



ACADEMIC
COMPETITION
FEDERATION

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FINALS 1

Packet by

The Editors

Editors

**Auroni Gupta, Jordan Brownstein, Matt Bollinger,
JinAh Kim, Alex Damisch, Ike Jose, Andrew Hart, Andrew Wang, Athena Kern,
Aaron Rosenberg, Jason Cheng**

Writers

**Mike Bentley, Will Nediger, Jason Zhou, Dylan Minarik, Rob Carson, Will Alston,
Olivia Lamberti, Billy Busse, Zach Foster, Eric Mukherjee, Saul Hankin**

Tossups

1. This non-disease phenomenon is the theme of an annual short-film festival held since 2017 as part of a “project” established by the Foundation for Art & Healing. A widely used twenty-item scale for this phenomenon is named for UCLA. This phenomenon arises from six unmet functions as theorized by sociologist Robert S. Weiss, who built on a framework developed by John Bowlby. An alarming 2015 meta-analysis by BYU researchers, which found that this phenomenon increased the likelihood of mortality more than factors like smoking, obesity, poor nutrition, and lack of exercise, was cited in a December 2016 *New York Times* article on “how” this phenomenon “is killing us” and was instrumental to it being seen as a public health crisis. Robert Kraut coined the term “Internet paradox” in a study showing that this phenomenon increased as participants spent more time online, despite the added opportunities for interaction. For 10 points, name this state of being or emotion prevalent among elderly or single adults.

ANSWER: social **isolation** [or emotional **isolation**; or **loneliness**]

<Other Academic>

2. This piece’s composer borrowed its third movement’s first theme from an earlier tune he wrote labelled “Hallelujah!” In his notebooks, the composer of this piece gave its four movements the alternate titles of “Longing,” “Sorrow,” “Humor,” and “Aspiration.” The scherzo movement of this piece features a tenor banjo playing offbeat chords nearly throughout and the horns quoting two measures of George Gershwin’s “I Got Rhythm,” although Gershwin may have picked it up from studying orchestration with this symphony’s composer. This symphony quotes from “Twell de Night is Pas” as the first of the four epigraphs it draws from the poetry of Paul Laurence Dunbar. A variation on the song “Saint Louis Blues” opens, for 10 points, what symphony by William Grant Still, the first written by a black American to be performed by a major orchestra?

ANSWER: William Grant **Still**’s symphony no. **1** in A-flat [or “**Afro-American**” Symphony; accept **1** or **first** after “Still”]

<Classical Music>

3. The first air-stable solid salts of this anion were produced through doping mayenite crystals. The Scott Warren group successfully synthesized and exfoliated a 2-D salt containing this anion sandwiched between layers of dicalcium nitride. Salts of this anion are characterized as having sheet, channel, or cavity structures. Salts containing this anion are always paramagnetic and often behave like Mott insulators. Salts containing this anion are commonly isolated with the cation complexed to a crown ether or cryptand. This anion is commonly present when dissolving alkali metals in HMPA. This anion is responsible for attacking a benzene ring in the first step of the Birch reduction. The solvation of this anion is responsible for the deep-blue color formed when sodium is dissolved in ammonia. For 10 points, name this smallest possible anion, the conjugate base of the hydrogen cation.

ANSWER: solvated **electrons** [accept **electrides**; accept hydrated **electrons**]

<Chemistry>

4. The sight of this substance forces a character to recall the smell of his father after shaving and the sensation of his mother spoon-feeding him cough syrup. While searching for an anatomical illustration of a pregnant woman in *The Encyclopedia of Life*, a character stumbles upon an entry containing a diagram of this substance, which he copies and labels with the axes of “Reason,” “Memory,” and “Imagination.” A narrator discovers notebooks describing the organizational plan for a poetry collection titled for this substance while rifling through the apartment of a murdered writer in Frankfurt. This substance muffles the sounds of gunshots on a night when soldiers gradually gather onstage during a theater performance led by Sunay Zaim and then open fire at the audience. An anti-Islamist coup is carried out during the three days that this substance cuts off the town of Kars from the rest of the world. For 10 points, name this substance that serves as the poetic muse for Ka in a novel titled for it by Orhan Pamuk.

ANSWER: **snow** [or **snowflakes**]

<World Literature>

5. *Description Acceptable.* Susan Shirk's state-oriented analysis of the "political logic" of this program diverges from Barry Naughton's interpretation of it as a partly unplanned process of "growing out." A trip on the fortieth anniversary of the start of this project featured the opening of the longest sea crossing in the world. Opponents of this project launched a quickly aborted countervailing drive against "spiritual pollution." A leader claimed that pursuing this project required "crossing the river by feeling the stones." An element of this program called "eating in separate kitchens" contracted tax revenue to local governments. This set of policies included promotion of Township and Village Enterprises and a contracting policy called the Household Responsibility System. The promulgator of these policies sought to preserve them during a "Southern Tour" of his country and supposedly proclaimed, "To get rich is glorious." For 10 points, name this set of pro-market policies that started to be enacted by China's Paramount Leader in 1978.

ANSWER: Reform and Opening Up [or Gai Ge Kai Fang; or Deng Xiaoping's economic reforms; or Deng's market liberalization; or Deng's land reforms; or Deng's agricultural reforms; or Deng's fiscal reforms; prompt on Chinese economic/agricultural/etc. reforms with "under which leader;" accept "market" for "economic" before mention] <World History>

6. T cells from mice with this disease were found to not be effective in other mouse strains in Rolf Zinkernagel and Peter Doherty's Nobel-winning experiments demonstrating MHC restriction. A long-acting "oily" preparation of chloramphenicol is used to treat this disease in epidemic areas, such as a namesake "belt" in sub-Saharan Africa. This disease is caused by a maltose-fermenting bacteria that produces excess outer membrane fragments and can grow on both blood and chocolate agar. An india ink wet mount is prepared to detect capsular antigens from the *gattii* and *neoformans* species to diagnose a form of this disease, which, like gonorrhea, may also be caused by a bacteria in genus *Neisseria*. An inability to non-painfully flex the knee past ninety degrees is a classic sign of this infection, which is commonly diagnosed by taking a lumbar puncture to collect cerebrospinal fluid. A stiff neck is characteristic of, for 10 points, what inflammation of the membranes covering the spinal cord and brain?

ANSWER: meningitis [or meningococcal meningitis; or aseptic meningitis; or meningococcal disease; or meningoencephalitis; or cryptococcal meningitis; or cryptococcosis; or cryptococcal disease; or lymphocytic choriomeningitis] <Biology>

7. In a song from one of these two present-day countries, a man from the other offers a meal where "the first course . . . is fragmentation grenades and the second is shrapnel shells." After men from one of these countries were conscripted for a war in the other, the union Workers' Solidarity initiated a general strike, during which Young Barbarians propped up disinterred nuns against public buildings. When the longtime ruler of one of these countries fell into a coma, the government of the other organized 350,000 citizens for a peaceful demonstration to claim territory containing the Bou Craa phosphate mines. Guerrillas from one of these countries killed over 8,000 soldiers from the other in the Disaster of Annual. One of these countries dropped mustard gas bombs from airplanes to suppress Abd el-Krim's rebellion in the other during the Rif War. For 10 points, name both this European country led by Francisco Franco, and the North African country it subdued.

ANSWER: the Kingdom of Spain [or Reino de España; or Espainiako Erresuma; or Reiaume d'Espanha] and the Kingdom of Morocco [or al-Mamlakah al-Maghribiyah; or Tageldit n Lmayrib; or Royaume du Maroc] <European History>

8. During a conversation in this film, the camera speeds up as it repeatedly pans horizontally past a white lamp to close-ups of the sides of the faces of a man and woman. This film displays the written words "A parting kiss . . . goodbye" before the camera cuts to a wrecked car containing the bodies of its female lead and her lover. The middle third of this film is composed of a single thirty-minute-long scene set at the apartment of a couple that follows the woman as she puts on a black wig, calls her husband an imbecile, is slapped by him, reconciles with him in the bath, and then fights with him twice more. This film ends in Capri, where a film crew shoots Fritz Lang's adaptation of *The Odyssey* as the screenwriter Paul Javal sees his wife, Camille, kissing an American producer played by Jack Palance. For 10 points, name this Jean-Luc Godard film that was adapted from a novel by Alberto Moravia and titled for an emotion that Brigitte Bardot's character feels toward her husband.

ANSWER: Contempt [or *Le Mépris*] <Other Fine Arts>

9. A member of this family is told about the custom of making a toothache cure from the bark of a wych elm embedded with pigs' teeth. A member of this family is chastised for having a "sentimental attitude over the poor" by a man whom she chews out for passing on a false warning about the Porphyryon insurance company going under. A member of this family abhors "the outer life of 'telegrams and anger'" and imagines the "building of the rainbow bridge" that would "connect the prose in us with the passion." After daydreaming about heroes, shipwrecks, and goblins while attending a performance of Beethoven's Fifth with her brother, Tibby, a member of this family fatefully takes home the umbrella of a man who later dies of a heart attack when he is crushed by this family's bookcase; she later has the child of that man, the clerk Leonard Bast. For 10 points, Helen and Margaret belong to what half-German family who contrast with the Wilcoxes in E. M. Forster's *Howards End*?

ANSWER: the **Schlegels**

<British Literature>

10. According to Pausanias, one of these plants in Troezen was nicknamed the Twisted Rhachos because the reins of Hippolytus's chariot got tangled up in it. The death of Euphorbus in Book 17 of the *Iliad* is described by analogy to one of these plants being uprooted by a sudden gale. Emily Wilson's translation of the *Odyssey* emphasizes that the stake that Odysseus drove into Polyphemus's eye was crafted from this plant, symbolizing a divine presence. To entertain the newborn Zeus, the Dactyl Heracles ran a footrace against his four brothers and gave the winner a *kotinos* derived from this plant. The eastern wing of the Erechtheum housed an effigy made from this tree, in honor of one of them that sprouted when a spear struck a ground; that one was deemed by Cecrops to be more valuable than a salt spring summoned by Poseidon. For 10 points, name this tree, Athena's gift to Athens.

ANSWER: **olive** tree [or **olive** branches; or *Olea europaea*; prompt on tree before "this tree" is read]

<Mythology>

11. When asked what he thought of critical analysis of this poem, the author responded that parables are a "childlike" form of literature and asked if "worldly," "sophisticated" people ever understand parables. The "serial ordeal / of being watched from forty cellar holes" in this poem is juxtaposed with the "upstart inexperience" of excited trees. This poem contains images of a "house that is no more a house" and an object "under a spell so the wrong ones can't find it." It says to "weep for what little things could make them glad" after describing a dilapidated former playhouse that is "no playhouse but a house in earnest" and commanding, "Pull in your ladder road behind you / and put a sign up CLOSED to all but me." This poem opens with the line "Back out of all this now too much for us." For 10 points, name this poem by Robert Frost that instructs the reader to "drink and be whole again beyond confusion."

ANSWER: "**Directive**"

<American Literature>

12. An essay by Rosemarie Mulcahy about this patron features the earliest detailed study of an artist nicknamed "the mute," who painted *Abraham and the Three Angels* for this patron's residence. This patron complained about receiving a creased painting in which a nude female with her back to the viewer embraces her lover as he grasps the leashes of three dogs. Though this patron initially rejected an artist's *Martyrdom of St. Maurice*, it now hangs in the Courtyard of the Evangelists in a complex built for him. Seven paintings called "poesie," which adapt such scenes from Ovid's *Metamorphoses* as the rape of Europa, were painted by Titian for this king, Titian's most significant late-career patron. This king confiscated several major paintings by Hieronymus Bosch for inclusion in a gridiron-shaped complex that Juan Bautista de Toledo designed to serve as a mausoleum for this man's family. For 10 points, name this Spanish king who commissioned El Escorial.

ANSWER: **Philip II** of Spain [or **Philip I of Portugal**; or **Philip the Prudent**; or **Felipe** in place of Philip; or **Felipe el Prudente**; prompt on Philip; do not accept or prompt on "Philip I" alone]

<Painting and Sculpture>

13. In this technique, reflections from guides are divided into the “garland” and “zig-zag” types. Léon van Hove developed a general expression for intensity in this process in terms of time-dependent pair correlation functions in the context of ferromagnetic crystals. This technique provided the first observation of antiferromagnetic ordering in molybdenum oxide. The High Flux Isotope Reactor is one of two sources used for this technique at Oak Ridge National Laboratory in Tennessee, with the other being a spallation source. Ernest Wollan and Clifford Shull pioneered this technique, which is popular in condensed matter research because the probing particles are unaffected by the electrostatic potentials of atoms and can thus penetrate deeply. For 10 points, name this experimental technique that fires a beam of the namesake uncharged particles at the material under test.

ANSWER: **neutron scattering** [accept **neutron diffraction**; prompt on partial answers]

<Physics>

14. In a 2016 paper that studied this kind of program by using a difference-in-differences approach instead of the typical regression discontinuity design, the Dartmouth economist Elizabeth Cascio used eligibility rules as an instrumental variable to conclude that this kind of program was effective only when universal and not targeted. Rodrigo Pinto and Peter Savelyev were coauthors of a 2013 paper that used study data taken from Ypsilanti, Michigan, to argue that these programs benefit their participants by enhancing motivation and reducing antisocial behavior; the lead author of that paper, the Nobel Prize-winning economist James Heckman, has criticized a Vanderbilt study showing that a program of this kind in Tennessee did not produce meaningful gains. The Perry project in Michigan, a federal program founded by Jule Sugarman, and North Carolina’s Abecedarian Project were early instances of, for 10 points, what kind of educational program exemplified by Head Start?

ANSWER: **preschool** [or **pre-K** education; or **pre-kindergarten** education; or **early childhood education**; accept **early childhood** after “educational”; prompt on “**education**” or “**school**” or similar answers before “educational”; accept answers indicating **universal preschool** or **universal pre-K** or similar]

<Social Science>

15. Rebecca Gates-Coon wrote a 2015 history of a circle of women who were socially close to this ruler and were known as the “five princesses.” He enforced many of his policies with the help of a centralized police force that he placed under the control of Count Pergen. Johann Baptist Bergmüller made a popular engraving of this emperor personally plowing a field near Slavikovice. This ruler’s annulment of the Joyous Entry of 1356 provoked a rebellion whose supporters split into liberal Vonckists and Catholic Statists. This man’s Edict on Idle Institutions dissolved hundreds of monasteries not involved in economically productive labor. A uniform 12.2% land tax for both lords and peasants was one of several reforms this man introduced that had to be rolled back by his successor, Leopold II. For 10 points, name this enlightened Holy Roman emperor who ruled Austria alone after the death of his mother, Maria Theresa.

ANSWER: **Joseph II** [prompt on **Joseph**]

<European History>

16. A pseudonym playing on this real-life person’s name was used to publish “Notes” on one of his novels, which opens with a misquotation of the “All happy families” line from “*Anna Arkadieivitch Karenina*.” A “dreadful inventor” based on this person claims he first met the protagonist when visiting his father, an eye doctor, after getting dust in his eye. This user of the pen name “Sirin” was the basis for a man who prompts Liza to attempt suicide by insulting her Akhmatova-esque poetry. His self-referential characters include a “hawklike” character who writes the biography *My Cue* and the narrator of a book set mostly at Waindell College. The name of a coauthor of *The Hunted Enchanter*, Vivian Darkbloom, is an anagram of this author’s name. For 10 points, name this author of the novels *Ada*, or *Ardor*, *Pnin*, and *Lolita*.

ANSWER: Vladimir (Vladimirovich) **Nabokov** [prompt on Vivian **Darkbloom** or Vladimir **Vladimirovich** or on answers like **the author** or **the narrator**]

<European Literature>

17. Proverbs 19 metaphorically describes this condition as an imaginary “high wall” that is perceived to reinforce a “strong city.” The sons of Korah predict that Death will shepherd some people with this condition “straight to the grave,” where “their form shall waste away,” in Psalm 49. John Wesley’s fiftieth sermon concerning the “use” of this status expounds Luke 16:9, which advises leveraging this condition to “make friends for yourself.” People *lacking* this attribute should benefit from a “preferential option,” according to one of the core tenets of liberation theology. Both Matthew and Luke declare that one cannot serve two masters, so one cannot serve both God and Mammon, an oft-untranslated term of Aramaic origin referring to this thing. Physical well-being and this condition are the rewards for faith in God, according to prosperity theology. For 10 points, name this thing whose possessors, according to Jesus, have a harder time entering heaven than a camel does going through the eye of a needle.

ANSWER: **wealth** [or **riches**; or **money**; or other synonyms for those three; accept **Mammon** until mention; do not accept or prompt on **greed**]

<Religion>

18. A committee named for its *opposition* to this movement built a papier-mâché stegosaurus with the slogan “All Armor Plate—No Brains” to display at protests. Unrelated to his works about Sacco and Vanzetti, Ben Shahn painted sixteen gouaches [gwahshes], including *Apotheosis*, devoted to a man convicted for actions taken during an event named for this movement. This movement, whose leaders produced the Plattsburg Idea, gave rise to the ROTC program. Leaders of this movement, who included former Rough Riders Theodore Roosevelt and Leonard Wood, organized a San Francisco rally at which ten people were killed by a bombing blamed on Thomas Mooney. Agitation from this movement led to the passage of the National Defense Act of 1916. For 10 points, name this movement to make the United States ready to fight in World War I.

ANSWER: **preparedness** movement [accept **Plattsburg** movement before mentioned; prompt on descriptive answers like **pushing the United States to enter World War I**]

<American History>

19. Geological charts of these substances typically have their “zig-zags” removed via normalization to account for the Oddo–Harkins effect and are used to analyze igneous melts’ composition. The fact that one of these substances has a tendency to be an incompatible species in its divalent form but is preferential in its trivalent form is an “anomaly” that must be accounted for in theories of a certain location’s formation. These materials, phosphorus, and potassium give their name to a substance whose existence was theorized to account for the moon’s abundance of anorthite. When Victor Goldschmidt studied this class of elements, he found that their distribution was partly explained by the fact that shielding resulted in their ionic radii being smaller than predicted. The lanthanides compose the bulk of, for 10 points, what class of periodic table elements named for their uncommonness?

ANSWER: **rare earth metals** [or **rare earth elements**; accept **lanthanides** until the word “lanthanides” is read; prompt on **REEs**]

<Other Science>

20. An essay by this thinker mocks theologians who respond to the problem of evil with “this is a mystery which may be revealed to us later” and uses “parallel” paradoxes of omnipotence and sovereignty to argue the traditional conception of God is logically impossible. Another essay by this thinker claims that, while “the belief in the divine legislator has faded out,” belief in something like a divine law persists, in analyzing the influence Christianity has on modern European moral philosophy. This author of “Evil and Omnipotence” declared that “there are no objective values” at the start of an essay that uses Plato’s Form of the Good to argue that if moral facts were objective, knowing them would require a faculty “of quite a different order” from any of our other abilities. For 10 points, name this Australian philosopher whose “The Subjectivity of Values” argues for error theory by using the “argument from queerness.”

ANSWER: J. L. **Mackie** [or John Leslie **Mackie**]

<Philosophy>

Bonuses

1. This phenomenon is the subject of *Black Sun* by Julia Kristeva. For 10 points each:

[10] Name this phenomenon that is discussed along with its “kinds, causes, symptomes, prognostickes, and . . . cures” in a 1621 book credited to Democritus Junior.

ANSWER: **melancholy** [or **melancholia**; accept **depression**] (that book is *The Anatomy of Melancholy* by Robert Burton)

[10] Description acceptable. Julia Kristeva’s *Black Sun* extensively analyzes how the artist of this painting refuses to “cast an embellishing gaze” on its subject and quotes a character from a Russian novel who exclaims, “Why, some people may lose their faith by looking at that picture,” upon seeing it.

ANSWER: *The **Body of the Dead Christ in the Tomb*** [accept anything indicating a painting of the **dead Jesus** Christ or the **entombed Jesus** by Hans **Holbein**; prompt on descriptive answers that don’t mention **Holbein**] (the Russian novel is *The Idiot*)

[10] This author imagined the “clammy fingers” of the angel in Dürer’s *Melencolia I* in his memoir *From the Diary of a Snail*. This German Nobelist revealed his membership in the Waffen-SS in the memoir *Peeling the Onion*.

ANSWER: Günter (Wilhelm) **Grass**

<European Literature>

2. A textbook by this computer scientist describes how to use “wiring by abutment” to connect transistors efficiently on an integrated circuit. For 10 points each:

[10] Name this computer scientist who developed generalized dynamic instruction handling while working at IBM. She was fired in 1968 after IBM learned about her plans to transition from male to female.

ANSWER: Lynn (Ann) **Conway**

[10] The aforementioned textbook by Lynn Conway pioneered this technique known by a four-letter abbreviation, which is currently used to make integrated circuits by fusing hundreds of thousands of transistors.

ANSWER: **very large-scale integration** [or **VLSI**]

[10] Carver Mead, who cowrote the book with Lynn Conway that brought about the VLSI revolution, is also credited with proposing this hypothesis, which states that the number of transistors on the average integrated circuit doubles every eighteen months.

ANSWER: **Moore**'s law

<Other Science>

3. Leading members of this group included Jose Yves Limantour, who was credited with balancing the Mexican budget, and Ramon Corral, who became vice president of Mexico in 1904. For 10 points each:

[10] Identify these Positivist technocrats who influenced Mexican economic policy in the late nineteenth and early twentieth centuries. Their liberal program was blamed for foreign investors’ domination of the economy.

ANSWER: the **cientificos** [or the “**scientific ones**”]

[10] The *cientificos* rose to prominence during the thirty-one-year rule of this Mexican president, who was overthrown at the start of the Mexican Revolution.

ANSWER: (Jose de la Cruz) Porfirio **Díaz** (Mori)

[10] In the late years of the Díaz government, the army suppressed the 1906 Cananea strike, whose organizers were influenced by these anarchist brothers. They edited the newspaper *Regeneration* and led the Mexican Liberal Party from exile in the United States.

ANSWER: the Flores **Magón** brothers [or Ricardo, Enrique, and Jesus Flores **Magón**]

<World History>

4. This composer and court musician pioneered the French overture, in which two sections are each repeated, with one homophonic section and one fugal section. For 10 points each:

[10] Name this composer of a *Te Deum* for double chorus and orchestra.

ANSWER: Jean-Baptiste **Lully**

[10] Lully was the court composer for this king. Lully's opera *Atys* was known as "the king's opera" for seemingly depicting this "sun" king's real-life love triangle with the queen and Madame de Maintenon.

ANSWER: **Louis XIV** [prompt on **Louis**]

[10] Lully's *Atys* and *Alceste* developed this style of French opera. The stiff and dotted rhythms in *Atys*'s overture set the standard for stately sounding music in this operatic style of work, which did not always have sad endings.

ANSWER: **tragédie lyrique** [accept **tragédie en musique** or **lyric tragedy** or **musical tragedy**, prompt on "tragedy"]
<Classical Music>

5. The term Svādhyāya denotes the method of learning, memorization, and practice that enabled this broad class of texts to be orally transmitted. For 10 points each:

[10] Name this category of texts whose Sanskrit name means "that which is heard" and that form the core canon of Hinduism. They are held to be more authoritative than their written counterparts, the *śrutis*.

ANSWER: **śruti** [or **shruti**; or **shruthi**]

[10] The chronologically latest of the *śruti* texts are the 108 canonical examples of these philosophical commentaries on the Vedas. They contain four "Great Sayings," such as "*Tat tvam asi*," or "That thou art."

ANSWER: **Upanishads**

[10] "That which is heard" is a clever translation of *śruti*, since the term also denotes the smallest pitch interval detectable by the human ear. As such, there are twenty-two *śruti* in an octave according to the Chandogya Upanishad, which is a commentary on this Veda of chants and melodies.

ANSWER: **Sama**veda [or **Sam**veda]

<Religion>

6. In an experiment that studied this phenomenon, participants were given a thematic apperception test and were told that they could call the test administrator with questions. For 10 points each:

[10] Give this three-word term for the psychological effect that was studied by Arthur Aron and Donald Dutton in an experiment in which male participants who walked across a scary suspension bridge were more likely to call a female administrator.

ANSWER: **misattribution of arousal** [accept answers mentioning forms of the word **misattribute** and **arousal**]

[10] The "misattribution of arousal" experiment tested Stanley Schachter and Jerome Singer's "two-factor theory" of these mental states, which are also the subject of the James-Lange and Cannon-Bard theories.

ANSWER: **emotions** [or **emotional** responses; accept answers mentioning forms of the word **emotion**]

[10] A 2005 study by Talia Ben-Zeev et al. concluded that misattributing the arousal caused by this phenomenon could help mitigate its effects. In 2008, Toni Schmader et al. proposed that this phenomenon works by heightening stress response, which depletes working memory.

ANSWER: **stereotype threat** [do not accept or prompt on "stereotype boost"]

<Social Science>

7. During the trial following this man's murder, unfavorable remarks from the president led protestors to start wearing badges reading, "I am an undesirable citizen." For 10 points each:

[10] Identify this governor of Idaho who was assassinated in 1905 by Harry Orchard.

ANSWER: Frank R. **Steunenberg**

[10] Orchard claimed that Big Bill Haywood had ordered him to kill Steunenberg. This attorney, who also defended John T. Scopes in the Monkey Trial, called over 100 witnesses in Haywood's defense.

ANSWER: Clarence (Seward) **Darrow**

[10] This "Spearless Leader" served as prosecutor in the Haywood case, in between first being elected a senator and taking his seat in Washington.

ANSWER: William (Edgar) **Borah** <American History>

8. It is easier to maintain this condition when the lower energy level has a much shorter lifetime than the upper level. For 10 points each:

[10] Name this condition required for laser operation, in which there are more species in the higher energy state than the lower energy state.

ANSWER: **population inversion**

[10] In this technique, the laser gain medium is pumped into population inversion while keeping the cavity losses high, and then the losses are reduced to produce a brief, intense pulse.

ANSWER: **Q-switching** [or **Q-spoiling**]

[10] The shape of the TEM₀₀ [T-E-M-"zero"- "zero"] mode in a laser cavity is described by this function, often symbolized by a lowercase q . It is equal to the distance from the beam waist plus i times the Rayleigh range.

ANSWER: complex **beam parameter** [or Gaussian **beam parameter**]

<Physics>

9. The design of this dancer's most famous ballet was originally set in the Civil War. For 10 points each:

[10] Name this dancer. Shortly before it premiered in 1944 at the Library of Congress, a work that was simply titled *Ballet for [this dancer]* was retitled for a phrase from a Hart Crane poem, which she suggested to composer Aaron Copland.

ANSWER: Martha **Graham** [The work was *Appalachian Spring*.]

[10] François Delsarte's principal of tension and relaxation inspired Graham's technique of breathing and impulse control, which is considered the first system of modern dance technique and which is defined for two actions. Name both.

ANSWER: **contraction** and **release** [accept in either order]

[10] This was Martha Graham's first famous solo dance. This dance, which uses a bench as a prop, is set to piano music by Zoltán Kodály [KOH-dai] and is suggestive of Demeter grieving the earth's barrenness.

ANSWER: **Lamentation**

<Other Fine Arts>

10. In the first act of a play by this author, Professor Claude Night criticizes the dissertation topic of the protagonist, who angrily throws her manuscript in a wastebasket that she is then sucked into. For 10 points each:

[10] Name this contemporary Canadian lesbian playwright of *Goodnight Desdemona*, who won the Commonwealth Writers Prize for her debut novel, *Fall on Your Knees*.

ANSWER: Ann-Marie **MacDonald**

[10] The protagonist of *Goodnight Desdemona*, Constance, seeks one of these characters who she believed was removed from *Othello* and *Romeo and Juliet*, as both tragedies feature plot contrivances more typical of comedies. One of these characters adds a note of comic wit to *King Lear* with his constant mockery.

ANSWER: a **fool**

[10] For their violent tonal shifts between comedy and dark psychological drama, *All's Well That Ends Well*, *Troilus and Cressida*, and *Measure for Measure* are collectively described by critics with this term.

ANSWER: **problem plays**

<World Literature>

11. In 2004, this country's Court of Cassation effectively shut its largest party down by upholding a ruling that the party had violated an 1981 anti-racism law. For 10 points each:

[10] Name this country where the floundering of the separatist N-VA party, even in the wake of a 2016 suicide bombing that killed thirty-two, has been cited as an exception to the rise of the far-right in Europe.

ANSWER: Kingdom of **Belgium** [or Koninkrijk **België**; or Royaume de **Belgique**; or Königreich **Belgien**]

[10] Both the N-VA party and its more ethnonationalist counterpart, the VB party, seek independence for this Dutch-speaking northern part of Belgium.

ANSWER: **Flanders** [or **Flandre**; or **Vlaanderen**]

[10] The leader of the N-VA, Bart de Wever, once dressed in a panda suit to protest the government of this former prime minister. After electing this second-ever openly gay head of state in world history in 2010, Belgium underwent a staggering 541 days without a government before he was sworn in.

ANSWER: Elio **Di Rupo**

<Current Events>

12. Skyllis was a Greek man particularly adept at this skill, and he supposedly used his abilities to help defeat the invading Persians under Xerxes. For 10 points each:

[10] Identify this skill much admired by the Greeks, who proverbially referred to an uneducated man as someone who could neither read nor do this activity. Scipio Africanus liked to wear an armor breastplate when showing off his proficiency at this activity to his troops.

ANSWER: **swimming** [or **diving**; or **swimming** underwater]

[10] This organization erected a statue honoring Skyllis. Pericles controversially moved the treasury of this defensive league from its namesake island to Athens.

ANSWER: **Delian League**

[10] This Roman woman, honored with an equestrian statue on the Via Sacra, used her "manly" swimming skills to cross the Tiber after escaping from the court of Lars Porsena. She'd later negotiate for the release of boy hostages from Porsena.

ANSWER: **Cloelia**

<European History>

13. In an essay titled for "Sentiments before" a painting with this type of setting, Heinrich von Kleist wrote that because the painting "has no foreground except the frame," when viewing it, it is "as if one's eyelids had been cut away." For 10 points each:

[10] Identify this setting where a barely seen monk stands in that painting. Two children play with a miniature Swedish flag as their family gathers at this type of place in the 1835 painting *The Stages of Life*.

ANSWER: the **seashore** [or a **harbor**; or the **Baltic** Sea; or the **coast**; or the **shore**; or the **beach**]

[10] Those seascapes were painted by this German Romantic artist, whose best-known painting shows a more figurative "sea of fog."

ANSWER: Caspar David **Friedrich**

[10] An anecdote about how visitors to Friedrich's studio mistook his mountain scenes for seascapes appears in this Harvard art historian's study *Caspar David Friedrich and the Subject of Landscape*, which is followed by *The Moment of Self-Portraiture in German Renaissance Art* in his "trilogy" on German art.

ANSWER: Joseph (Leo) **Koerner**

<Painting and Sculpture>

14. Preclinical studies have shown that lonafarnib, an inhibitor of this process, may improve outcomes for patients with Hutchinson–Gilford progeria. For 10 points each:

[10] Name this posttranslational modification that attaches a lipid anchor to the C-terminal cysteine of a cytosolic protein.

ANSWER: prenylation [or isoprenylation; or farnesylation; or geranylgeranylation]

[10] Prenyl groups anchor the cytoplasmic faces of vesicles or the plasma membrane to members of this superfamily of small GTPases. The subfamily of this name includes the three oncogenes most frequently mutated in human tumors.

ANSWER: Ras [or HRas; or KRas; or NRas]

[10] A prenyl anchor also tethers Lamin B to the inner membrane of this organelle, through which proteins pass with the help of the Ras family member Ran at several “pore complexes.”

ANSWER: nucleus [or nuclei; or nucleuses]

<Biology>

15. A poem written on the death of Elizabeth Drury is titled for the “anatomy of” this thing. For 10 points each:

[10] Name this sort of thing, one of which “must be burnt; alas the fire / Of lust and envy have burnt it heretofore,” in a poem that compares the speaker to one of these things that “black sin hath betray'd to endless night.”

ANSWER: worlds

[10] John Donne, the author of those poems, also took up the idea of the human body as a microcosm in this poem, which states, “Let us possess one world, each hath one, and is one.” Its third and last stanza compares the speaker and his lover to the two hemispheres of a cordiform map.

ANSWER: “The Good Morrow”

[10] Donne compares his lover’s tears to globes marked with “Europe, Afric, and . . . Asia” in one of these poems “of Weeping.” Another Donne poem with this title is subtitled “Forbidding Mourning.”

ANSWER: valedictions

<British Literature>

16. Richard Willstätter determined the structure of this compound and synthesized it from tropinone. For 10 points each:

[10] Name this tropane alkaloid. Due to being hydrolyzed by acid, its stimulant properties don’t kick in unless ingested with an alkali, such as lime or baking soda.

ANSWER: cocaine

[10] The acetone-dicarboxylate intermediate of this man’s 1917 total synthesis of tropinone has been considered a possible intermediate in the biosynthesis of cocaine. This inventor of the benzene symbol was also was the first to represent electron motion with curved arrows in organic mechanisms.

ANSWER: Robert Robinson

[10] The double Mannich reaction in Robinson’s one-pot synthesis of tropinone was also an early example of this kind of process, in which multiple reactions occur consecutively without the addition of reagents in between. These procedures are desirable in green chemistry due to their high atom economy.

ANSWER: cascade reaction [accept domino reaction; accept tandem reaction]

<Chemistry>

17. Elaine Showalter’s book *Sister’s Choice* takes its title from one of these objects that Celie gives to Sofie after they make one together. For 10 points each:

[10] Name this sort of non-clothing object. Wangero is horrified at the idea of her sister Maggie being “backward enough” to wear out some of these objects belonging to Mama in the story “Everyday Use.”

ANSWER: quilts

[10] The author of “Everyday Use,” Alice Walker, wrote about Sofia and Celie using the Sister’s Choice pattern for a quilt in this novel.

ANSWER: *The Color Purple*

[10] Jenny pleads with her aunt Opal to see their family’s secret burial quilt in this author’s story “Love Life.” Many of her stories, such as the anthology staple “Shiloh,” evoke life in rural Kentucky.

ANSWER: Bobbie Ann Mason

<American Literature>

18. Answer the following about fabricated memoirs, for 10 points each.

[10] The therapist Beatrice Sparks, who specialized in “discovering” diaries by troubled teenagers, is the likely author of this horrific young adult novel, which is narrated by a fifteen-year-old LSD addict who is raped by her boyfriend when she first tries heroin. Its title refers to Jefferson Airplane’s song “White Rabbit.”

ANSWER: Go Ask Alice

[10] Richard Penn Smith fabricated a journal supposedly taken by Mexican general Manuel Castrillón from the corpse of this frontiersman, who died along with Jim Bowie [BOO-ee] at the Battle of the Alamo.

ANSWER: Davy Crockett [or David Crockett]

[10] In a 2008 *Slate* article, novelist David Treuer examines the cultural consequences of many authors, such as Sylvester Long, Margaret Seltzer, Tim Barrus, Forrest Carter, and Archibald Belaney, perpetrating this specific type of literary hoax in writing their fake memoirs.

ANSWER: pretending to be Native American [or pretending to be American Indian; or anything indicating claiming to have native ancestry; accept specific Native American tribes in the aforementioned answers]

<Other Academic>

19. Jeanne Baret was the first woman to perform this feat, doing so while disguised as a man. For 10 points each:

[10] Identify this type of mission. Under the employ of the Russian-American Company in the early nineteenth century, Adam Johann Krusenstern became the first Russian to lead this type of mission.

ANSWER: circumnavigate the world [accept equivalents like sailing around the world]

[10] Krusenstern’s circumnavigation took place during the rule of this Russian emperor, who established the Holy Alliance following the defeat of Napoleon I.

ANSWER: Alexander I [or Aleksandr Pavlovich I]

[10] This cabin boy on Krusenstern’s voyage later captained two circumnavigations and lends his name to a sound in Alaska’s Chukchi Sea. His diplomat father was murdered by Karl Ludwig Sand in 1819, prompting Metternich to issue the Carlsbad Decrees.

ANSWER: Otto von Kotzebue [his father was August Friedrich Ferdinand von Kotzebue]

<European History>

20. This text is divided into 614 questions, or “QQ,” including “Whether the existence of God is self-evident.” For 10 points each:

[10] Name this thirteenth-century text that calls God the “primum movens immobile,” or the first cause who is himself uncaused.

ANSWER: Summa Theologica [or Summa Theologiae]

[10] *Summa Theologica* accepts the traditional distinction between these two things, arguing that they are identical only in the case of God. Descartes made a similar claim as part of his formulation of the ontological argument, arguing that these two things are identical for God but not for a triangle.

ANSWER: essence and existence [accept ens and essentia or esse and essentia]

[10] This Jesuit philosopher argued that Aquinas’s “Five Ways” were the only valid arguments for God’s existence. He syncretized Kant and Aquinas into his “transcendental Thomism.”

ANSWER: Joseph Maréchal

<Philosophy>