



## 2023 PACE NSC

Edited by David Bass, Jordan Brownstein, Jaimie Carlson, Ganon Evans, Athena Kern, Joseph Krol,  
Young Lee, Adam Silverman, Chandler West  
Head Editor Ganon Evans

### Round 01 - Tossups

**1. In a novel by an author with this first name, the magician Signor Brunoni and the scandalous Captain Brown disrupt a society of unwed, elderly “Amazons.” In a work by another author with this first name, the title character ends up marrying her blinded cousin Romney in Florence. Margaret Hale intervenes in strikes at a cotton mill in a work by an author with this first name; that author of *Cranford* and *North and South* had the last name (\*) Gaskell. Another author with this first name wrote *Aurora Leigh* and a collection of works imploring “Yes, call me by my pet name” and vowing “I shall but love thee better after death.” For 10 points, give this first name of an author who wrote “How do I love thee? Let me count the ways” in *Sonnets from the Portuguese*.**

ANSWER: **Elizabeth** [accept **Elizabeth** Gaskell or **Elizabeth** Barrett Browning; prompt on partial forms of Elizabeth like **Lizzie**]

<Jaimie Carlson, Literature - British - Other> ~25795~ <Editor: Jaimie Carlson>

**2. The most profitable and promising drugs made by the pharma company Eisai (“AY-sigh”) treat this disease. In 2021, three FDA advisors resigned to protest the approval of an erstwhile-blockbuster Biogen drug that failed to improve this disease’s prognosis. Sylvain Lesné faked Western blots to prove the toxic oligomer A $\beta$ \*56 (“A-beta-star-56”) causes this disease. In 2022, the clinical success of lecanemab (“luh-CAN-uh-mab”) validated a long-standing hypothesis that this disease occurs when (\*) secretases (“SEH-cruh-tazes”) cleave a precursor protein and leave its insoluble beta peptide behind. Two hallmarks of this disease are fibrous tangles of tau protein and aggregated amyloid plaques. This disease’s “early onset” occurs before age 65. For 10 points, name this neurodegenerative disease, the leading cause of dementia.**

ANSWER: **Alzheimer’s** disease [or **AD**; prompt on **dementia** before read]

<Michael Bentley, Science - Biology> ~25283~ <Editor: Adam Silverman>

**3. Large photos of people standing around or staring in these locations feature in the *Audiences* series of photographs by Thomas Struth. People in one of these places were asked to participate in a poll about Governor Nelson Rockefeller in an early example of Hans Haacke’s Institutional Critique. College courses in the “studies” of these places often cover the ethics of deaccessioning. A British one of these places called the (\*) Ashmolean originated as a cabinet of curiosities. In 2022, 27 items were seized from one of these places in New York and restituted to Italy because their provenance did not align with modern collecting practices. For 10 points, curators plan exhibitions at what types of institutions that include the Louvre?**

ANSWER: art **museums** [accept modern art **museums** or archaeology **museums**; accept **gallery** or **galleries**]

<Michael Bentley, Fine Arts - Miscellaneous> ~25885~ <Editor: Young Lee>

4. It's not parading or cross-dressing, but people took part in this activity as part of Japan's "Who Cares" movement of the 1860s. The film *They Shoot Horses, Don't They?* revisited scammy Depression-era competitions in this activity. It doesn't have to do with fire, but in 1518, ergotism may have caused people to engage in St. Vitus's form of this activity during a namesake (\*) "plague." 20 so-called "medals of dishonor" were awarded for suppressing a spiritual movement named for this activity at the Wounded Knee Massacre. A group form of this activity practiced by the Māori is called the *haka*. For 10 points, the jitterbug was an example of what type of activity that earned the Savoy Ballroom the nickname the "Home of Happy Feet?"

ANSWER: **dancing** [or **dance** or ritual **dance**; accept ghost **dance**; accept **dance** marathons; prompt on haka before mentioned]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~23647~ <Editor: Michael Bentley>

5. For inputs with this property, the binary output of the x86 assembly language command "movsx" ("move-S-X") contains more ones than the input. In offset binary with biasing value  $K$ , the least  $K$  possible values correspond to variables with this property. "Binary" formats specified by the IEEE ("I-triple-E") 754 standard have bits whose *activation* specify the exponent, significand, and this property. For a binary word whose (\*) MSB is zero, inverting bits and then incrementing yields a variable with this property in two's complement. The first bit equals one for floats with this property. Unsigned integers can assume twice as many values because they do not account for numbers with this property. For 10 points, name these numbers displayed with a minus sign.

ANSWER: **negative** [accept **negative** numbers or **negative** integers or **negative** floats or **negative** floating-point values; prompt on sign or signed numbers or signed integers or signed floats or signed floating-point values before "complement" is read]

<Lalit Maharjan, Science - Computer Science> ~24821~ <Editor: David Bass>

6. An anonymous commentator on this novel often used the word "maimed," leading to their nickname "Elderly Maimed Tablet." Practitioners of a field called this novel's "-ology," which include translator David Hawkes, dispute the provenance of its last 40 chapters. In this novel, an elegy to some flower petals is written by the protagonist's sickly cousin, who is also his main love interest. Late in this novel, the (\*) Prospect Garden is seized after the central family becomes disfavored by the Emperor. This novel's protagonist, who falls in love with Lín Dàiyù, is born with a talking piece of jade in his mouth. For 10 points, Cáo Xuěqín ("tsao shweh-chin") wrote what classic Chinese novel about the downfall of the Jiā ("j'yah") family, often titled for a room?

ANSWER: ***Dream of the Red Chamber*** [or ***Story of the Stone***; or ***A Dream of Red Mansions***; or ***Hóng Lóu Mèng***; or ***Shitou ji***; prompt on redology]

<Joseph Krol, Literature - World and Miscellaneous> ~25103~ <Editor: Joseph Krol>

7. Craig Downs found that these organisms were damaged by oxybenzones. Ruth Gates, the first female president of an organization named for these organisms, used "assisted evolution" to create "super" examples more resistant to environmental stressors. Chocolate heir Frank Mars is leading an effort to use star-shaped rebar to restore some of these organisms in Indonesia damaged by blasting. A tissue loss disease affecting the Scleractinia ("skle-RACK-TIN-ee-uh") or (\*) "stony" variety of these organisms was first observed near Miami. Cloud brightening can reduce the need for these organisms to expel photosynthetic algae due to high temperatures in a process known as bleaching. For 10 points, name these organisms that slowly built a "Great Barrier" off the coast of Australia.

ANSWER: **corals** [accept **coral** reef; accept or stony **corals** or hard **corals**; accept **Scleractinia** before mention; prompt on reef or barrier reef; prompt on atolls] (Gates was president of the International Society for Reef Studies.)

<Michael Bentley, Current Events - World> ~23107~ <Editor: Michael Bentley>

**8. Drunk students at this school smashed windows and fired guns on Christmas Eve during the Egg Nog Riots. Superintendent Sylvanus Thayer established much of this school’s current policies. This school established the first engineering school in the US. This school sits upon a structure that was renamed for James Clinton following a plot that involved Major (\*) John André. George Pickett and George Custer were both last in their class at this school. This school is built upon a fort that was nearly sold to the British by Benedict Arnold. Since 1890, this school has played an annual football game against an Annapolis-based academy. For 10 points, name this service academy in upstate New York.**

ANSWER: **West Point** [or **United States Military Academy**; or **US Military Academy**; or **USMA**; prompt on **Army** or **Military Academy**]

<Lalit Maharjan, History - American - Pre-1865> ~25297~ <Editor: Michael Bentley>

**9. In this piece, the repeated pizzicato string motif (read slowly) “D-flat, B-flat, E-flat, B-flat” leads into a passage where the orchestra repeatedly plays a stacked E-flat dominant 7th chord over an F-flat major chord with seemingly random accents. A series of “Rounds” in this work is meant to accompany the khorovod. Upon hearing the opening of this work, which begins with a woodwind playing a grace note-filled solo in an extremely (\*) high register, Camille Saint-Saëns apocryphally claimed “If that’s a bassoon, I’m a baboon.” This work’s first section is the “Adoration of the Earth.” In the final act of this ballet, the Chosen One dances herself to death in the “Sacrificial Dance.” For 10 points, a riot occurred at the 1913 premiere of what Igor Stravinsky ballet?**

ANSWER: *The Rite of Spring* [or *Le Sacre du printemps*]

<Benjamin Chapman, Fine Arts - Music - 1900 to 1970> ~25819~ <Editor: Young Lee>

**10. Eleven copies of one of these objects were kept in the Temple of Mars along with the original, which was said to have fallen from heaven during the reign of Numa Pompilius. A peaceful city and a warring city are depicted in nine concentric circles on one of these objects. After Calchas predicts that the first Greek to land on Trojan soil would die, Odysseus steps onto one of these objects to avoid touching the ground. After Hector kills Patroclus, Thetis arranges for a highly (\*) decorative one of these objects to make up for Achilles’s stolen armor. It’s not an animal skin, but a gorgon head adorned one of these objects used by Athena named *Aegis*. Medusa was turned to stone with a reflective kind of, for 10 points, what defensive weapon?**

ANSWER: **shields** [accept *aegis* before read; accept **ancile** or **ancilia**; prompt on **armor**]

<Lalit Maharjan, RMP - Greco-Roman Mythology> ~24783~ <Editor: Jaimie Carlson>

**11. This phenomenon is observed in order to analyze materials’ band structures in an “angle-resolved” spectroscopy technique. Pierre Victor Auger (“oh-ZHAY”) discovered the Auger effect while inducing this phenomenon, which has the same products. Robert Millikan’s pioneering measurement of Planck’s constant arose from his research into this phenomenon. As the energy of this phenomenon increases, instances of it may be replaced by (\*) Compton scattering. The applied voltage at which this phenomenon is no longer observed by a collector plate is the stopping potential. The kinetic energy of the output of this effect equals the energy of a photon minus the work function. For 10 points, name this effect by which incident photons cause electrons to be ejected from a metal.**

ANSWER: **photoelectric** effect [prompt on angle-resolved **photoemission** spectroscopy]

<Lalit Maharjan, Science - Physics> ~24997~ <Editor: David Bass>

**12. During this monarch’s reign, many deportees drowned on overcrowded ferries on the Black Sea during a genocide carried out by Count Milyutin against the Circassians. This monarch secured the liberation of Bulgaria via the Treaty of San Stefano. One law issued by this monarch required payments over 49 years to (\*) *mir* agricultural communes. This monarch established rural governing bodies called *zemstva*. This ruler was poised to adopt the Loris–Melikov Constitution prior to a sleigh ride along the Catherine Canal in 1881. For 10 points, name this Russian emperor assassinated by the People’s Will two decades after he emancipated the serfs.**

ANSWER: **Alexander II** [or **Aleksánder II** Nikoláyevich; prompt on Alexander]

<Michael Bentley, History - European - 1500-1900> ~24801~ <Editor: Michael Bentley>

**13. These phenomena were studied by Strack et al. by showing cartoons and positioning a pen differently in test subjects’ mouths. The color wheel inspired Robert Plutchik’s model of these phenomena. The MSCEIT (“mes-keet”) is used to measure people’s relations with these phenomena from an ability-based framework instead of a trait-based one. The concurrence of these phenomena with arousal is present in (\*) Cannon–Bard theory, but not James–Lange theory. These phenomena are often conflated with Silvan Tomkins’s affects (“AA-fects”). Facial feedback affects these phenomena, which are central to an alternative model of intelligence. For 10 points, name these phenomena which include fear and happiness.**

ANSWER: **emotions** [accept **emotional** intelligence; prompt on affects before mention; reject “feelings”]

<Ganon Evans, Social Science - Psychology> ~25424~ <Editor: Athena Kern>

**14. After a car accident in a novel set in this city, a character “whom no man will ever possess” has her breast implants removed and settles down with Mary-Ann. A garage in this city is invaded by the cowboy Earle Shoop and used for cockfights. This setting of Gore Vidal’s *Myra Breckinridge* is also the setting of a novel in which the child Adore Loomis torments (\*) Homer Simpson. In that novel, a stampeding crowd overwhelms the illustrator Tod Hackett, who seeks to paint a picture of this city burning. A detective from this city, Philip Marlowe, features in novels like *The Big Sleep* by Raymond Chandler. For 10 points, Nathanael West’s novel *The Day of the Locust* criticizes which city’s Hollywood culture?**

ANSWER: **Los Angeles** [or **L.A.**; prompt on Hollywood before read]

<Yingzhi Nyang, Literature - American - Long Fiction> ~25364~ <Editor: Chandler West>

**15. This property of a molecule is assigned “absolutely” by reacting with Pirkle’s alcohol or “relatively” by comparing it to glyceraldehyde (“gliss-er-AL-duh-hide”). Molecules that differ in this property bind differently to columns coated in cyclodextrins. Chemists assign prefixes to molecules with this property by mentally shifting their lowest-priority atoms into the page. Circular dichroism and polarimeters are used to assign the labels (\*) R and S to the optically active molecules that have this property. Molecules with this property require a carbon to be bonded to four unique substituents. Components of racemic mixtures differ in this property. For 10 points, name this form of mirror-image isomerism often analogized to molecular “handedness.”**

ANSWER: **chirality** [or **chiral** centers; accept absolute **configuration** or optical **configuration** or chiral **configuration** or relative **configuration**; accept **enantiomerism** or answers like being an **enantiomer**; accept **optically active** or **optical activity** until it is read; prompt on isomerism until it is read; prompt on stereoisomerism]

<Shahar Schwartz, Science - Chemistry> ~25529~ <Editor: Adam Silverman>

**16. Description acceptable. In preparation for these events, many people undertake language study at Amanda Knight Hall. Some of these events may include service at the Family History libraries. Participants in these events can support each other through feeling “trunky” and hold weekly companionship inventories. Participants in these events adhere to a guide called *Preach My Gospel* and are instructed to listen to appropriate music like that from the (\*) Tabernacle Choir. Early in these two-year-long events, people receive a “call to serve” that specifies the location of these events as chosen by the Quorum of the Twelve Apostles. For 10 points, name these events where young members of the LDS Church might travel abroad and door knock.**

ANSWER: Church of Jesus Christ of Latter Day Saints missions [accept any answers around members of the Church of Jesus Christ of Latter-day Saints going on missions or LDS missions; accept Mormon missions; accept descriptions of spreading faith or proselytizing; prompt on volunteer work for the LDS church]  
<Michael Bentley, RMP - Christian Practice> ~24974~ <Editor: Athena Kern>

**17. During this decade, militants under Eugène Terre’Blanche stormed the Kempton Park Trade Centre. During this decade, Francois Pienaar was presented with a trophy by a president wearing a Springboks uniform. In this decade, the assassination of Chris Hani almost stalled the Multiparty Negotiating Forum with the internationally isolated National Party. A Rugby World Cup held in this decade is depicted in the film (\*) *Invictus*. A Truth and Reconciliation Commission established in this decade was led by Nobel Peace Prize winner Desmond Tutu. In the last year of this decade, a president nicknamed Madiba was succeeded by Thabo Mbeki (“TAHBO oom-BECKY”), also of the ANC party. For 10 points, name this decade in which apartheid ended in South Africa.**

ANSWER: 1990s  
<Michael Bentley, History - World - African> ~24719~ <Editor: Jordan Brownstein>

**18. A massive book from this movement argues that “practico-inert” reality is upheld by “seriality,” an idea that Iris Marion Young adapted to describe gender. The “sub-man” and the “adventurer” are analyzed in a book that lays out an ethical system for this movement. A member of this movement used the example of a woman on a bad date to illustrate how denying one’s own “facticity” and “transcendence” results in (\*) “self-deception.” The author of *Critique of Dialectical Reason* wrote that this movement’s namesake concept “precedes essence,” while a feminist member of this movement wrote “One is not born, but rather becomes, a woman” in *The Second Sex*. For 10 points, name this school of thought of Simone de Beauvoir and Jean-Paul Sartre.**

ANSWER: existentialism [accept existential Marxism or feminist existentialism; prompt on Marxism until “sub-man” is read]  
<Jordan Brownstein, RMP - Philosophy> ~25022~ <Editor: Jordan Brownstein>

**19. Piero della Francesca inspired this artist’s portrait of his assistant Arnold Pyle with a butterfly. A nude farmhand pours water over himself in this artist’s drawing *Sultry Night*, which was burned by his sister. The discovery of Pluto may have inspired this artist to include a globe atop a spire and a brooch of Persephone in one painting. A satirical painting by this artist features three (\*) elderly women in front of Emanuel Leutze’s (“LOYT-zuh’s”) *Washington Crossing the Delaware*. This Iowan painted *Daughters of Revolution* and had his dentist model as a man holding a pitchfork in front of the Dibble House for his most famous painting. For 10 points, name this artist of *American Gothic*.**

ANSWER: Grant Wood  
<Ganon Evans, Fine Arts - Painting - U.S. to 1945> ~25299~ <Editor: Chandler West>

**20. In one play, actors dressed as these objects say that the play cost the author “much trouble,” and that he regards it his best, in a *parabasis* (“pah-rah-BAY-sis”). The protagonist of that play is introduced to these “goddesses for the lazy” after his son goes into debt betting on horses. These objects form the chorus in a play in which the protagonist’s attempts to become a great orator lead him to be (\*) beaten by his son. These inanimate objects partly name a location that Pisthetaerus (“piss-tuh-TAIR-uss”) builds with help from the hoopoe in *The Birds*. These objects title a play in which Strepsiades (“strep-SIGH-uh-deez”) enrolls in the Thinkery. Socrates appears in an Aristophanes (“ah-riss-TAH-fuh-nee-z”) play titled after, for 10 points, what objects, which in the name of an Aristophanes setting precedes “cuckoo land?”**

ANSWER: **clouds** [accept *The Clouds*; or **cloud** cuckoo land; or *Nephelai* or *Nephelokokkygia*; prompt on goddesses with “in the form of what objects?”]

<Joseph Krol, Literature - European - Drama> ~24744~ <Editor: Joseph Krol>

**21. Note to moderator: “The *n*th Chebyshev polynomial of the first kind” is the name of a single function. The *n*th Chebyshev polynomial of the first kind of this function of  $x$  equals this function of  $n x$ . 64 eight-by-eight matrices span the codomain of an operation named for this function that is used in JPEG file compression. This function’s “similarity” measure equals the inner product of two vectors over the product of their magnitudes. This function of  $x$  is the (\*) real part of  $e$  to the  $i x$ . This function equals the alternating sum of even-degree terms of the Maclaurin series of the exponential function. The Pythagorean theorem is a special case of a “law” named for this function in which a term vanishes because this function of 90 degrees is zero. For 10 points, name this trigonometric function equal to “adjacent over hypotenuse.”**

ANSWER: **cosine** [or **cos**; accept discrete **cosine** transform or **cosine** similarity score or **cosine** distance or law of **cosines**] (The operation used in JPEG file compression is the discrete cosine transform.)

<Adam Silverman, Science - Math> ~26145~ <Editor: David Bass>

## NSC 2023 - Round 01 - Bonuses

1. A queen of this country who was the daughter of a progressive poet pushed for women's education and founded this country's first magazine for women, *Ershad-I-Niswan*, in 1927. For 10 points each:

[10h] Name this country that was modernized under Queen Soraya Tarzi and King Amanullah Khan.

ANSWER: **Afghanistan**

[10e] Tarzi's reforms also included banning clothing intended for this body part, which alienated many Afghans. The *chador* and *hijab* are articles of clothing covering this part of the body in the Islamic world.

ANSWER: **head** [or **face**; accept **skull**; prompt on **hair** with "on what part of the body?"]

[10m] Tarzi removed her veil at a 1928 *loya jirga*, one of the traditional assemblies held by elders of this ethnicity. These people are the majority ethnicity of Afghanistan.

ANSWER: **Pashtuns** [or **Pakhtuns** or **Pathans**; reject "Pashto"]

<Hari Parameswaran, History - World - Asian> ~20934~ <Editor: Jordan Brownstein>

2. Albanian mothers create puppets and decorate their children's rooms with this food to ward off the evil eye and the witch Shtriga. For 10 points each:

[10e] Name this food whose perception as an antibiotic in early Europe led it to be used as a vampire deterrent.

ANSWER: **garlic**

[10h] People of this ethnicity traditionally ate pickled garlic to deter tigers in the mountains. Myths of these people include eclipse-causing fire dogs and beautiful ghost women who eat men's livers.

ANSWER: **Koreans** (The creatures are bulgae and kumiho respectively.)

[10m] Greeks placed garlic on stone pillars at these places as offerings to Hecate. Hodou stories of Papa Legba may have inspired the tale of the musician Robert Johnson selling his soul to the Devil at one of these places.

ANSWER: **crossroads** [prompt on **roads**]

<Ganon Evans, RMP - World Mythology> ~21227~ <Editor: Jaimie Carlson>

3. This virtuoso performed in festivals for Queen Christina of Sweden and led Monday concerts in the court of Cardinal Pietro Ottoboni. For 10 points each:

[10h] Name this violinist and composer who wrote a piece that ends with a 12/8 ("twelve-eight") *pastorale ad libitum* to provide contemplation after five movements varying marked *vivace* and *allegro*.

ANSWER: Arcangelo **Corelli**

[10e] Corelli's *Concerto grosso in G minor, No. 8* is nicknamed for this holiday, which is also when performance groups often hold sing-along concerts for Handel's *Messiah*.

ANSWER: **Christmastime** [or **Christmas Day** or **Christmas Eve**; accept the **birth** of **Jesus** or the **birth** of **Christ**]

[10m] Corelli's multi-movement approach to the concerto grosso differed from this later Italian violinist and composer, whose own concertos included *L'estro armonico* and typically had three movements.

ANSWER: Antonio **Vivaldi** [or Antonio Lucio **Vivaldi**]

<Ethan Ashbrook, Fine Arts - Music - Baroque> ~20932~ <Editor: Young Lee>

4. Answer the following about dye-sensitized solar cells, which were explicitly designed to mimic photosynthesis, for 10 points each.

[10e] The ruthenium dye in a solar cell replaces these green pigments that eject electrons when plants are exposed to sunlight.

ANSWER: **chlorophylls** [or **chlorophyll a** or **chlorophyll b**]

[10m] Solar cells recover the lost electrons by converting iodide ions at a minus-one oxidation state, to this non-integer oxidation state found in the anion tri-iodide, or I<sub>3</sub><sup>-</sup> (“I three (pause) minus”).

ANSWER: **-1/3** [or **negative one-third**; or **one-third minus**; or **minus one-third**; reject “one-third” by itself]

[10h] Dye-sensitized solar cells conduct electrons using nanoparticles containing this metal. This metal’s highly reflective dioxide is also useful for photocatalytic water splitting.

ANSWER: **titanium** [or **titanium dioxide**; or **titania**; or **Ti**]

<Adam Silverman, Science - Chemistry> ~20847~ <Editor: Adam Silverman>

5. Dennis Hasset is the recipient of this object, which is not yet damaged when it is brought past Miriam Chadwick’s house. For 10 points each:

[10h] Name this object, which is laboriously transported from Sydney to Bellingen (“**BELL-ing-un**”) as part of a bet between the title characters of a 1988 novel.

ANSWER: the glass **church**

[10m] The glass church is transported in *Oscar and Lucinda*, a novel by this author who fictionalized the story of Ned Kelly in his novel *True History of the Kelly Gang*.

ANSWER: Peter **Carey** [or Peter Philip **Carey**]

[10e] Both *Oscar and Lucinda* and *True History of the Kelly Gang* won this annual prize for novels published in English. Until 2019, this prize was partly named for the Man Group.

ANSWER: **Booker** Prize [accept Man **Booker** Prize or **Booker** Prize for Fiction]

<Justine French, Literature - World and Miscellaneous> ~11833~ <Editor: Joseph Krol>

6. In an equation named for Cobb and Douglas, this constant is represented by a capital *A* and multiplies *K* to the alpha and *L* to the beta. For 10 points each:

[10h] Name this constant that represents an economy’s efficiency at converting inputs into output such as GDP.

ANSWER: **total factor productivity** [or **TFP**; or **multi-factor productivity**; prompt on **productivity**]

[10e] The Cobb–Douglas production function accounts for inputs in capital and this other factor, represented by a capital *L*. This factor is provided to producers by workers in exchange for wages.

ANSWER: **labor** input

[10m] Capital and labor have diminishing returns in production over time according to a model of this phenomenon named for Solow and Swan. This phenomenon is represented by an outward shift of a country’s production possibility curve.

ANSWER: economic **growth** [accept exogenous **growth** or endogenous **growth**; accept the Solow-Swan economic **growth** model]

<Ethan Ashbrook, Social Science - Economics> ~20488~ <Editor: Athena Kern>



7. Gary Webb resigned his job after writing *Dark Alliance*, a book about how this group caused the Los Angeles crack epidemic with the approval of the CIA. For 10 points each:

[10m] Name these anti-communist groups that include the FDN and MILPAS. These groups carried out numerous massacres of civilians in Central America in the 1980s.

ANSWER: **Contras**

[10e] The Iran–Contra scandal was revealed during the administration of this two-term president, a former actor and Governor of California.

ANSWER: Ronald **Reagan** [or Ronald Wilson **Reagan**]

[10h] Support for the Contras was implemented by this Secretary of Defense under Reagan, who was succeeded by Frank Carlucci. This man pushed for a buildup of the Navy through the 600-ship Navy program.

ANSWER: Caspar **Weinberger** [or Caspar Willard **Weinberger**]

<Michael Bentley, History - American - 1945+> ~19889~ <Editor: Michael Bentley>

8. A bell hooks book titled for this poem discusses how Black men need to “radicalize their consciousness to challenge patriarchy.” For 10 points each:

[10m] Name this poem whose pool-playing characters “lurk late” and “sing sin” at The Golden Shovel.

ANSWER: “**We Real Cool**”

[10e] “We Real Cool” was written by this Black poet from Chicago, who included the poem in her collection *The Bean Eaters*.

ANSWER: Gwendolyn **Brooks**

[10h] This contemporary poet spelled out most of the text of “We Real Cool” in the line-ending words of her poem “An American Sunrise.” In another poem, this former Poet Laureate wrote about animals who were “bodies of sand” and “maps drawn of blood.”

ANSWER: Joy **Harjo** [or Joy **Harjo-Sapulpa**] (The poem is “She Had Some Horses.”)

<Yingzhi Nyang, Literature - American - Poetry> ~20200~ <Editor: Chandler West>

9. Many spacecraft use the “ring laser” type of these devices for navigation. For 10 points each:

[10e] Name these devices for maintaining orientation and angular velocity that consist of a wheel mounted to gimbals that provide pivoted supports.

ANSWER: **gyroscopes** [accept ring laser **gyroscopes**]

[10h] This experiment used four gyroscopes on a satellite to measure spacetime curvature near Earth to verify general relativity’s predictions of the geodetic effect and frame-dragging. This experiment followed a test of the equivalence principle.

ANSWER: **Gravity Probe B** [or **GP-B**] (The earlier experiment is Gravity Probe A.)

[10m] As they exhibit angular velocity, ring laser gyroscopes measure rotation via this phenomenon. This phenomenon is observed in the Sagnac (“**SAN-yak**”) effect and produces namesake “fringes.”

ANSWER: wave **interference** [accept **interference** fringes]

<Ganon Evans, Science - Physics> ~20832~ <Editor: David Bass>

10. This painting may depict the Greyhound model of the company that its artist held shares in, playing on the idea of a chase. For 10 points each:

[10m] Name this painting subtitled for the Great Western Railway. A rabbit darts out of the way of a locomotive in the foreground of this 1844 painting.

ANSWER: **Rain, Steam, and Speed** - *The Great Western Railway*

[10e] *Rain, Steam, and Speed* was painted by this English artist whose seascapes include *The Slave Ship*.

ANSWER: J. M. W. **Turner** [or Joseph Mallord William **Turner**]

[10h] *Description acceptable*. One of Turner's paintings of this event depicts a bridge at a similar angle as in *Rain, Steam and Speed*. Augustus Pugin's most notable commission came in the aftermath of this 1834 event.

ANSWER: **burning** of the Houses of **Parliament** [accept The **Burning** of the Houses of **Lords and Commons**; accept anything involving a **fire** or **destruction** of the British **Parliament** buildings or the Palace of **Westminster**]

<Michael Bentley, Fine Arts - Painting - European 1600-1945> ~20050~ <Editor: Chandler West>

11. Ruth Macrides challenged James Howard-Johnston's view that this woman's work was written by a "latter-day Procopius" or her husband Nikephorus Bryennios. For 10 points each:

[10h] Name this princess whose history *The Alexiad* is one of the few surviving Byzantine perspectives on the First Crusade.

ANSWER: **Anna Komnene** [or **Anna Comnene**; or **Anna Comnena**; accept **Anna Comnenus**; prompt on partial answers]

[10m] This historian chided Anna Komnene's "awful reverence for titles and forms." This English historian attributed poor civic virtue to the title event of his massive book *The Decline and Fall of the Roman Empire*.

ANSWER: Edward **Gibbon**

[10e] Like Empress Zoë, Anna Komnene was part of the Byzantine ruling class, meaning she was "born in" robes of this color traditionally reserved for the Roman Emperor and made with a Tyrian dye.

ANSWER: **purple** [or Tyrian **purple**; or **porphyry**]

<Ganon Evans, History - Cross, Historiography, and Miscellaneous> ~20817~ <Editor: Michael Bentley>

12. This author spent the second half of his life in a tower in the home of a carpenter after a mental breakdown. For 10 points each:

[10h] Name this German author who wrote about a freedom fighter in Greece in his 1799 novel *Hyperion*. His Romantic poems include "Bread and Wine" and "Patmos."

ANSWER: Friedrich **Hölderlin** ("HULL-der-leen") [or Johann Christian Friedrich **Hölderlin**]

[10m] Hölderlin's novel *Hyperion* is written in this format, which was also used for the 18th-century novels *Dangerous Liaisons* and a work about Persian noblemen by Montesquieu ("mon-TESS-kee-oo").

ANSWER: **epistolary** novels [or composed of **letters** or **epistles** or **missives**]

[10e] Hölderlin started writing *Hyperion* around the time this other German author of *The Sorrows of Young Werther* ("VAIR-tur") patronizingly advised him to write "small poems" on "familiar human subjects."

ANSWER: Johann Wolfgang von **Goethe** ("GUR-tuh")

<Joseph Krol, Literature - European - Long Fiction> ~20118~ <Editor: Joseph Krol>

13. An ancient Chinese method for this task involved chewing and then spitting out rice. For 10 points each:  
[10h] Name this task. A machine for this task received early support from Berkeley's August Vollmer and was invented by Wonder Woman creator William Moulton Marston.

ANSWER: **lie detection** [accept word forms such as **detecting lies**; accept **polygraph**]

[10m] This union and Harvey Milk formed an unusual alliance against Coors due to Coors employees being required to take a polygraph test proving they were not gay. Jimmy Hoffa led this union.

ANSWER: **Teamsters** Union [or International Brotherhood of **Teamsters**]

[10e] In 2010, this spy agency released a video defending its use of polygraph tests. Edward Snowden revealed that this agency was widely monitoring both foreign and domestic communications.

ANSWER: **NSA** [or **National Security Agency**]

<Michael Bentley, Other - Other Academic and General Knowledge> ~20053~ <Editor: Ganon Evans>

14. Pivot Bio sells microbes that allow cereal crops to benefit from this process. For 10 points each:

[10m] Name this process which only occurs naturally in bacteria living on dicots ("DIE-cots"). Ongoing efforts to get it to work on monocots like corn aim to expand the colonization of di-azo-trophs or to express rhizobial ("rye-ZOH-bee-uhl") genes in chloroplasts.

ANSWER: biological **nitrogen fixation** [or **fixing nitrogen**; or **BNF**; accept biological production of **ammonia**; prompt on **fixation**]

[10e] Slow-growing rhizobia ("RYE-zoh-bee-uh") can only live on legumes because they form symbiotic nodules with these plant organs, allowing them to outcompete other microbes in the soil.

ANSWER: lateral **roots**

[10h] Rhizobia can be tricked into colonizing cereal roots if the crops secrete activators of this process of density-dependent signaling in bacteria. This process regulates bio-luminescence through the *lux* operon.

ANSWER: **quorum sensing** [or **QS**; or **quorum signaling**]

<Adam Silverman, Science - Biology> ~20876~ <Editor: Adam Silverman>

15. This man is able to see "the gentleman with thistle-down hair" in the novel *Jonathan Strange and Mr. Norrell*. For 10 points each:

[10m] Name this man, who clashes with his physician Dr. Willis in one play. In another work, this man states "I will send a fully armed battalion to remind you of my love!"

ANSWER: King **George III** [prompt on **George**] (The referenced work is *Hamilton*.)

[10e] The aforementioned play is titled for this trait of King George III. A "hatter" with this trait appears in *Alice's Adventures in Wonderland*.

ANSWER: **madness** [accept *The Madness of George III*; or *The Madness of King George*; accept **Mad** Hatter; accept being **crazy** or **insane** or **mentally ill**]

[10h] A British playwright with this first name and the last name "Bennett" wrote *The Madness of George III* and *The History Boys*. Another playwright with this first name and the last name "Ayckbourn" wrote *Absurd Person Singular*.

ANSWER: **Alan** Bennett [or **Alan** Ayckbourn]

<Michael Bentley, Literature - British - Drama> ~18547~ <Editor: Taylor Harvey / Jaimie Carlson>

16. During this battle, Field Marshal Pappenheim was fatally struck by a cannonball. For 10 points each:  
[10h] Name this battle, the outcome of which prevented one side from forcing Saxony out of a war. Axel Oxenstierna became chancellor of his country after the death of a monarch during this battle.

ANSWER: Battle of **Lützen** (“LOOT-zin”)

[10e] Gustavus Adolphus was killed during the Battle of Lützen, which took place during this war that lasted from 1618 to 1648.

ANSWER: **Thirty Years’ War**

[10m] Swedish infantry near Lützen held a defensive position on the road to this city, which was captured prior to the battle. An 1813 battle named after this Saxon city is also known as “The Battle of the Nations.”

ANSWER: **Leipzig** [or **Leipsic**]

<Andrew McCowan, History - European - 1500-1900> ~20264~ <Editor: Michael Bentley>

17. A 2023 catalog of Venus’s surface by Hahn and Byrne reports 85,000 of these features, approximately 50 times as many as were previously cataloged. For 10 points each:

[10e] Name these lava-emitting structures whose “shield” type are ubiquitous on Venus.

ANSWER: **volcanoes** [accept shield **volcanoes**]

[10m] For their catalog, Hahn and Byrne used data collected in the 1990s by a spacecraft named for this person. This person’s “clouds” are a pair of irregular dwarf galaxies visible from the southern hemisphere.

ANSWER: Ferdinand **Magellan** [accept **Magellanic** Clouds]

[10h] Volcanoes are less common on two of these geographic features on Venus that are named for Ishtar and Aphrodite. These features, the third of which is named for Lada, are analogous to continents.

ANSWER: **terrae** [accept Ishtar **Terra** or Aphrodite **Terra** or Lada **Terra**]

<David Bass, Science - Astronomy> ~21425~ <Editor: David Bass>

18. Answer the following about tragic early deaths in jazz music, for 10 points each.

[10e] This jazz singer, who died of cirrhosis at 44, was known for co-writing the song “God Bless the Child” and dramatic performances of the song “Strange Fruit.” She was nicknamed “Lady Day.”

ANSWER: Billie **Holiday** [or Eleanora **Fagan**]

[10m] Fats Waller, a jazz musician who played this instrument, died from pneumonia at 39 soon after he appeared in the film *Stormy Weather*. Waller championed a style of playing this instrument termed “stride.”

ANSWER: **piano** [accept stride jazz **piano**; prompt on **keyboard**]

[10h] After recording his landmark album *Out to Lunch!*, this musician toured Europe with Charles Mingus’s sextet before dying in a coma at 36 due to undiagnosed diabetes. This free jazz alto saxophonist also played flute and bass clarinet.

ANSWER: Eric **Dolph**y [or Eric Allan **Dolph**y Jr.]

<Young Lee, Fine Arts - Jazz> ~20775~ <Editor: Young Lee>

19. This city installed a series of orange-roofed escalators in its Comuna 13 to improve mobility across its steep terrain. For 10 points each:

[10m] Name this capital of Antioquia and the second-most populous city of Colombia. This city north of Cali experienced a 97 percent drop in homicides after the early 1990s in part due to a “citizen commitment” to infrastructure.

ANSWER: **Medellín** (“meh-duh-YEEN”)

[10e] Medellín is serviced by five lines of this form of transport built by the French company Poma and developed from Alpine ski facilities.

ANSWER: **gondola** lift [accept **cable car**; accept **chair lift**; accept **incline car**; prompt on **lift**]

[10h] Medellín has this public transport system common in Latin America in which namesake large vehicles receive traffic priority and dedicated road width. Curitiba, Brazil championed this system that goes by a three-word name.

ANSWER: **Bus Rapid Transit** [or **BRT**; accept **Bus Rapid Transit** System or **BRTS**; prompt on **bus lanes** or **busways** or **transitways**]

<Lalit Maharjan, Geography - World> ~20807~ <Editor: Ganon Evans>

20. *L’Chaim!* Answer the following about Jewish weddings, for 10 points each.

[10e] After the bride is gifted a ring, the groom smashes a glass with his foot as guests shout this two-word Hebrew term. It means “good fortune” and is typically said after a positive event.

ANSWER: **mazel tov**

[10m] The wedding ceremony happens under this structure, commonly made from a prayer shawl that symbolizes the home that the couple will share.

ANSWER: **chuppah** [accept wedding **canopy**]

[10h] *Description acceptable.* Women with this characteristic take the shoe off a potential spouse and spit on the floor to deny marriage in the ceremony of *halizah*. *Yibbum* is a form of levirate marriage for women with this characteristic.

ANSWER: **widow** [accept word forms such as someone who is **widowed**; accept descriptive answers indicating that **the woman’s husband is dead**]

<Quynh Phung, RMP - Jewish Practice> ~20517~ <Editor: Ganon Evans>

21. Answer the following about the small British publisher Fitzcarraldo Editions, for 10 points each.

[10e] Of the eight most recent winners of this literary prize awarded in Sweden, three have been published by Fitzcarraldo Editions, including the most recent laureate Annie Ernaux (“ur-NO”).

ANSWER: **Nobel** Prize in Literature

[10h] Fitzcarraldo published the novels *Drive Your Plow Over the Bones of the Dead* and *Flights* by this winner of the 2018 Nobel Prize in Literature.

ANSWER: Olga **Tokarczuk** (“toh-CAR-chuk”) [or Olga Nawoja **Tokarczuk**]

[10m] Fitzcarraldo also published a book by Nobel Laureate Elfriede Jelinek (“el-FREE-duh YELL-ih-nek”) partly titled for this river. An 1824 poem describes a siren-like figure who lives by this river called the Lorelei (“LAW-ruh-lie”).

ANSWER: **Rhine** River [or **Rein**; accept **Rein Gold**] (“The Lorelei” is by Heinrich Heine.)

<Joseph Krol, Literature - European - Long Fiction> ~20119~ <Editor: Joseph Krol>