

## Penn Bowl 2021: Flenn Bowl

### Packet 3

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Tossups

1. After Hurricane Katrina, U2 and this band covered “The Saints Are Coming” in the Superdome for charity. A music video for one song by this band ends with their car smoking to a halt in a field, segueing into the next track’s music video. The bridge in that song includes an announcement that “the representative from California has the floor.” This band usually closes out concerts with a song that begins (\*) “Another turning point, a fork stuck in the road.” “Summer has come and passed / The innocent can never last” begins a song dedicated to the late father of this band’s lead singer, Billie Joe Armstrong. For 10 points, name this punk rock band that included “Holiday” and “Wake Me Up When September Ends” on their album *American Idiot*.

ANSWER: **Green Day** (The band usually ends concerts with “Good Riddance (Time of Your Life).”)

<Nitin Rao, Miscellaneous>

2. A book presented as a set of poems from this region is the magnum opus of Armand Schwerner. The erotic poem “My ‘Wool’ Being Lettuce” appears in a Thorkild Jacobsen anthology of poetry from this region entitled *The Harps That Once....* In a work from this region, the lines “his mouth is fire, his roar is floodwater, / his breath is death” describe a monster who dresses in seven terror-spreading robes. The lines “He (\*) who saw the deep” and “When on high the heaven had not been named” respectively open two long poems from this region. A priestess often called the “World’s First Author,” Enheduanna (“en-huh-DWAN-nuh”), was from this region, as was a poem about a king who walks on the bottom of the sea to retrieve an immortality-granting plant described by Utnapishtim. For 10 points, name this region where *Gilgamesh* was written.

ANSWER: **Mesopotamia** [or **Sumeria**; or **Akkadia**; or **Iraq**; or **Babylonia**; or **Assyria**; prompt on the Fertile Crescent; prompt on the Middle East]

<Jordan Brownstein, World Literature>

3. Male dancers pass around a female dancer so that she never touches the ground in this choreographer’s setting of Ives’s *The Unanswered Question*, part of a ballet whose premiere cast included Allegra Kent and Patricia Wilde. This choreographer had dancers take a long lunge in fourth position rather than *plié* to start a *pirouette en dehors*. Dancers dress in black and white for this choreographer’s “leotard ballets” like *The Four Temperaments*. Three muses arabesque while holding hands with the title lute-playing (\*) god in a *pas d’action* from this choreographer’s *Apollo*, one of his many collaborations with Igor Stravinsky. “Emeralds” and “Rubies” are movements of the ballet *Jewels* by this man, who portrayed Drosselmeyer in a production by his New York City Ballet. For 10 points, name this Georgian-American choreographer of a 1954 *Nutcracker*.

ANSWER: George **Balanchine** (The first clue refers to *Ivesiana*.)

<Michael Yue, Other Arts>

4. “**Scrive boards**” may be used at these places, which produce items described as “**flare**” or “**tumblehome.**” A man dissatisfied with the “**rules of thumb**” employed at one of these places led him to slam a door in the face of a crowd and flee to Deptford. A long hall known as the Tana was used to make hemp-cable at one of these locations whose entrance was flanked by the marble Piraeus lion. In 1861, Harland & Wolff founded a **prolific example of these facilities in** (\*) Belfast. Dutch and British examples of these facilities were visited during his Grand Embassy by a disguised Peter the Great, who built the first Russian ones. Frame-first construction was featured in the proto-assembly-lines of one of these sites called the *Arsenale*, which made Venice into a military power. For 10 points, name these industrial locations where dry docks may be used to produce galleys and liners. ANSWER: shipyards [accept dockyards or boatyards; accept descriptive answers that indicate locations where ships/boats were built, repaired, or fixed]  
<Tracy Mirkin, European History>

5. A dying Quetzalcoatl was saved when one of these creatures sacrificed himself for the god to eat. In Ojibwe myth, Gitche Manitou sent a trickster deity represented by one of these creatures named Nanabozho to earth. One of these animals is eaten by a crocodile after he tries to trick a group of them into forming a bridge; that is one of two myths associated with them from Inaba who predicts that Princess Yakami will choose Okuninushi as a husband. Mayahuel (“ma-ya-well”) and Patecatl bore Tepoztecatl (“teh-pohz-teh-KA-tull”) and his 399 siblings which were (\*) these animals who regularly got drunk and are associated with pulque. After hesitating to set himself on fire, Tecciztecatl (“tehk-seez-teh-KA-tull”) had one of these animals thrown in his face after it demonstrated more bravery than him. The elixir of life was made by one of these creatures who joined Chang’e (“chong-UH”) on the moon. Mesoamericans revered the fertility of, for 10 points, what animals, including one named Br’er (“brair”) in American folklore? ANSWER: rabbits [or hares]  
<NourEddine Hijazi, Belief>

6. Spectra from these entities follow a broken power law with a threshold between 0.1 and 1 MeV (“M-E-V”), and can be fitted to the Band function. These entities could be created when expanding shells of pair plasmas cause flash-heating of the interstellar medium according to Mészáros (“may-SAH-rohsh”) and Rees’s relativistic fireball model. While looking for covert nuclear weapon tests, the (\*) Vela Satellites discovered these events in 1967. These events were first located by Italian-Dutch satellite BeppoSAX, which observed the afterglow from interactions between their ejecta and interstellar gas. The short kind of these events are created by neutron star mergers, while the longer kind arises from massive star death. For 10 points, name these extremely energetic beam-like events that release the shortest wavelength of light. ANSWER: gamma-ray bursts [or GRBs; do not accept or prompt on “gamma rays”]  
<Sam Charney, Other Science>

7. This man developed his own Christianity-infused *satyagraha* after talking with Gandhi’s friend Charlie Andrews, who had asked for help crafting a vegan diet for Gandhi’s followers. Backed by Morris K. Jesup, this man designed a mobile classroom inside of a horse-drawn wagon. This man, whose fame was increased by James Childers’s article “A Boy Who Was Traded For a Horse,” let a young Henry A. Wallace follow him around while at Iowa State. This man developed a later-abandoned (\*) soybean-fueled car with Henry Ford. This self-proclaimed “stovetop chemist” is credited with popularizing a crop that helped ameliorate the boll weevil blight plaguing cotton. For 10 points, name this Tuskegee Institute chemist who described 105 ways to use a peanut. ANSWER: George Washington Carver  
<Emmett Laurie, American History>

8. The 2019 report “Asleep at the Wheel” identified over 500 “ghost” places of this type that never opened or quickly closed. The efficacy of “no-excuses” policies at these places is challenged in *Slaying Goliath* and other books by Diane Ravitch. The supposed benefits of these institutions, including one based in Harlem that is led by Geoffrey Canada, were profiled in David Guggenheim’s documentary (\*) *Waiting for Superman*. Proponents of these institutions such as The Walton Foundation focus on increasing choice for families and the ease of firing poor employees. After Hurricane Katrina, these institutions became the only source of public education in New Orleans. For 10 points, identify these schools that receive public funds but are typically managed by an independent company.

ANSWER: charter schools [prompt on schools or public schools]  
<Harris Bunker, Social Science>

9. *Specific word required.* French craft paper that an artist used while he was a GI inspired a modular 64-panel painting named for these things that was intended “for a Large Wall.” They’re not squares, but these things title a series in which they are “Arranged by Chance” by Ellsworth Kelly. A textbook on these things written at Yale applies the words “lucid” and “serious” to Goethe triangles; that textbook on the *Interaction of [these things]* is by (\*) Josef Albers. An embattled Barnett Newman series is titled *Who’s Afraid of [three of these things]*. Huge triptychs from a movement named for these things are part of the Menil Collection and hang in an artist’s namesake chapel in Houston. The unfinished Seagram murals characterize a movement named for these things. For 10 points, Mark Rothko was part of an abstract movement named for a “field” of what things?

ANSWER: colors [accept color field; prompt on spectrums or spectra by asking “what things make up a spectrum and title the Kelly series?”]  
<Aseem Keyal, Painting>

10. In 1999, Kelly and Silva devised a molecule whose triptycene moiety could undergo this phenomenon using thermal energy. The energy levels associated with this phenomenon for a molecule are dependent upon a distortion constant, D. In spectroscopy, the Q branch is associated with [emphasize] no change in this phenomenon, whereas the P and R branches result from a decrease or increase in the quantum number for this phenomenon, respectively. The contribution of this phenomenon to the (\*) molecular partition function is approximated as  $kT\text{-over-}hcB$ , which must be divided by the symmetry number sigma. A quantum “particle on a ring” or “sphere” may model this phenomenon, whose energy depends on the moment of inertia. For 10 points, name this type of movement that might give a molecule angular momentum.

ANSWER: rotation [accept equivalents like spinning; accept rotor; prompt on angular momentum until read by asking “what movement gives a particle angular momentum?”]  
<Sam Botterbusch, Chemistry>

11. *Description acceptable.* Followers of the Vilna Gaon (“gah-OWN”) who performed this action were known as the perushim (“peh-roo-SHEEM”). The Lech-Lecha (“LEKH luh-khah”) Torah reading is often done on a holiday celebrating this action held on the 10th of Nisan. Some proponents of this action adopted the acronym “BILU” (“bee-LOO”) from Isaiah 2:5. The phrase “L’Shana Haba’ah” (“luh-sha-NAH ha-ba-AH”) at the end of the Passover Seder references performing this action. Eliezer Joffe (“YOFF-eh”) founded the (\*) HeHalutz (“heh-kha-LOOTS”) movement to encourage people to perform this action. People who have performed this action are called Olim (“oh-LEEM”) and comprise most of the New Yishuv (“yee-SHOOV”). Mass forms of this action began in the 1880s, creating a need to revive Hebrew as a common language. For 10 points, Zionism encourages what action, known as *aliyah*, in which the Jewish diaspora returns to their ancestral homeland?

ANSWER: immigrating to Israel [or equivalents including going back or returning to Israel; accept Holy Land, Palestine, or Jerusalem in place of “Israel”; accept aliyah until read; prompt on immigration]  
<NourEddine Hijazi, Belief>

12. In this novel, a woman uses a cigarette lighter to set fire to a barricade of mattresses, destroying a facility run by the Commission of Logistics and Security. A character in this novel leaves a lock of her hair on her parents' apartment doorknob after helping to bury a dead woman in a garden full of hens and rabbits. This novel concludes at a banquet attended by a boy with a squint and an old man with a black eyepatch. In this novel, a (\*) gang withholds food until the protagonist stabs their leader in the neck with some scissors. After this novel opens with an incident at a traffic light, characters like "the doctor" contract the "white sickness." For 10 points, name this José Saramago novel about an epidemic of the title condition.

ANSWER: Blindness [or Essay on Blindness; or Ensaio sobre a cegueira]

<Sam Botterbusch, European Literature>

13. Russell Lande described a "rate test" for this process based on estimating the minimum intensity of its "truncation" variety required to create an observed change. This process is indicated by values of  $Q_{ST}$  ("Q-S-T") that deviate strongly from  $F_{ST}$  ("F-S-T"). In the absence of population growth or contraction, strongly positive or negative values of Tajima's  $D$  indicate the effects of this process on the (\*) allele frequency spectrum. A ratio of non-synonymous to synonymous substitutions much higher or lower than one is often used to test for this process. This process has no role in molecular evolution according to Kimura's neutral theory. During namesake "sweeps," this process can cause alleles to quickly reach fixation because of the fitness advantage they confer. For 10 points, name this central mechanism of Darwinian evolution.

ANSWER: natural selection [or artificial selection; accept directional selection, stabilizing selection, disruptive selection, balancing selection, positive selection, negative selection, or selective sweeps; do not accept or prompt on "evolution"]

<Shan Kothari, Biology>

14. To gain a colonial power's favor, a leader during this conflict foiled Isaac Sasportas' plan to free a neighboring country's slaves. Claude Ribbe controversially argued that a leader in this conflict's use of a sulfur dioxide-filled cargo hold as a gas chamber provided a "Blueprint for Hitler." This conflict began after Cécile Fatiman presided over a meeting at (\*) Bois Caïman ("bwah kah-ee-MON") with Dutty Boukman. A brief interlude in this conflict called the War of Knives saw one side's northern troops invade its south. This conflict is the subject of C. L. R. James's *Black Jacobins*, which focuses on a man whose lieutenant, Jean-Jacques Dessalines, won the war. For 10 points, name this conflict during which Toussaint L'ouverture led forces against the French.

ANSWER: Haitian Revolution [accept synonyms for revolution like revolt or War of Independence; accept La Révolution haïtienne]

<Emmett Laurie, World History>

15. A Fabry-Pérot interferometer's finesse equals the following: pi times the square root of a quantity related to this phenomenon all over one minus that quantity. If media permeabilities are near mu-naught, the energy carried by this phenomenon is equal to the square of the following:  $n$ -one minus  $n$ -two all over the sum of  $n$ -one and  $n$ -two. The propagation of an evanescent wave parallel to an interface causes a lateral displacement when one type of this phenomenon occurs in the (\*) Goos-Hänchen effect. For an incident wave with wavenumber  $k$ , the wave produced by this phenomenon has a wavenumber of minus  $k$ . This phenomenon does not occur at Brewster's angle. In this phenomenon's diffuse form, the incoming and outgoing angles are not equal. For 10 points, name this phenomenon in which light bounces off an object.

ANSWER: reflection [accept word forms of reflect; accept reflectance; accept total internal reflection; prompt on TIR]

<Jonathen Settle, Physics>

16. A character created by this author feigns surprise when his lover discovers him whistling to himself in a rowboat, and is earlier accosted by her father when he discovers love letters in her underwear drawer. After failing to find some food he stashed underneath some white rocks, a character created by this author discharges his revolver at Little Formless Fears that emerge from the forest. Muriel is courted by Richard Miller in this playwright's only (\*) comedy. In another play by this author, the former Pullman porter Brutus establishes himself as ruler of a West Indian island. This man also wrote a play in which Theodore Hickman confesses to the murder of his wife to the patrons of Harry Hope's saloon. For 10 points, *Ah, Wilderness!* was written by what playwright of *The Emperor Jones* and *The Iceman Cometh*?

ANSWER: Eugene O'Neill

<Sarah Potts, American Literature>

17. This work adds the qualifier "in a full life" to a central definition because "one swallow does not make a summer." This work describes a slow gait and a deep voice as attributes of the "great-souled" person, which W. D. Ross translated as the "proud man." This book considers life, which is shared by plants, and perception, which is shared by animals, before deciding that the "rational principle" makes humans unique, in its "function argument." According to this book, (\*) "practical wisdom," or *phronesis*, helps one cultivate dispositions, or *hexis*, that lie at a "mean" between excess and deficiency. Happiness, or *eudaimonia*, is identified as the highest good in, for 10 points, what founding book in the virtue ethics tradition by Aristotle?

ANSWER: Nicomachean Ethics [prompt on Aristotle's Ethics]

<Jordan Brownstein, Philosophy>

18. A choral work by this composer begins with the violins softly playing the eighth notes "C, low G, G, G" as they descend a C-minor triad. A D-major motet by this composer written for the feast of Corpus Christi is marked *sotto voce* ("soh-toh VOH-chay") throughout and is quoted in Tchaikovsky's fourth orchestral suite. The first of five C-major masses written in quick succession by this composer features a "Hosanna" with chirping violin figures evoking the title *Sparrow*. This composer of an (\*) "Ave verum corpus" and a "Great" Mass in C minor made a German arrangement of the *Messiah*, which he referenced in the double-fugue "Kyrie" ("KEE-ree-ay") of his last work. That work by this composer includes a 12/8-time *Larghetto* movement completed by Franz Süssmayr, the "Lacrimosa." For 10 points, name this composer of an unfinished D-minor requiem.

ANSWER: Wolfgang Amadeus Mozart

<Michael Yue, Music>

19. In a negative review of this poem, William Hazlitt claimed it only proves that its author "can write better nonsense verse than any man in English." This poem inspired a poem that speculates about a man having a grandmother from Rutlandshire and a cat named Flo. This poem, which inspired those "Thoughts" by Stevie Smith, describes how a "fountain momentarily was forced" from a (\*) "chasm, with ceaseless turmoil seething." The Crewe manuscript of this poem names Mount Amara instead of Mount Abora as the subject of the dulcimer song of an "Abyssinian maid." This poem ends by describing a figure with "flashing eyes who has "drunk the milk of Paradise." For 10 points, the title figure orders a "pleasure dome" in Xanadu in what Samuel Taylor Coleridge poem?

ANSWER: "Kubla Khan"

<Sam Botterbusch, British Literature>

20. In the Roman Empire, the “primary” or “secondary” forms of this practice were respectively accomplished by building a *bustum* or an *ustrinum*.” Items used to hold the results of this practice lend their name to a Bronze Age central European culture that was succeeded by the Hallstatt. In 1969, the earliest known evidence of this practice was discovered at Lake Mungo, Australia, where the presence of ochre pigment suggests its ritualistic performance. This practice became less common with the rise of Christianity, due to its (\*) incompatibility with the concept of resurrection of the body. Carbonized artifacts located in tumuli have provided evidence of this mortuary practice, which characterized the Urnfield Culture. For 10 points, name this practice in which bodies are disposed of via combustion.

ANSWER: cremation [or word forms; prompt on descriptive answers such as burning bodies; prompt on interment, inurnment, funerals, or funerary rites/practices; do not accept or prompt on “burial” or “inhumation”]

<Tracy Mirkin, Other History>

## Bonuses

1. Answer the following about the metaphysical positions of the philosopher David Armstrong, for 10 points each.  
[10m] Armstrong introduced the idea of an “ontological free lunch” in a rebuttal of Russell’s regress argument against the “resemblance” form of this position. William of Ockham held this position that universals do not exist.

ANSWER: **nominalism** [or word forms]

[10e] Armstrong’s theory of “states of affairs” resembles this Austrian philosopher’s claim that the “world is the totality of facts, not of things,” which is the second proposition of his *Tractatus Logico-Philosophicus*.

ANSWER: Ludwig **Wittgenstein**

[10h] David Lewis argued that Armstrong’s theory of “truthmakers” could be replaced with the weaker thesis that truth has this relation to being. Jaegwon Kim’s “exclusion argument” claims that mental events have this relation to physical events.

ANSWER: **supervenience** [accept word forms, like it **supervenes** upon]

<Jordan Brownstein, Philosophy>

2. Van Gogh’s suicide is described in a letter to Albert Aurier written by this artist, who handled Van Gogh’s affairs after his death. For 10 points each:

[10h] Name this artist who co-developed Cloisonnism. His solemn, devoutly Christian phase included a self-portrait among red nudes and Christ’s floating head that he painted after breaking off contact with Paul Gauguin.

ANSWER: Émile **Bernard** [or Émile Henri **Bernard**; do not accept or prompt on “Pierre Bonnard”]

[10e] Along with Gauguin and van Gogh, this artist’s letters to Bernard are an important primary source of Post-Impressionism. This proto-Cubist’s landscapes of places like Mont Saint-Victoire heavily influenced Bernard.

ANSWER: Paul **Cézanne**

[10m] Bernard and Gauguin met at Pont-Aven (“pon-tah-VEN”) in this French region and were inspired by its landscapes and bonnet-wearing peasantry for paintings like *The Yellow Christ* and *Vision After the Sermon*.

ANSWER: **Brittany** [or **Bretagne**]

<Aseem Keyal, Painting>

3. Margaret Thatcher’s son went missing in the Sahara Desert for six days during this race in 1982. For 10 points each:

[10m] Name this off-road race where drivers originally started in Paris and raced across the Sahara to an African capital.

ANSWER: **Dakar** Rally

[10e] In 2009, the Dakar Rally moved to South America, where competitors crossed this mountain range on the route from Buenos Aires to Chile and Peru.

ANSWER: **Andes** Mountains

[10h] Since 2020, the Dakar Rally has begun from this Red Sea port, passing the Neom development project on its route. A tower under construction in this city will be the tallest building in the world on completion, at 1 km high.

ANSWER: **Jeddah** [or **Jiddah**; or **Jeddah** Tower]

<Nitin Rao, Miscellaneous>

4. While in a courtyard of this building, the author chats with a Moor who laments the modern age's lax poetic standards and the treachery of Boabdil. For 10 points each:

[10m] Name this building that titles an 1832 collection of travel essays and historical short stories. An American author lived in this building when he recorded the stories "The Legend of the Arabian Astrologer" and "The Legend of the Three Beautiful Princesses."

ANSWER: The **Alhambra** [accept *Tales from the Alhambra*]

[10e] *Tales of the Alhambra* was written by this author, better known for his short story "The Legend of Sleepy Hollow."

ANSWER: Washington **Irving**

[10h] While living in Spain, Irving also wrote a "historical romance" about this man. An 1807 epic poem by Joel Barlow that begins by invoking "Almighty Freedom" is titled for this man.

ANSWER: Christopher **Columbus** [or Cristoforo **Colombo**; accept *The Columbiad*]

<Sarah Potts, American Literature>

5. Odd pieces that have been played at these events include a polka nicknamed "Fireproof" featuring several anvils and one nicknamed "Jockey" featuring a prominent part for whip. For 10 points each:

[10m] Name these events held annually at the *Musikverein* ("moo-ZEEK-vuh-ryne"). Due to the coronavirus pandemic, no audience was present in 2021 to clap along to this event's traditional final encore, the "Radetzky March."

ANSWER: Vienna **New Year's Concerts** [accept any description of **concerts** held on **New Year's** Eve or Day by the Vienna Philharmonic Orchestra; prompt on partial answer]

[10e] The programs of the Vienna New Year's Concerts are usually almost entirely composed of polkas, marches, and waltzes by members of this Austrian family, including Eduard, Johann Sr., and the "Waltz King" Johann Jr.

ANSWER: **Strauss** [accept Eduard **Strauss**; accept Johann **Strauss**, Sr.; accept Johann **Strauss** Jr. or Johann **Strauss** II]

[10h] This reclusive Austrian conductor led the highly acclaimed 1989 and 1992 New Year's Concerts. His small discography includes a landmark 1976 Deutsche Grammophon recording of Beethoven's fifth and seventh symphonies with the Vienna Philharmonic.

ANSWER: Carlos **Kleiber**

<Michael Yue, Music>

6. Howard Ulrich and his son recalled seeing the treetops far below them during an event that occurred in this body of water, which produced a new, wider trimline by scraping away masses of soil and vegetation. For 10 points each:

[10h] Name this T-shaped fjord, a small extension of the Pacific Ocean into the North American mainland. In 1958, an earthquake-triggered rockslide into this body's Gilbert Inlet resulted in the tallest megatsunami ever recorded, at 1,720 feet.

ANSWER: **Lituya Bay** [prompt on, but DO NOT REVEAL, the Gulf of Alaska]

[10e] The Lituya Bay megatsunami occurred in this US state. The largest volcanic eruption of the 20th century, Novarupta, occurred in this state's modern Katmai National Park, across from nearby Kodiak Island.

ANSWER: **Alaska** [or **AK**; or *Anáaski*]

[10m] Anchorage was significantly damaged during a 1964 Alaskan earthquake that is often nicknamed for this day on which it occurred. In its aftermath, the US Army Corps of Engineers completely relocated the town of Valdez.

ANSWER: **Good Friday** [prompt on Friday]

<Tracy Mirkin, Other History>



7. The topology freezing transition temperature in this class of polymers may be modified by adjusting catalyst conditions. For 10 points each:

[10h] Name this class of organic polymers that can flow at a certain temperature as a consequence of thermally-driven bond exchange reactions. Unlike closely related thermoplastics, they consist of molecular chains held together by strong [emphasize] *reversible* covalent bonds.

ANSWER: **vitrimers**

[10m] The earliest type of vitrimers relied on bond exchange reactions between these kinds of molecules. Both Otera's catalyst and biological lipases catalyze the formation of these molecules from alcohol.

ANSWER: **esters**

[10e] As amorphous organic polymers, vitrimers solidify at a transition temperature named for this material. The most famous example of these materials consists of silicon dioxide and is used for windows.

ANSWER: **glass**

<Sam Botterbusch, Chemistry>

8. The onetime-sailor Henri Martin and the stenographer Raymonde Dien became *causes célèbres* ("cause suh-LEB-ruh") after being arrested for protesting against this conflict. For 10 points each:

[10m] Name this conflict, during which one side was humiliated by the pessimistic Revers Report. Berlioz's *Requiem* played on the radios after Joseph Laniel announced an unexpected 1954 surrender during this conflict.

ANSWER: First **Indochina** War [accept **Anti-French Resistance** War; accept answers that mention **France** fighting in modern **Vietnam** or the **Việt Minh**]

[10h] This leader of the Radical Party campaigned primarily on France's withdrawal from Indochina. He also began independence discussions with Tunisia and Morocco, but was stymied in Algeria by *pieds-noirs* ("pyay-nwarr").

ANSWER: Pierre **Mendès France** [or **PMF**; prompt on **Mendès** or **France**]

[10e] Following his eight-month reign, Mendès France led the Union of Democratic Forces against this man, who returned to power during the 1958 Algerian unrest before founding France's Fifth Republic.

ANSWER: Charles **de Gaulle**

<Tracy Mirkin, European History>

9. After they decide not to consummate their marriage, an angel brings two characters from this story a crown of lilies and a crown of roses. For 10 points each:

[10h] Name this story. Almachius's attempt to have Cecilia executed in this work fails when she continues to preach for three more days with her neck cut open.

ANSWER: "The **Second Nun's Tale**"

[10m] Although this section does not describe the second nun, it says that the prioress wears a brooch inscribed with "Amor Vincit Omnia" and opens by describing how the "sweet-smelling showers" of April ended the drought of March.

ANSWER: The **General Prologue** [prompt on **prologue**]

[10e] Along with "The Second Nun's Tale" and "The General Prologue," this collection of short stories by Geoffrey Chaucer also includes "The Wife of Bath's Tale."

ANSWER: *The* **Canterbury Tales**

<Margaret Tebbe, British Literature>

10. With collaborators like Dorothea Tieck and Caroline Schelling, August Schlegel completed this literary project in German. For 10 points each:

[10e] Name this task that involves making works like *Romeo and Juliet* and *Macbeth* accessible to non-Anglophone audiences.

ANSWER: **translating** the plays of William **Shakespeare** [accept word forms of **translation** in place of “translating”; prompt on **translation** or word forms by asking “of what author?”]

[10m] After reading from Schlegel’s translation of *Romeo and Juliet*, this author had a mystical experience at the grave of his fiancée Sophie von Kühn. Kühn’s death inspired the *Hymns to the Night* by this German Romantic poet.

ANSWER: **Novalis** [or Friedrich von **Hardenburg**]

[10h] Friedrich Schlegel praised the “universality” of Shakespeare in one of his “fragments” named for this magazine, which kickstarted German Romanticism under the editorship of the Schlegel brothers.

ANSWER: **Athenaeum** [accept *The Athenaeum Fragments*]

<Margaret Tebbe, European Literature>

11. Answer the following about Walter Benjamin’s essay “A Short History of Photography,” which was published five years before his “The Work of Art in the Age of Mechanical Reproduction.” For 10 points each:

[10e] Benjamin credits this country’s films with beginning the “renunciation of the human image” in photography. In this country, artists were labeled as “formalists” for their deviation from the state ideology of Socialist Realism.

ANSWER: **Soviet Union** [or **USSR**; accept **Russia**]

[10m] The essay briefly mentions this early French photographer as part of a long-lasting transitional generation. This pioneer of aerial photography is shown “Elevating Photography to Art” in an Honoré Daumier lithograph.

ANSWER: **Nadar** [or Gaspard-Félix **Tournachon**]

[10h] Much of Benjamin’s essay praises this photographer’s empty depictions of Parisian street life for the “liberation of the object from the aura.” The photos of this proto-Surrealist were in part popularized by Berenice Abbott.

ANSWER: Eugène **Atget** (“oo-ZHEN aht-ZHAY”)

<Aseem Keyal, Other Arts>

12. Ben Rawlence’s *City of Thorns* chronicles a refugee camp primarily occupied by these people, where they coined the word *buufis* to describe a longing for resettlement. For 10 points each:

[10h] Name these people, the primary inhabitants of the world’s largest refugee camp, Dadaab. These people’s namesake country fought the Shifita War over these people living in a southern neighbor.

ANSWER: **Somali** people

[10m] Relations with Somalia affect the Kenyan trade in this good, for which Somalia is a key market. An infamous 2018 *Economist* article argued the Yemeni famine could be halted if men stopped chewing this good.

ANSWER: **khat** [or **qat**]

[10e] Dadaab refugee camp has started to close under the direction of Uhuru, Kenya’s president from this family. Uhuru’s father, Jomo, was Kenya’s first President.

ANSWER: **Kenyatta**

<Emmett Laurie, World History>

13. One of the mathematical structures named for this man only contains the elements 0 and 1, with addition and multiplication defined modulo 2. For 10 points each:

[10m] Name this mathematician who lends his name to finite fields. He also names a kind of group that is solvable if and only if its associated polynomial is solvable by radicals.

ANSWER: Évariste **Galois** [accept **Galois** field or **Galois** group]

[10e] The simplest way to construct a Galois field is to take the set of the integers modulo one of these whole numbers. Such a set is a field because the only common factor between one of these numbers and a non-multiple is the number one.

ANSWER: **prime** numbers

[10h] An element  $a$  in a finite field is this kind of element for the field if all nonzero members of the field may be written as some integer power of  $a$ . These elements are generators of the multiplicative group of the field.

ANSWER: **primitive** element

<Sam Botterbusch, Other Science>

14. Answer the following about very short “flash fiction” from around the world, for 10 points each.

[10e] A writer in this language, A. L. Snijders, invented a flash fiction genre called “zkv” that was first translated into English in 2021 by Lydia Davis. Anne Frank wrote her diary in this language while hiding in its nation’s capital.

ANSWER: **Dutch** [or **Nederlands**]

[10m] An author from this movement, Augusto Monterroso, wrote a story that reads: “When he awoke, the dinosaur was still there.” Mario Vargas Llosa was part of this literary movement of 1960s and 1970s Latin America.

ANSWER: the Latin American **Boom** [or el **Boom**]

[10h] An author born in this country, Osama Alomar, wrote a story that reads: “He was born with a silver knife in his mouth. And he was its first victim.” Zakaria Tamer is another short fiction author from this country, which is the setting of the *Songs of Mihyar*.

ANSWER: **Syria** (The *Songs of Mihyar of Damascus* are by the Syrian poet Adunis.)

<Jordan Brownstein, World Literature>

15. In Book IX of the Aeneid, one of these characters dies and slumps like “a blood-red flower, cut by a plow,” after he is unable to save the other during a night raid on the Latin army. For 10 points each:

[10h] Identify these two Trojan characters. After slipping and realizing he cannot win a footrace, one of them trips Salius in order to let the other one win.

ANSWER: **Nisus** AND **Euryalus** (“yur-EYE-uh-lus”)

[10m] Nisus and Euryalus’s night raid is a less successful parallel of the night raid of Odysseus and this man in the Iliad. In Book V, Athena drives his chariot while he stabs Ares after he earlier attacked Apollo and Pandarus.

ANSWER: **Diomedes**

[10e] Nisus and Euryalus’s footrace took place at the funeral games of Anchises, the father of Aeneas with this Greek goddess of love and sexuality.

ANSWER: **Aphrodite**

<NourEddine Hijazi, Belief>

16. Answer the following about the theory of quantum dots, or QDs, for 10 points each.

[10h] This perturbative method is often done to eight bands in model QDs. This method is a second-order expansion in terms of Bloch functions at the gamma point of the Brillouin (“bree-WANN”) zone.

ANSWER: **k dot p** perturbation theory

[10e] An early approximate model of QDs developed by Louis Brus relied on the “effective” form of this quantity. By Newton’s second law, force equals this quantity times acceleration.

ANSWER: **mass** [or **m**]

[10m] QDs have a size-dependent band gap because they are smaller than this quantity for an exciton. This quantity written a-sub-zero equals h-bar over the product of electron mass, the speed of light, and the fine structure constant.

ANSWER: **Bohr radius** [or exciton **Bohr radius**]

<Jonathen Settle, Physics>

17. In one opinion, John Roberts quipped that these objects are “such a pervasive part of life” that a Martian visiting Earth “might conclude they [are] an important feature of the human anatomy.” For 10 points each:

[10e] Name these things, whose location data requires a warrant per *Carpenter v. US*. A company refused an FBI order to unlock one of these devices owned by the San Bernardino shooters.

ANSWER: cell **phones** [or mobile **phones**; accept more specific answers like **iPhones**]

[10h] In a *Carpenter* dissent, this justice argued for a stronger standard than *Katz* because cell phone records should constitute private property. In an appellate decision, he argued TransAm had legally fired a trucker who abandoned his cargo so as not to freeze to death.

ANSWER: Neil **Gorsuch**

[10m] Earlier, this Justice had rejected “through the wall” and “off the wall” distinctions for warrantless thermal imaging searches in *Kyllo v. US*. He sarcastically added “to decide What is Golf?” to the Supreme Court’s constitutional mandate in his dissent in *PGA Tour v. Martin*.

ANSWER: Antonin **Scalia**

<Emmett Laurie, American History>

18. St. Ephrem the Syrian founded the School of Nisibis, which was closed for promoting this heresy. For 10 points each:

[10m] Name this heresy that was adopted by the Assyrian Church of the East, existing in modern-day Iraq and Iran. Cyril of Alexandria argued against the founder of this heresy at the Council of Ephesus.

ANSWER: **Nestorianism** [accept word forms]

[10e] Through its rejection of Nestorianism, the church conferred the title of Theotokos onto this woman, Jesus’s mother.

ANSWER: Virgin **Mary**

[10h] The Council of Ephesus also rejected the premillennialism of this saint who defended Christianity to Antoninus Pius in his Apologies by arguing that Jesus is the embodiment of the Logos.

ANSWER: **Justin Martyr** [prompt on **Justin** or **St. Justin**]

<NourEddine Hijazi, Belief>

19. The anionic lipid cardiolipin helps to lubricate the c-ring of these proteins by repeatedly binding and releasing from lysine residues. For 10 points each:

[10m] Name these proteins with a torque-generating, hydrophobic  $F_0$  subunit and a hydrophilic  $F_1$  unit with a rotating central stalk.

ANSWER: **ATP synthases** [or **ATPases**]

[10h] Oxidative stress may trigger this event, which causes cell death in part by stopping ATP synthesis. During this event, the formation of a namesake 1.5-kilodalton pore eliminates the proton gradient that powers ATP synthase.

ANSWER: mitochondrial **permeability transition** [or **MPT**; accept mitochondrial **permeability transition** pore or **MPTP**]

[10e] The primary trigger for the mitochondrial permeability transition is this ion with a plus-2 charge, which is also the main cation in bone mineral.

ANSWER: **calcium** ions [or **Ca<sup>2+</sup>**]

<Shan Kothari, Biology>

20. An experiment that supposedly helped identify this phenomenon had individuals write down the last four digits of their phone number before guessing a house price. For 10 points each:

[10m] Identify this cognitive bias in which individuals tend to put too much weight on a prior piece of information in decision-making.

ANSWER: **anchoring** [or word forms like **anchoring** heuristic or **anchoring** bias; accept **focalism**; prompt on **priming**]

[10e] People with high amounts of agreeableness and conscientiousness have demonstrated a higher susceptibility to anchoring. Agreeableness and conscientiousness are traits in the Big 5 classification of this psychological concept.

ANSWER: **personality**

[10h] In this related psychological bias, people tend to put more worth on objects they already own than it would cost to buy them. So-called “psychological ownership” theories attempt to explain this bias.

ANSWER: **endowment** effect [or **divestiture aversion**]

<Harris Bunker, Social Science>