chesnutt** [or Charles Waddell **Chesnutt**]

<American Literature>

8. A woman with this epithet had an affair with a moneychanger and conspired with him to drown her husband in his bath. A ruler with this epithet described the rituals needed to receive it in a work called "The Book of Ceremonies." A ruler was promised the hand of a woman with this epithet in exchange for returning the town of Korsun to her brother. A ruler with this epithet shared the throne with a member of the Lekapenos family. A ruler with this epithet consolidated his power by crushing revolts from two generals named Bardas. A desire to marry a woman with this epithet caused Vladimir the Great to convert the Kievan Rus' to Christianity. The princess Anna held this epithet, which was given to royal children born in a colorful stone chamber in the Great Palace of Constantinople. For 10 points, what Greek epithet held by several middle Byzantine rulers means "born in the purple"?

ANSWER: **Porphyrogenitus** [or **Porphyrogenita**, **Porphyrogenetos**, or **Porphyrogenete**; accept Anna **Porphyrogenita** or Anna **Porphyrogenete**; accept Basil II **Porphyrogenitus** or Basil II **Porphyrogenetos**; accept Constantine VII **Porphyrogenitus** or Constantine VII **Porphyrogenetos**; accept Zoë **Porphyrogenita** or Zoë **Porphyrogenetos**; until "purple" is read, prompt on "born in the purple" by asking "what is the original language title?"] (Zoë Porphyrogenita had the affair with the moneychanger, who became Michael IV. Constantine VII Porphyrogenitus wrote "The Book of Ceremonies" and shared the throne with Romanos I Lekapenos. Basil II Porphyrogenitus beat the generals named Bardas. Vladimir the Great received Anna Porphyrogenita's hand in marriage for returning Korsun to Basil II.)

<European History>

9. This type of ensemble violently saws away under three solo horn calls in the final measures of Prokofiev's fifth symphony. Kurt Atterberg ("AH-ter-bare-yeh") orchestrated a G major work originally for this ensemble by Johannes Brahms; that work begins with a lyrical *allegro* movement in a quick 3/4 ("three-four") time. An earlier B-flat major work for this ensemble by Brahms uses an elegiac viola melody to begin its D minor theme-and-variations second movement. Richard Strauss ("REE-kart STROWSS") unusually used a movement for this ensemble to begin his opera *Capriccio* ("kuh-PREE-chee-oh"). Repeated D half-notes in the cello and viola begin a work for this ensemble that the Vienna Music Society rejected due to its use of an inverted ninth chord; that piece for this ensemble is based on a Richard Dehmel poem. For 10 points, Arnold Schoenberg ("SHERN-berg") wrote *Transfigured Night* for what ensemble that usually consists of two violins, two violas, and two cellos?

ANSWER: string **sextet** [accept String **Sextet** No. 1 in B-flat major; prompt on strings]

<Classical Music>

10. This playwright wrote about “the alien abroad” and “the alien at home” to subversively resist imperialist exploitation, according to Emily C. Bartels’s *Spectacles of Strangeness*. One of this playwright’s characters reads a letter saying “My father is deceased” and exclaims “Ah, words that make me surfeit with delight!” In that play by this author, a man notes that “the mightiest kings have had their minions,” citing the examples of people like Hylas and Hephaestion. Jupiter dandles Ganymede on his knee at the beginning of a play by this author; that play, which may feature contributions by Thomas Nashe, is based on the *Aeneid*. In another play, this author anglicized the name “Lucifer” to create the name “Lightborn” for a character who uses a red hot poker to kill a king whose favorite is Piers Gaveston. For 10 points, name this author of *Dido*, *Queen of Carthage* and *Edward II*.

ANSWER: Christopher **Marlowe** [or Kit **Marlowe**]

<British Literature>

11. Structural defects named for this adjective drive the odd-even effect in short-chain self-assembled monolayers. This adjective identifies the cubic, covalent network solid allotrope of nitrogen that has the highest energy density of any compound. Pentane interference and the anomeric (“AN-oh-mair-ick”) effect are specific cases of a donor-acceptor effect named for this adjective; that effect, which maximizes hyperconjugation at any cost, is most often observed in vicinal difluorides. Local — but not global — energy minima occur at the two synclinal rotamers (“ROH-tuh-mers”) described by this adjective. This adjective identifies the steric interactions that are equivalent to cyclohexane’s 1,3-diaxial repulsion. This adjective means that two adjacent positions on a Newman diagram, separated by a 60-degree dihedral angle, are both substituted. For 10 points, the staggered and non-*anti* conformations of a single bond are named for what French word?

ANSWER: **gauche** (“gohsh”) [accept **gauche** conformers; accept **gauche** effect; accept cubic **gauche** nitrogen; accept **gauche** defects]

<Chemistry>

12. This person used accounts from John Ordway to form a two-volume history of an event, with the third volume intended to be written by botanist Benjamin Smith Barton. Upon writing a memoir of the Tuesday Club founder Joseph Dennie, this person realized he would have to take over editing *The Port Folio*. This man’s brother Thomas grievously whipped a sleeping Spencer Pettis, causing a duel in which both died because it was conducted at close range due to Thomas’s nearsightedness. William J. Duane refused to cripple an institution headed by this man, causing his replacement with Roger Taney (“TAW-nee”). With support from Daniel Webster and Henry Clay, this man tried to convince Andrew Jackson to extend an expiring charter; their failure exacerbated the Panic of 1837 and portended the rise of “wildcat” banks. For 10 points, name this last president of the Second Bank of the United States.

ANSWER: Nicholas **Biddle** (The accounts of Ordway were used to write a history of the Lewis and Clark Expedition.)

<American History>

13. A scene set at one of these places is called “a paradigm for our engagement with truth” in the Roman Curia’s 2003 study critical of the New Age movement. A person associated with one of these places legendarily converted Nero’s daughter Domnina and her 100 slave girls. At one of these places, Jesus announces “a time is coming when you will worship the Father neither on [the] mountain nor in Jerusalem.” An originally nameless biblical figure encountered at one of these places in John Chapter 4 was later honored as Saint Photine. At one of these places near Sychar (“SYE-car”), a woman calls Jesus a prophet after he correctly states that she has had five husbands; that woman asks Jesus if he is greater than Jacob, who was at one of these places when he met Rachel. For 10 points, Jesus encountered the Samaritan woman at what sort of place, where he promised her “living water” after asking for a drink?

ANSWER: **wells** [accept Samaritan woman at the **well**; accept Jacob’s **Well**; prompt on **springs**] (The first line refers to *Jesus Christ, the Bearer of the Water of Life*.)

<Religion>

14. A felt sculpture of a black sheep is pinned to a painting by Monika Thiele (“TEE-luh”) depicting one of these subjects painted directly over a marketplace scene. Jürgen Glaesemer (“YUR-ghen GLAY-sim-er”) interpreted a W-shape as the breasts of one of these subjects, whose eyes point in two different directions in a painting with a title assuring they are “still feminine.” One of these subjects has a red watercolor heart in a lithograph depicting one of them “serving a small breakfast.” One of these subjects sits with its eyes closed in a simple drawing that calls it “forgetful.” About 50 drawings of these subjects were made in one artist’s final months of life, during which he also painted *Death and Fire*. A print of one of these subjects “is staring into the past while being irresistibly propelled into the future” according to Walter Benjamin (“VALL-tuh BEN-yah-meen”), who called it one of these beings “of history.” For 10 points, a painting by Paul Klee (“clay”) calls what type of being “new,” or “Novus”?

ANSWER: **angels** [or guardian **angels** or **Engeln**; accept **genius** or **genii**; accept *Angelus Novus* or *New Angel* or the **angel** of history; prompt on **nurses** by asking “what is the nurse called in the title of that piece?”] (The first line refers to *Engel des alten Testaments (in Anlehnung an Paul Klee)*. The Paul Klee works referenced are: *Angel Still Feminine*, *A Guardian Angel Serves a Small Breakfast*, and *Forgetful Angel*.)

<Painting & Sculpture>

15. This protocol is vulnerable to the BREACH and CRIME attacks. Traffic over this protocol is filtered by WAFs (“waafs”). New design features in this protocol include only allowing “trailers” as a value for the Transfer-Encoding header and the delegation of features to the QUIC (“quick”) protocol. Vulnerabilities in this protocol are exploited by the High Orbit Ion Cannon and slowloris (“slow-loris”) tools. To reduce latency in this protocol, Google designed SPDY (“speedy”). Because pipelining in older versions of this protocol was prone to head-of-line blocking, it now implements multiplexing of requests over persistent connections. This stateless protocol, which resides in layer 7 of the OSI (“O-S-I”) model, was designed by Tim Berners-Lee. This application layer protocol, which runs on top of TCP, uses requests such as PUT (“put”), POST (“post”), and GET (“get”). For 10 points, name this protocol used for communication between browsers and Web servers.

ANSWER: **HTTP** [or **Hypertext Transfer Protocol**; accept versions of HTTP such as **HTTP/1.0**, **HTTP/1.1**, **HTTP/2**, or **HTTP/3**; accept **HTTPS** or **Hypertext Transfer Protocol Secure**] (WAFs are Web Application Firewalls.)

<Other Science>

16. *Note to players: The answer is a region that encompasses multiple countries. You may give the name of the general region or any of the individual countries.*

Live music in this region often employs someone to shout over the *sebene* (“seh-beh-neh”), which is a lengthy instrumental bridge. A band from this region used lead, rhythm, and a third *mi-solo* guitar on a song about the gigolo Mario. A 1977 album titled for the “heart” of a band named for this region was produced by reggae pioneer Lee “Scratch” Perry. The founder of the band La Viva Musica, Papa Wemba, was one of this region’s well-dressed *sapeurs* (“SAH-pourz”). Vampire Weekend used a dance rhythm from this region on their song “Cape Cod Kwassa Kwassa.” Tabu Ley and Dr. Nico pioneered a genre from this region that was later popularized by electric guitarist and TPOK Jazz frontman Franco. This region’s *soukous* music is often sung in Lingala. Cuban *son* (“sohn”) music influenced dance music that became this African region’s rumba. For 10 points, name this region home to a president who is praised in the song “Candidat Na Biso Mobutu.”

ANSWER: the **Congo** [accept Democratic Republic of the **Congo**, the **DRC**, or Republic of **Zaire**, or **Congo-Kinshasa**; accept Republic of the **Congo** or **ROC** or **Congo-Brazzaville**; accept **Congo River Basin**; accept The **Congos**; accept *Heart of the Congos*; prompt on Central **Africa** until “African” is read; reject “Central African Republic” or “CAR”]

<Other Fine Arts>

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17. A poetry collection by this author ends with the title figure arranging three rectangles in a “Final Field Exercise.” This author made a “wishing jewel” for her brother, who sent her cards on his journey to China but died before reaching it, as described in the essay “The Anthropology of Water.” This author compares marriage to a tango in a poetic essay organized in 29 chapters with John Keats quotes. A translation by this author mentions “the one with violets in her lap” in a collection that uses square brackets to denote missing lines. Definitions for each word of Catullus 101 comprise the left-hand pages of this author’s accordion-format book mourning her brother’s death. Stesichorus’s (“steh-SICK-uh-rus’s”) poetry inspired a book by this author that retells Geryon (“jerry-on”) as a gay photographer in love with Heracles. For 10 points, name this author who translated Sappho in *If Not, Winter* and wrote *Autobiography of Red*.

ANSWER: Anne **Carson** (The first and third lines refer to *The Beauty Of The Husband*.)

<World Literature>

18. In this country, warfare between rival gangs who wore yellow-and-black blankets and maroon-and-black blankets emerged from a dispute amongst accordion players of Famo music. According to Colin Hoag’s *The Fluvial Imagination*, this country became the first “water-exporter” upon the creation of a namesake “Highlands Water Project.” The valorization of livestock is part of the “bovine mystique” of this country, which is the focus of James Ferguson’s *The Anti-Politics Machine*. An 1880s Gun War in this modern-day country was led by Lerotholi and Masopha. Prince Harry and Prince Seeiso founded Sentebale, a charity focused on this country’s high prevalence rate of HIV. The *mokorotlo* is a conical straw hat that appears on the blue, white, and green-striped flag of this country, which was once ruled by Moshoeshoe II (“MAH-shway-shway the second”). For 10 points, name this country that is an enclave entirely within South Africa.

ANSWER: **Lesotho** (“leh-SOO-too”) [or Kingdom of **Lesotho**; or Naha ea **Lesotho**; accept **Lesotho** Highlands Water Project; prompt on **Basutoland**]

<World History>

19. Sex, drugs, and a word with this prefix appear in the subtitle of a book about taking Testogel in the “pharmacopornographic era”; that book is Paul B. Preciado’s *Testo Junkie*. A philosopher used an adjective with this prefix to describe the metaphorical “tattooing” required for entry to the US after 9/11. A word with this prefix refers to a phenomenon that “regulates social life from its interior” in Hardt and Negri’s *Empire*, which characterizes the world order via a concept named for this prefix plus “production.” Giorgio Agamben (“uh-GAM-bin”) argues that sovereign power can be characterized by a type of politics whose name starts with this prefix, in contrast to a philosopher who defined a related term using this prefix in *The History of Sexuality*. For 10 points, a word used by Michel Foucault (“foo-KOH”) for the techniques that states use to control bodies consists of what prefix plus the word “power”?

ANSWER: **bio-** [accept **biopolitics** or **biopolitique**; accept **biopower** or **biopouvoir**; accept **biopolitical** production; accept **biopolitical** tattooing]

<Philosophy>

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20. Characters created by this author encounter words that unfreeze on the deck of a ship. This author wrote about the many inventions of Gaster, who resembles a stomach, in a book that includes chapters praising the benefits of a magical herb that may be *Cannabis sativa*. A critic analyzed this man's use of "billingsgate" speech in the marketplace as part of a history of laughter. This author's last words were "I go to seek a Great Perhaps." Lengthy lists of food, including "chitterlings" that participate in a "sausage war," appear in a novel this author wrote under the anagrammatic pseudonym Alcofribas Nasier. This author inspired Aleister Crowley's motto "Do what thou wilt," which was taken from the Abbey of Thélème ("teh-lehm"). For 10 points, Mikhail Bakhtin analyzed the profane "carnavalesque" writing of what French author who created a fictional giant that inspired the word "gargantuan"?

ANSWER: François **Rabelais** ("frah-n-swah rob-leh") (The herb's name is Pantagruelion. Mikhail Bakhtin wrote *Rabelais and His World*.)

<European Literature>

BONUSES

1. Lynne Hume has argued that the community centered on outdoor raves held in this country and named for the word representing the sound of a kick drum constitutes a New Religious Movement. For 10 points each:

[10e] Name this country where anarcho-mystical doof parties held in the wilderness draw on Indigenous concepts such as the Dreamtime.

ANSWER: **Australia** [or Commonwealth of **Australia**]

[10h] Aboriginal Australians attending doof events have promoted this traditional ritual. This ritual is a component of the Welcome to Country ceremony that involves using plants like the emu bush to cleanse newborns or geographic areas.

ANSWER: **smoking** ceremony [accept baby **smoking**]

[10m] Australian New Agers also draw on beliefs from this ancient Gnostic religion with a large diaspora community in western Sydney. Members of this religion, which is prominent in Iraq, consider John the Baptist their greatest prophet.

ANSWER: **Mandaic** [or **mandaiia**; or al-**Mandā'yya**; accept **Nasoraeanism** or **Sabianism**; reject “Manichaeism”]

<Religion>

2. This figure was legendarily exiled after a priest of the Church of Saint Mary of Zion ripped off part of a curtain to craft golden shoes in an attempt to convince her to be his mistress. For 10 points each:

[10h] Name this figure whose burning of churches was referenced by ibn Ḥawqal, who described her as the queen of the Bani al-Hamwiyah.

ANSWER: **Gudit** [or **Yodit** or **Judith**; accept **Ga'wa** or **Gwedit**; accept **Esato** or **Isato**]

[10m] Gudit was exiled from this city and later plundered it during the mid-10th century. She destroyed a namesake kingdom centered in this city before her territory was posthumously seized by Mara Takla Haymanot.

ANSWER: **Aksum** [or **Axum**; accept Kingdom of **Aksum** or **Aksumite** Empire]

[10e] To explain how her supposed conversion to this religion caused the anti-Christian revolt, contemporary sources compared Gudit to the Queen of Sheba converting to this religion before King Solomon.

ANSWER: **Judaism** [or **Jewish** faith; or **Yahadut**]

<World History>

3. Answer the following about contemporary cosmologists who write popular science books, for 10 points each.

[10e] In *The Disordered Cosmos*, Chanda Prescod-Weinstein (“chahn-dah press-cod-wine-styne”) interweaves cosmology and the social world, including noting that white scientists tend to refer to this substance as foreboding. Unlike baryonic matter, this substance does not interact with light.

ANSWER: **dark matter** (Prescod-Weinstein also argues that dark matter is an inappropriate name because it’s not actually dark, it’s transparent.)

[10h] This scientist wrote *Warped Passages* and *Dark Matter and the Dinosaurs*. This scientist and an Indian-American colleague developed models of the universe with warped extra dimensions to solve the hierarchy problem.

ANSWER: Lisa **Randall** (That is the Randall–Sundrum model.)

[10m] Katie Mack’s *The End of Everything* discusses how we could all die when the universe decays out of a false type of this state. The Higgs field’s expectation value in this state is 246 GeV (“G-E-V”).

ANSWER: quantum **vacuum** state [accept false **vacuum** state or false **vacuum** decay; prompt on ground state]

<Physics>

4. This politician earned the disparaging moniker “the Great Winnebago Chief” after he used notes paid on his own bank to adjust claims for the Ho-Chunk. For 10 points each:

[10h] Name this politician who ensured that Pennsylvania supported Abraham Lincoln’s nomination in exchange for a cabinet post. He was so corrupt that Thaddeus Stevens quipped “I do not believe he would steal a red-hot stove.”

ANSWER: Simon **Cameron**

[10e] In 1862, Lincoln dismissed Cameron from this cabinet post. Cameron was replaced by Edwin Stanton, who continued working in this cabinet position until Andrew Johnson fired him, resulting in Johnson’s impeachment.

ANSWER: **Secretary of War**

[10m] After the Civil War, Cameron was a leading member of this Republican party faction that opposed Rutherford B. Hayes’s proposed civil service reforms.

ANSWER: **Stalwarts**

<American History>

5. Mae West and George Bernard Shaw are among the celebrities who comment on whether these animals have souls, according to one of many newspaper clippings collected by Mr. Povondra. For 10 points each:

[10m] Name these animals that are discovered by Captain van Toch while searching for pearls, after which they form a syndicate and take over the world.

ANSWER: **newts** [accept **salamanders**; accept *War with the Newts*, **Salamander Wars** or *Válka s Mloky*; prompt on **amphibians**]

[10e] This author of the satirical science-fiction novel *War with the Newts* coined the term “robot” in his play *R.U.R.*

ANSWER: Karel **Čapek** (“KAR-el CHAH-pek”)

[10h] Multiple editions of *War with the Newts* have introductions by this other Czech author. He wrote about an author who works as a street sweeper in his novel *Love and Garbage*.

ANSWER: Ivan **Klíma** [or Ivan **Kauders**]

<European Literature>

6. The average value for this quantity in the BRENDA database is only around 10 to the fifth inverse-molar per second, 10,000 times less than its “catalytically perfect” value. For 10 points each:

[10h] Identify this second-order rate constant that is occasionally called the specificity constant, or just “efficiency,” but is most often named for an algebraic expression.

ANSWER: **kcat over Km** [or **kcat divided by Km** or the **turnover number over Michaelis–Menten** constant]

[10m] An enzyme’s rate constant can be computed on a Lineweaver–Burke plot, which plots [emphasize] *what function* of the enzyme velocity on the y-axis?

ANSWER: **reciprocal** of enzyme velocity [or **one-over** velocity; or **inverse** velocity; or velocity to the **negative one** power; or mathematical equivalents]

[10e] The highest possible value for kcat over Km is about a billion inverse-molars per second: the rate constant for this microscopic process of mass transfer, which is rate-limiting for a perfect enzyme.

ANSWER: **diffusion**

<Chemistry>

7. The Château d’Anet (“shah-toh dah-nay”) was the original site of an anonymous sculptural fountain showing this figure embracing an animal that may represent the huntsman Louis de Brézé (“loo-ee deh breh-zeh”). For 10 points each:

[10h] Antoine Coysevox (“ahn-twahn coy-seh-voh”) depicted Marie Adelaide of Savoy as what figure holding a hand to her ear? Michel-Ange Slodtz showed this figure cradling the head of a sleeping man in a Baroque marble depiction.

ANSWER: **Diana** [accept **Artemis**]

[10m] The 18th-century French craze for sculptures of Diana includes a bronze one of her balancing on one leg by this artist. This sculptor showed a shivering woman in *Winter* and created many depictions of Voltaire.

ANSWER: Jean-Antoine **Houdon** (“zhawn ahn-twahn oo-down”)

[10e] The Anet Diana is a work from a Mannerist “school” of sculpture named for this palace complex, which housed many French monarchs before the construction of Versailles (“vair-SYE”).

ANSWER: Palace of **Fontainebleau** (“fon-tehn-bloh”) [or Château de **Fontainebleau**; accept School of **Fontainebleau**]

<Painting & Sculpture>

8. According to the book *The Anatomy of Dependence*, the desire to be loved and indulged, called *amae* (“ah-mah-eh”), is a key part of this country’s culture. For 10 points each:

[10e] Name this country whose “shame culture” is contrasted with America’s “guilt culture” in Ruth Benedict’s *The Chrysanthemum and the Sword*.

ANSWER: **Japan** [or **Nippon**-koku or **Nihon**-koku] (*The Anatomy of Dependence* is by Takeo Doi.)

[10h] Both of the aforementioned books have been criticized as belonging to this genre of works that attempt to locate the essence of Japaneseness and demonstrate Japan’s cultural or racial uniqueness.

ANSWER: **Nihonjinron** (“nee-hohn-jeen-rohn”) [accept **Nihonron** or **Nihonbunkaron** or **Nihonshakairon**]

[10m] Some scholars have argued that *Nihonjinron* contributes to discrimination against this social class, whose name is Japanese for “hamlet people.” They are believed to descend from workers in stigmatized jobs like butchering.

ANSWER: **burakumin** [accept *hisabetsu-burakumin* or *mikaihō-burakumin*]

<Social Science>

9. John Cage’s work *Sonnekus*² (“sohn-eh-kuss squared”) instructs the performer to take long pauses during which she can sing cabaret songs by this composer. For 10 points each:

[10e] Name this French composer of “Je te veux (“zeh te voo”)” and “La Diva de l’Empire (“lem-peer”)”, who later renounced his cabaret compositions. He is better known for his *Gymnopédies* (“zhim-noh-peh-dee”).

ANSWER: Erik **Satie** (“sah-tee”) [or Eric Alfred Leslie **Satie**]

[10h] Satie wrote this cycle of 21 short piano pieces intermingled with prose poems, which begins with an “Unappetizing Chorale.” It includes movements like “Golf” and “Tennis.”

ANSWER: **Sports et divertissements** (“spor eh dee-ver-tees-mah”) [or **Sports and Pastimes**]

[10m] The penultimate movement of *Sports et divertissements* depicts these things. A show of these things is depicted in the last of Debussy’s (“deh-boo-see’s”) preludes by a banging left hand coupled with extremely rapid notes in the right hand.

ANSWER: **fireworks** [or **feux d’artifice**]

<Classical Music>

10. Answer the following about antinatalism in British poetry, for 10 points each.

[10m] This author's "Infant Sorrow" is told from the perspective of a "helpless, naked, piping loud" baby who is extremely unhappy to be born. His other poems about children include "The Little Black Boy."

ANSWER: William **Blake**

[10e] The warning "get out as early as you can / and don't have any kids yourself" ends this poet's "This Be the Verse."

ANSWER: Philip **Larkin** [or Philip Arthur **Larkin**]

[10h] An unborn child fears "those who would freeze my humanity" in this poet's "Prayer Before Birth," which was one of several poems in which he implicitly criticized Ireland's neutrality during World War II.

ANSWER: Louis **MacNeice** [or Frederick Louis **MacNeice**]

<British Literature>

11. The name of these structures was first applied to an element in *E. coli*'s *rpoH* gene, whose translation yields the sigma-32 factor. For 10 points each:

[10h] Name these structures that are analogous to riboswitches, but rely on a different stimulus than ligand binding to exert their effects. The *agsA* gene found in *Salmonella enterica* contains one of these structures called FourU.

ANSWER: **RNA thermometers** [or **RNA thermosensors**]

[10m] The hairpins in prokaryotic ("pro-care-ee-AH-tick") RNA thermometers often preclude access to these sites to inhibit base-pairing between them and the 16S subunit. High temperatures melt the hairpin to expose these sites, enabling translation.

ANSWER: **Shine-Dalgarno** sequences [or **Shine-Dalgarno** boxes; accept **ribosome-binding** sites or **RBS**]

[10e] Most RNA thermometers are located in the 5-prime UTRs of mRNAs that encode this set of chaperones. *agsA* codes for one of these proteins, which respond to both heavy metal damage and cold, despite their name.

ANSWER: **heat shock** proteins [or **HSPs**]

<Biology>

12. Since Minister Eichhorn's last name translates as "squirrel," this artist depicted him as a squirrel in the top corner of his most famous drawing. For 10 points each:

[10e] Name this cartoonist who is much better known for co-writing *The Communist Manifesto* with Karl Marx.

ANSWER: Friedrich **Engels**

[10m] Two cartoons by Engels may be the only contemporaneous images of this "dialectical egoist" who wrote *The Ego and Its Own*.

ANSWER: Max **Stirner** [or Johann Kaspar **Schmidt**]

[10h] One of those cartoons depicts "The Free Ones," a club led by this philosopher and his brother Edgar. This man's *Trumpet of the Last Judgment* is written from the perspective of an imagined conservative critic of Hegel.

ANSWER: Bruno **Bauer**

<Philosophy>

Note to moderator: Read the answerline to the first bonus part carefully

13. J Harlen Bretz and Joseph Pardee showed that several of these events 15,000 to 18,000 years ago created the Channeled Scablands. For 10 points each:

[10m] Name these events that, due to climate change, threaten millions of people across the globe, especially those in the eastern Himalayas. Volcanic activity causes a type of these events called a jökulhlaup (“YO-kool-lahp”).

ANSWER: **glacial lake outburst floods** [or **GLOFs**; accept **glacial lake outbursts** or **glacial outburst floods** or **glacial outbursts**; accept **outbursts/outburst** floods from **glaciers/glacier** lakes; accept **glacier** in place of “glacial”; prompt on **floods**, **outbursts**, outburst **floods**, or Missoula **floods**; prompt on descriptions of **floods** caused by either **glaciers** or **glacial** lakes]

[10e] Glacial lake outburst floods can occur when one of these features damming the lake is breached. These features are formed as debris accumulates around a glacier.

ANSWER: **moraines**

[10h] Large-scale instances of these features that are nearly 20 feet high and spaced out by about 100 yards are evidence of the Missoula flood. The first woman to present a paper to the Royal Society was Hertha Ayrton, who presented her paper on these features.

ANSWER: **ripples** [accept giant current **ripples**, giant current **ripple** marks, **ripple** marks, “The Origin and Growth of **Ripple**-marks”]

<Other Science>

14. Tsibi Geva adorned a building originally designed by Zeev Rechter with 1,000 of these objects for a pavilion at the 2015 Venice Biennale (“bee-en-NAH-lay”). For 10 points each:

[10h] Name these objects that architect Michael Reynolds has promoted as cheap structural components for building walls along with packed dirt in his sustainable Earthship buildings.

ANSWER: car **tires** [prompt on **wheels**]

[10e] In addition to being cheap and sturdy, earth-packed tires also act as this type of material, which is rated by R-values. Rockwool and adobe are excellent types of this material, as they minimize indoor-outdoor heat transfer.

ANSWER: thermal **insulation** [or thermal **insulators**]

[10m] Building insulation is a factor in this internationally recognized certification program for green buildings. The Shanghai Tower is the world’s tallest building with this program’s Platinum certification.

ANSWER: **LEED** (“leed”) certification program [or **Leadership in Energy and Environmental Design** certification program]

<Other Fine Arts>

15. Instead of Urdu, Coke Studio Pakistan’s most watched video is “Pasoori,” a song by Ali Sethi and Shae Gill in this language. For 10 points each:

[10e] Name this only tonal Indo-Aryan language. This most widely spoken language in Lahore and Rawalpindi is spoken in the only Sikh-majority state in the world.

ANSWER: **Punjabi** [accept **Panjabi**]

[10m] “Kana Yaari” performer Abdul Wahab Bugti hails from this province’s capital of Quetta, which was rocked by floods in 2022. The port of Gwadar is located in this large, southwestern province.

ANSWER: **Balochistan** [accept **Balochi**]

[10h] “Pyaar Naal” was performed in Saraiki, which is part of this language group along with Hindko. George Grierson coined the name for this grouping of languages by taking the Punjabi word for “West” to distinguish it from Sindhi.

ANSWER: **Lahnda** [or **Lahndi**]

<Geography>

16. The Greek woman Mrs. Brewing resides in this city in a poem that calls it a “woman seated in the arc of the wind,” “a civilization on four legs,” and “a straw woman.” For 10 points each:

[10h] Name this city that is the addressee of a 10-part poem that repeats the phrase “the hour announces the time” and claims “Up to now, Earth has been drawn as a pear / I mean breast.”

ANSWER: **New York** [or **New York** City or **NYC**; accept “A Grave for **New York**”]

[10m] “A Grave for New York” is by this poet, who also wrote a poetry collection that transports the 11th-century poet Mihyar into modern times.

ANSWER: **Adunis** (“ah-doh-NEES”) [or **Adonis**; or Ali Ahmad Said **Esber**]

[10e] In “A Grave for New York,” this country “poured a river of anger,” where Adunis rose on one bank and this country’s author Kahlil Gibran rose on the other.

ANSWER: **Lebanon** [or **Lebanese** Republic or **Lubnān** or al-Jumhūriyya al-**Lubnāniyya**]

<World Literature>

17. This city originally segregated ethnicities into specific areas based on the “Jackson Plan.” For 10 points each:

[10m] Name this city that was founded as a trading-port for British Bencoolen, but was removed from its jurisdiction six years later. This city was first run by its “Resident,” a title whose second and final holder was John Crawfurd.

ANSWER: **Singapore** City [or **Singapura**; accept Resident of **Singapore**]

[10h] With little input from Stamford Raffles, this man arranged the initial treaty that founded Singapore and ran the city for its first four years. John Crawfurd replaced this man, the first Resident of Singapore.

ANSWER: William **Farquhar** (“far-kwar”)

[10e] As Resident of Singapore, William Farquhar ran the city on behalf of this organization, which owned the city. The Sepoy Mutiny represented a rebellion against this organization’s effective rule of India.

ANSWER: British **East India Company** [or **BEIC**]

<Other History>

18. The protagonists of this novel travel to a lake they call “Glimmerglass” to search for the captive Indian woman Hist. For 10 points each:

[10h] Name this 1841 novel that contrasts the naive, pious Christianity of Hetty Hutter with her resourceful and intelligent sister Judith.

ANSWER: *The **Deerslayer*** [or *The **Deerslayer***, or *The First War-Path*]

[10e] Mark Twain complained that *The Deerslayer* was replete with “crass stupidities” like conveniently broken twigs in an essay attacking the “literary offenses” of this author’s *Leatherstocking Tales*.

ANSWER: James Fenimore **Cooper** [accept “Fenimore **Cooper**’s Literary Offenses”]

[10m] In *The Deerslayer*, Hurry Harry and Thomas Hutter are captured by this Indian people. Throughout the *Leatherstocking Tales*, Cooper frequently contrasts “good Indians” like the Delaware with this group of “bad Indians,” who are led by Magua in *The Last of the Mohicans*.

ANSWER: **Iroquois** [or **Haudenosaunee**; accept **Hurons** or **Wendat** or **Wyandot**; accept **Mingoes**] (The Iroquois and Hurons are distinct, but Cooper uses their names for the same people in *The Deerslayer*.)

<American Literature>

19. Helmuth von Moltke the Elder wrote a firsthand account of this war that Archibald Forbes translated. For 10 points each:

[10e] Name this war in which von Moltke won the Battle of Sedan. This war was partly sparked by the editing of the Ems Dispatch.

ANSWER: **Franco-Prussian** War [or **Franco-German** War, Guerre de **1870**, Guerre **franco-allemande** de 1870, or **Deutsch-Französischer** Krieg]

[10m] France's loss to Prussia sparked this movement aimed at regaining land lost during the war, such as Alsace ("ahl-sahss") and Lorraine. Georges Boulanger ("zhorz hoo-lawn-zhay") was nicknamed this movement's "Général ("zheh-neh-rah")" for his inveterate support of it.

ANSWER: **revanchisme** [or **revanchism**; accept Général **Revanche**; prompt on **revenge**]

[10h] This historian downplayed the impact of the Franco-Prussian War and *revanchisme* on French society in his book *Peasants into Frenchmen*, which argues that rural inhabitants were largely ambivalent to the war. This historian gave the public television lecture series *The Western Tradition*.

ANSWER: Eugen **Weber** [or Eugen Joseph **Weber**]

<European History>

20. Answer the following about foreboding fish discussed in Jorge Luis Borges's ("HOR-hay loo-eece BOR-hess's") *The Book of Imaginary Beings*, for 10 points each.

[10e] In his discussion of the island-sized fish Fastitocalon, Borges quotes from an Anglo-Saxon one of these medieval texts. These texts catalog and depict legendary creatures and assign them moral significance.

ANSWER: **bestiary** [or **bestiaries**]

[10h] Borges asserts that Arab storytellers created this monstrous fish by distorting Abrahamic stories about a giant elephant or hippo. This fish supports a bull who supports an angel who holds up the world.

ANSWER: **Bahamūt** [or **Bahamoot** or **Balhūt** or **Lufiyā**; prompt on **Behemoth** by asking "what is the name of the Arabic creature?"]

[10m] Borges's section on "the fauna of" these things discusses a Cantonese superstition involving unexpectedly seeing a fish in one of them. They're not liquid, but Nostradamus used one of these things in his divination method.

ANSWER: magic **mirrors** [accept looking **glass** or a piece of **glass**; accept magic **mirror**, scrying **mirror**, black **mirror**, or dark **mirror**; accept **mirror** world; accept **scrying stone**; accept **jingzi**; prompt on **reflective surface** or **reflection**; prompt on a piece of **obsidian**]

<Mythology>