



## 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 07 - Tossups

1. The *Maestoso* fourth section of an orchestral work named for this instrument begins with a 2-octave C major chord before a fugue begins in the low strings. A musician who played this instrument succeeded Franz Tunder in organizing a series of musical concerts called *Abendmusik* held in St. Mary's Church in Lübeck. A work composed for this instrument opens with a (\*) mordent on A, then (read slowly) “descending G, F, E, D, C-sharp, (pause) up to D,” and an orchestrated version of that work begins the film *Fantasia*. Three staves are often used to notate music for this instrument regardless of the number of manuals used because of its use of foot pedals. For 10 points, what keyboard instrument originally played *Toccata and Fugue in D minor*?

ANSWER: pipe organ [accept *Organ Symphony*]

<Benjamin Chapman, Fine Arts - Music - Miscellaneous> ~23504~ <Editor: Young Lee>

2. This compound holds DSPC, DMA, and PEGylated (“peg-uh-lated”) DMG together in the nanoparticles designed by Moderna for drug delivery. The chiral nematic phase is named for this compound because liquid crystals were discovered in its benzoate ester. This molecule’s polar -OH (“O-H”) group orients with sphingomyelin (“sfing-oh-MAI-uh-lin”) at microdomains called rafts. This compound’s biosynthesis requires a remarkable domino reaction in which (\*) squalene cyclizes four times. This compound raises the melting point of phospholipids at high temperatures, but prevents bilayers from solidifying when it is cold, according to the fluid mosaic model. In the blood, this precursor to vitamin D is bound to lipoproteins like LDL. For 10 points, name this steroid found in the cell membrane.

ANSWER: cholesterol [or cholesteryl benzoate]

<Adam Silverman, Science - Chemistry> ~25620~ <Editor: Adam Silverman>

3. In this play’s final scene, an author who struggles with “cerebral accidents” recites a verse about a blanching orange tree. An artist in this play acknowledges her “blue devil” as a representation of her impulses. A character in this play drinks poppy seed tea and is wrapped in a hammock after trying to “swim to China” in an attempt to kill himself. Judith Fellowes leads a group of Baptist girls in this play who appear in its first act before the (\*) “world’s oldest poet,” Nanno, is rolled onto a veranda. The artist Hannah Jelkes is pursued in this play by a pastor-turned-tour guide who stays at Maxine Faulk’s Costa Verde hotel in Mexico. For 10 points, name this Tennessee Williams play that ends as T. Lawrence Shannon unties the title reptile.

ANSWER: *The Night of the Iguana*

<Ganon Evans, Literature - American - Drama> ~25882~ <Editor: Chandler West>

**4. Men from this country founded Japan’s Ministry of Public Works and the Imperial College of Engineering in Tokyo. The Choshu Five studied in this country, which was the home of two sailors who were murdered by a samurai in the Icarus affair. This country bombarded Kagoshima during its brief war with the Satsuma domain in 1863. A 1903 treaty with Japan marked the end of this country’s “Splendid Isolation” policy. In 1942, this (\*) country surrendered its Straits Settlement to Japanese troops. Japan, South Korea, and two former colonies of this European country are called the “Asian Tigers” due to their rapid growth rate. For 10 points, name this country that colonized Singapore and Hong Kong.**

ANSWER: United Kingdom [or UK; or Great Britain; or England]

<Michael Bentley, History - World - Asian> ~22448~ <Editor: Jordan Brownstein>

**5. The protagonist of a play by this author kills a vision of a White woman after ordering the death of Moustique (“moo-STEER”). A poem by this author describes a “worm, colonel of carrion” crying “Waste no compassion on these separate dead!” In a play by this author, Tigre (“TEE-gruh”) is freed from prison after Corporal Lestrade is stabbed by Makak. This author imagined a wind “ruffling the tawny pelt” of the title place in a poem that ponders “the (\*) English tongue I love” and asks “How can I turn from Africa and live?” This author of *Dream on Monkey Mountain* wrote a classically-inspired epic about the fisherman Achille (“ah-KEEL”) and Hector, set in the Caribbean. For 10 points, name this poet of “A Far Cry From Africa” and *Omeros* (“OM-eh-ross”), who hails from St. Lucia.**

ANSWER: Derek Walcott [or Derek Alton Walcott]

<Joseph Krol, Literature - World and Miscellaneous> ~25224~ <Editor: Joseph Krol>

**6. A holder of this position ostracized corrupt tax collectors called *masand* and argued that not shaving the head exempted followers from a different tax. A holder of this position embarked on five journeys around the world after seeing people burning in the flames of the “fourth age.” One holder of this position repeatedly emerged from a tent with a sword covered in goat’s blood, making it appear as if he had killed his followers. Much of the *Japji* (\*) Sahib, including the Mul Mantar, was authored by a holder of this title. The tenth holder of this position established the Khalsa, while the eleventh and final holder of this position is the Granth Sahib. For 10 points, name this religious status held by figures like Gobind Singh and Nanak, given to spiritual leaders of Sikhism.**

ANSWER: Sikh guru

<Andrew McCowan, RMP - East Asian Religion> ~25581~ <Editor: Athena Kern>

**7. This justice declared, “A state of war is not a blank check for the President when it comes to the rights of the nation’s citizens” in a ruling against the administration in the case *Hamdi v. Rumsfeld*. This justice’s confirmation hearing was the first to be fully televised and followed the retirement of Potter Stewart. This author of the memoir *Lazy B: Growing Up on a Cattle Ranch in the American Southwest* was once the majority leader of (\*) Arizona’s senate. This justice developed the “undue burden” standard in *Planned Parenthood v. Casey*’s majority opinion. Playwright Arthur Miller once accosted this justice over the *Bush v. Gore* swing vote she provided to the majority. For 10 points, name this first female justice on the Supreme Court.**

ANSWER: Sandra Day O’Connor [or Sandra Day]

<Michael Bentley, History - American - 1945+> ~25407~ <Editor: Michael Bentley>

8. *Note to players: Either the name of the class or the common name of any of its major species is acceptable.* Ecologists are deploying a “ribbed” species in this class that absorbs heavy metals to clean up Atlantic salt marshes. Species in this class use dopamine in the foot protein of their byssal threads. *Mytilus californianus*, a member of this class, is preyed upon by starfish in tidepools in the first described keystone interaction. Ships in Lake Erie are quickly covered by a layer of an invasive species in this class named for its (\*) zebra stripes. Humans mainly get *Vibrio vulnificus* infections by eating animals in this class. Animals in this class have nacreous shells and form layers of calcium carbonate around food particles to produce iridescent gems. For 10 points, name this class of mollusks that have a hinged shell and can produce pearls.

ANSWER: bivalves [or Bivalvia; accept clams, oysters or mussels or any specific species of these; accept scallops or cockles; prompt on mollusks or Mollusca until read]  
<Shahar Schwartz, Science - Biology> ~25517~ <Editor: Adam Silverman>

9. A person of this name inscribed Epicurus’s teachings onto a portico wall in his hometown of Oenoanda (“EE-no-AN-dah”). A philosopher of this name was the first to suggest that meteorites were extraterrestrial and had his work on blood vessels preserved by Aristotle. A thinker with this name was supposedly beaten with a staff by his future teacher Antisthenes. *The Lives and Opinions of Eminent Philosophers* was written by a man of this name nicknamed (\*) Laertius. A philosopher with this name used a plucked chicken to ridicule Plato’s definition of man as a “featherless biped” and carried a lamp around in daylight in search of an honest man. For 10 points, give this name of a barrel-dwelling Cynic philosopher from Sinope (“SYE-noh-pee”).

ANSWER: Diogenes [or Diogenes of Sinope or Diogenes of Oenoanda or Diogenes of Apollonia or Diogenes Laertius]  
<Veer Bhatt, RMP - Philosophy> ~25045~ <Editor: Jordan Brownstein>

10. It’s not carving, but the earliest examples of this art form are in the “shell-and-bone” style. It’s not painting, but some practitioners of this art form often switch between thicker *futofude* (“FOO-toh-foo-day”) and thinner *hosofude* (“HOE-so-foo-day”). A Baha’i master of this art form, Mishkin Qalam, got his surname from a tool used in it. Wavy, downward tilts are characteristic of the “clerical” style of this art form. A Duan stone was often used for grinding soot sticks for practicing this art form. This art form was practiced by the Three Great (\*) Brushes of Kan’ei. In Japan, *karayō* refers to the Chinese style of this art form, which generally uses kanji. *Xingshū* (“see’ng-shoo”) is the name for a semi-cursive style of this art form. For 10 points, name this form of stylized writing.

ANSWER: calligraphy [accept Chinese calligraphy or Japanese calligraphy or Arabic calligraphy; accept shūfǎ; accept shodo or shuji; prompt on writing or painting or brushwork]  
<Michael Bentley, Fine Arts - Painting - World> ~24014~ <Editor: Michael Bentley>

11. In 1810, Jean-Antoine Chaptal rediscovered how this commodity was successfully stored in Roman *horrea*. In the 1960s, Pakistan’s economy was transformed by adopting the Penjamo (“pen-HAH-mo”) 620 variety of this crop. Climate change has threatened a “belt” named for this crop in Western Australia. In the 19th century, up to a million tons of this crop were exported each year from Odessa. This crop was imported in great quantities from (\*) Egypt for Rome’s *Cura Annonae* handout. Norman Borlaug’s “semi-dwarf” variety of this crop, first used in Mexico, kickstarted the Green Revolution. The song “America the Beautiful” describes the “amber waves” of this crop. For 10 points, name this crop whose germ and bran layers are removed from the flour used to produce white bread.

ANSWER: wheat [or grain; accept Triticum; prompt on cereal; reject “maize”; reject “corn”]  
<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~25163~ <Editor: Michael Bentley>

**12. At the end of this novella’s first section, its protagonist looks around for a man in a straw hat on the platform while waiting for a tram. The protagonist of this novella starts regularly seeing a barber who dyes his hair following a dream about a Dionysian “stranger-god.” In this novella, the recently-ennobled author of the *The Abject* is unsettled by multiple red-haired foreigners and is told that the smell of (\*) disinfectant is really just the “sirocco.” After eating overripe strawberries, this novella’s protagonist dies of cholera while obsessing over a fourteen-year-old Polish boy called Tadzio (“TAH-joe”). Gustav von Aschenbach (“GOO-stahv von ASH-uhn-BACK”) is the protagonist of, for 10 points, what Thomas Mann novella set in Italy?**

ANSWER: *Death in Venice* [or *Der Tod in Venedig*]

<Gabriel Guedes, Literature - European - Short Fiction> ~13647~ <Editor: Joseph Krol>

**13. An operator named for this property is proportional to a product of Dirac gamma matrices. Jellium is a model in which a form of this property forms a uniform background. Landau quantization describes the motion of massive particles with this property as they undergo cyclotron resonance. The two main types of semiconductor (\*) doping are named for forms of this property. Cronin and Fitch won a Nobel prize for observations of a “violation” of this property and parity. Overbars represent the conjugation of this property, and are thus used to denote antiparticles. The “elementary” quantum for this property was first calculated by Millikan’s oil drop experiment. For 10 points, name this property measured in Coulombs.**

ANSWER: electrically charged [accept negatively charged or positively charged or electric charge or negative charge or positive charge or charge conjugation or charge symmetry; prompt on Q or C]

<Adam Silverman, Science - Physics> ~26091~ <Editor: David Bass>

**14. A losing commander at this battle named Megabazus was given an insulting spindle and distaff. At this battle, Ariabignes was killed by the brother of the playwright Aeschylus. After gaining fame in this battle, Cimon (“key-mon”) was elected *strategos*. King Damasithymus (“dah-muh-sith-ee-mus”) and other Calyndians were killed in this battle during the hasty retreat of a ruler of Caria. After this battle, Mardonius was appointed governor and completed a second sack of (\*) Athens. During this battle, Queen Artemisia inspired a disparaging remark by a ruler who supposedly watched this battle from a throne on Mount Aigaleos. Athenian triremes triumphed over the forces of King Xerxes I at, for 10 points, what decisive naval battle of the second Persian invasion of Greece?**

ANSWER: Battle of Salamis

<Lalit Maharjan, History - European - Classical> ~24982~ <Editor: Michael Bentley>

**15. In an opera by this composer, a brass and woodwind fanfare opens a dance number depicting the construction of a “City of the Horizon.” A judge asks “Are women the equal of men?” after hearing a passage about Mr. Bojangles in an opera by this composer. Poems by Lucinda Childs and Christopher Knowles are included in that opera by this composer that opens with an electric organ melody over a chorus repeating a sequence that begins (\*) “1, 2, 3, 4.” A pharaoh is the subject of the second of this composer’s *Portrait Trilogy* operas, while the first contains five “knee plays” connecting scenes that depict the ideas of a German physicist. For 10 points, name this composer of *Akhmaten* and *Einstein on the Beach*.**

ANSWER: Philip Glass

<Steven Yuan, Fine Arts - Opera> ~25563~ <Editor: Young Lee>

**16. People in this profession were photographed for thirty years by Ralph Morse for *Life*. The black upper half of one photo depicts a man with this profession named Bruce McCandless. An iconic shot of seven people in this profession walking down a long corridor appears in a 1983 film based on Tom Wolfe's *The Right Stuff*. Réseau crosses appear in pictures taken by people in this profession on a Hasselblad 500 EL, such as one depicting a man (\*) saluting a flag that is secured with pipes. A man in this profession took a photo nicknamed *The Blue Marble*. Another man in this profession photographed his footprint after being broadcast descending a ladder on July 20th, 1969. For 10 points, name this day job of amateur photographer Buzz Aldrin.**

ANSWER: **astronaut** [prompt on test pilot]

<Michael Bentley, Other - Other Academic and General Knowledge> ~25442~ <Editor: Ganon Evans>

**17. In the poem "The Envoys of Aga," this person is told "let the battle mace return to your side." This person yells at a door after learning about their impending death. This person argues that death would cement the reputation of a monster that was defeated by thirteen winds after a friend considers sparing it. The sacred prostitute Shamhat spends two weeks teaching this person (\*) language, though it causes animals to start fleeing from him. This person throws a bull's severed leg at a fertility goddess after his friend rejects her advances, and he dies after helping his friend kill Humbaba. Dreams about sleeping with a meteor and an axe precede the coming of this person, whom the goddess Aruru creates to placate a despotic king of Uruk. For 10 points, name this companion of Gilgamesh.**

ANSWER: **Enkidu**

<Lalit Maharjan, RMP - World Mythology> ~25394~ <Editor: Jaimie Carlson>

**18. The "Miracle Windows" of this city's Trinity Chapel depict miraculous events such as the curing of Henry of Fordwich's madness. This city was the northernmost start of the Via Francigena route once used by Sigeric the Serious. Christopher Marlowe was born in this city, which lends its name to horse movement quicker than a (\*) trot but slower than a gallop. A man who had earlier issued the Constitutions of Clarendon made a barefoot pilgrimage to this city. Justin Welby is the current holder of a title name for this city, where in 1170, four knights committed murder after the king asked "Will no one rid me of this turbulent priest?" For 10 points, name this city that became a pilgrimage site following the murder of its Archbishop, Thomas Becket.**

ANSWER: **Canterbury** [accept the Archbishop of **Canterbury**; prompt on canter]

<Michael Bentley, Geography - Europe> ~22452~ <Editor: Ganon Evans>

**19. This author kicked Alistair Crowley down the stairs during a "magical" feud they had as members of the Hermetic Order of the Golden Dawn. One poem by this author repeats "Fifteen apparitions have I seen; The worst a coat upon a coat-hanger." A poem by this author based on a tarot card laments "decrepit age that has been tied to me / As to a dog's tail." Another poem by this author describes his heart "fastened to a dying animal." That poem by this author describes "an aged man" as "a (\*) paltry thing / A tattered coat upon a stick." This author of "The Tower" wrote "That is no country for old men" in one poem, and begins another poem with the line "Turning and turning in the widening gyre... things fall apart." For 10 points, name this author of "Sailing to Byzantium" and "The Second Coming."**

ANSWER: William Butler **Yeats**

<Jaimie Carlson, Literature - British - Poetry> ~25796~ <Editor: Jaimie Carlson>

**20. This number gives an alternate name for Robinson triangles, which comprise a variation of the Penrose rhomb tilings. In this number's base, any number has a unique standard form that contains only the binary digits with no consecutive ones. For  $n$  greater than one, the  $n$ th Lucas number equals this number to the power of quantity  $n$  minus one, rounded to the nearest integer. In a regular pentagon, the ratio between the diagonal and the side length is equal to this number. This number is the positive (\*) solution to the equation " $x$ -squared equals  $x$  plus one." This number equals the mean of one and the square root of five. For 10 points, name this number that is, roughly, the common ratio of the Fibonacci sequence.**

ANSWER: **golden ratio** [accept **golden** ratio after "ratio" is read; prompt on **phi**; reject "pi"; prompt on **1.61803** with "What is the name of the non-truncated value of that number?"]

<Steven Yuan, Science - Math> ~25565~ <Editor: David Bass>

**21. In a story by this author, a chauffeur and a sea wall engineer meet a sailor who intends to walk to church while dragging a large rock. At the end of a novella by this author, the protagonist opens his heart to the "benign indifference of the universe" for the first time and wishes for "howls of execration" from a "crowd of spectators." This author included his story "The Growing Stone" in his collection (\*) *Exile and the Kingdom*. In a novella by this author, a diseased dog belonging to Salamano goes missing soon after the protagonist writes a letter to the girlfriend of Raymond Sintès ("sin-TEZ"). This author used the line "Mother died today" to open a novella in which an Arab man is shot by Meursault ("mur-SOH"). For 10 points, name this author of *The Stranger*.**

ANSWER: Albert **Camus** ("ahl-BEAR kah-MOO")

<Joseph Krol, Literature - European - Short Fiction> ~25068~ <Editor: Joseph Krol>

## NSC 2023 - Round 07 - Bonuses

1. *Pencil and paper ready.* An allele has 80% frequency in a population. For 10 points each:

[10h] If there are only two alleles for the trait and they're in Hardy–Weinberg equilibrium, what percentage of the population is heterozygous? You have 10 seconds.

ANSWER: **32%** [or **0.32**; or **8/25**]

[10e] Not a biologist himself, G. H. Hardy was introduced to genetics over a game of cricket with this scientist. He names a “square” used to predict offspring genotypes.

ANSWER: Reginald Crundall **Punnett**

[10m] While Hardy was intuiting the equilibrium on a cricket pitch, actual biologist Wilhelm Weinberg derived the same formulas from careful studies of these people. Studies of these people were historically—and often wrongly—used to decouple genetic and environmental contributions to traits.

ANSWER: **twins** [or **twin** studies; or identical or monozygotic **twins**; or fraternal or dizygotic **twins**; prompt on **siblings** or **brothers** or **sisters** or **family members** or similar answers]

<Sudheer Potru, Science - Biology> ~20723~ <Editor: Adam Silverman>

2. A group of philosophers nicknamed the “three Johns” revived this physicist’s “hole argument” to oppose the idea that space exists absolutely. For 10 points each:

[10e] Name this physicist whose 1905 papers use thought experiments about trains to illustrate concepts like “time dilation.”

ANSWER: Albert **Einstein**

[10m] Per the “hole argument,” viewing space as a substance violates this assumption of general relativity. This philosophical position broadly holds that all events are necessitated by prior causes.

ANSWER: **determinism**

[10h] The “three Johns” named an “equivalence” after this 18th-century thinker since he used the “identity of indiscernibles” to argue for a relational theory of space in letters to Samuel Clarke.

ANSWER: Gottfried **Leibniz** [or Gottfried Wilhelm von **Leibniz**]

<Jordan Brownstein, RMP - Philosophy> ~20133~ <Editor: Jordan Brownstein>

3. This real-life person’s monologue is spoken by a female and then a male actor in Caryl Churchill’s play *A Mouthful of Birds*. For 10 points each:

[10h] Name this French intersex person, whose memoirs were published by Auguste Ambroise Tardieu. Michel Foucault (“**mee-shell foo-COH**”) analyzed this person’s life experience in a 1980 book.

ANSWER: Herculine **Barbin** [accept Abel **Barbin**]

[10e] Foucault came across Herculine Barbin’s memoirs while doing research for a book on the “History” of this concept. Heteronormativity involves society viewing one of these things as a default.

ANSWER: **sexuality** [accept sexual **orientations**; prompt on being **straight** or any other sexuality with “What broader concept is that part of?”]

[10m] Foucault’s analysis of Herculine Barbin was criticized for contradicting his own “repressive hypothesis” according to this Judith Butler book, which argues that the title concept is performative.

ANSWER: **Gender Trouble: Feminism and the Subversion of Identity**

<Benjamin Chapman, Social Science - Psychology> ~20426~ <Editor: Athena Kern>

4. In one caricature, this person was depicted as a hyena pulling away from the conjoined body of her husband, who has a cuckold's horns. For 10 points each:

[10m] Name this person, the subject of numerous political pornographies. This person enjoyed a marble pleasure dairy called Hameau and earned the unflattering nickname Madame Déficit.

ANSWER: **Marie Antoinette** Joséphe Jeanne [or **Maria Antonia** Josepha Johanna; prompt on partial answer]

[10e] Parisians spat at Marie Antoinette before she was executed by one of these machines.

ANSWER: **guillotines**

[10h] This author of the *Declaration of the Rights of Woman and of the Female Citizen* wrote an unfinished play in which she confronts Marie Antoinette. Her execution was used to warn other politically active women.

ANSWER: Olympe de **Gouges** (“oh-LAMP duh GOOZH”) [or Marie **Gouze**]

<Yingzhi Nyang, History - European - 1500-1900> ~20338~ <Editor: Michael Bentley>

5. Young et al. 2016 reports “Oxygen isotopic evidence for vigorous mixing” during the formation of this body. For 10 points each:

[10e] Name this astronomical object that is primarily responsible for the Earth's tides.

ANSWER: Earth's **Moon**

[10m] Young et al. build on this hypothesis, which suggests that the Moon formed from the coalescence of debris resulting from a collision between the Earth and Theia, a protoplanet that provided much of the Earth's water.

ANSWER: **giant-impact** hypothesis [or **Big Splash**]

[10h] *Two answers required.* Theia is hypothesized to have orbited the Sun at one of these two points in the Earth–Sun system. Each Jupiter trojan orbits the Sun at one of these two points in the Jupiter–Sun system.

ANSWER: **L4** AND **L5** [or **L**agrange point **4** AND **L**agrange point **5**; accept answers in either order; reject “Lagrange points”]

<Michael Bentley, Science - Astronomy> ~13514~ <Editor: David Bass>

6. For 10 points each, answer the following about the art of the Harlem Renaissance.

[10e] A saxophonist stands atop a giant wheel in the last of Aaron Douglas's *Aspects of Negro Life* series in this medium. Frescos are a type of this medium of painting directly onto a wall.

ANSWER: **murals**

[10m] At only age 23, this “dynamic cubist” created 60 paintings depicting locations like a train station and segregated dining room as part of his *Migration Series*.

ANSWER: Jacob **Lawrence**

[10h] A bust of this person by Charles Alston became the first work by a Black artist exhibited in the White House. Léi Yíxīn (“lay yee-shin”) created a granite sculpture of this person emerging from a mountain.

ANSWER: Martin Luther **King Jr.** [or **MLK**]

<Ganon Evans, Fine Arts - Painting - U.S. to 1945> ~20390~ <Editor: Chandler West>

7. A broadcaster launched a website called “Why Bother With [This Author]?” after several publishers rejected a pseudonymously submitted chapter from this author's *The Eye of the Storm*. For 10 points each:

[10h] Name this Nobel Prize–winning author who described the disappearance of the title German explorer in a 1957 novel.

ANSWER: Patrick **White**

[10e] Patrick White is often hailed as the “Greatest Unread Novelist” of this country, whose other authors include Miles Franklin. White set his aforementioned novel *Voss* in this country's Outback.

ANSWER: **Australia**

[10m] White's novel *The Vivisector* centers on a character with this job named Hurtle Duffield. Charles Strickland leaves his family to pursue this job in Tahiti in W. Somerset Maugham's *The Moon and Sixpence*.

ANSWER: **artist** [or **painter**]

<Michael Bentley, Literature - British - Long Fiction> ~20427~ <Editor: Jaimie Carlson>



8. The Rozvi Empire continued the Butua Kingdom's tradition of building cities from this material. For 10 points each:

[10e] Name this material used to build conical towers at Great Zimbabwe. The bird sculptures of Great Zimbabwe were carved from the soft "soap" type of this general material.

ANSWER: **stone** [or stone **blocks**; or dry-**stone**; accept **granite** or **soapstone**]

[10h] In the 1600s, the Rozvi developed this battle formation in which the main force was flanked by younger troops in a pincer movement. Impi soldiers used this formation at the Battle of Kambula.

ANSWER: **cow horn** formation [or **buffalo horn** formation; or **bull horn** formation; or **cattle horn** formation; accept anything mentioning **horns** AND **cows**, **buffalo**, **bulls**, or **cattle**, such as **horns** of the **buffalo**; prompt on **horn** formation]

[10m] The Rozvi's founder Changamire Dombo drove this empire and its puppet Mutapa away from gold mines. Padrão pillars were left by explorers from this empire, which Christianized the Kongo in the 1500s.

ANSWER: **Portugal** [accept the **Portuguese** Empire]

<Ganon Evans, History - World - African> ~20869~ <Editor: Jordan Brownstein>

9. A stanza that repeatedly references this place ends by describing "a sea-journey on the highway across America." For 10 points each:

[10m] Name this place which in separate instances is evoked followed by the lines "where you're madder than I am" and "where you imitate the shade of my mother." This place's name is repeated in the third stanza of the poem "Howl."

ANSWER: **Rockland** [accept "I'm with you in **Rockland**"]

[10e] This Beat poet dedicated "Howl" to Carl Solomon, whose name opens its third stanza.

ANSWER: Allen **Ginsberg**

[10h] The opening of "Howl" goes on to describe "angel-headed" people of this type. An extended reflection on these title type of people is included in Norman Mailer's *The White Negro*, which is subtitled for them.

ANSWER: **hipsters** [accept *The White Negro: Superficial Reflections on the **Hipster***]

<Michael Bentley, Literature - American - Poetry> ~18196~ <Editor: Chandler West>

10. This architect claimed that in the 1930s he happened upon a book by "an author completely unknown to me by the name of Adolf Hitler" and liked his ideas about architecture. For 10 points each:

[10h] Name this architect who included a striking façade facing Töölö ("TER-lah") Bay in his design for Finlandia Hall.

ANSWER: Alvar **Aalto** [or Hugo Alvar Henrik **Aalto**]

[10m] This architect took no commission on the Kneses Tifereth ("keh-NESS-es tiff-ur-ETH") synagogue in Port Chester, New York to atone for pro-Nazi views in the 1930s. This architect of the Glass House collaborated with Mies van der Rohe on the Seagram Building.

ANSWER: Philip **Johnson** [or Philip Cortelyou **Johnson**]

[10e] Nazi architect Albert Speer designed a never-constructed "People's Hall" with a large one of these structures. The Roman Pantheon is topped with the world's largest unreinforced concrete one of these hemispherical elements.

ANSWER: **domes** [prompt on **roofs**; reject "ceiling"]

<Michael Bentley, Fine Arts - Architecture> ~20442~ <Editor: Young Lee>

11. In electrostatics, this equation reduces to Laplace's equation if charge density is zero. For 10 points each:  
[10h] Name this ubiquitous equation that, given a function  $f$ , is satisfied by a function whose Laplacian equals  $f$ .

ANSWER: **Poisson's** equation [or **Poisson** equation]

[10m] For systems with this property, the Klein–Gordon equation reduces to a screened Poisson equation because the d'Alembertian reduces to the Laplacian. Autonomous systems have this property that names a form of the Schrödinger equation that can be written as " $H\Psi$  equals  $E\Psi$ ."

ANSWER: **time-independent** [or **time-invariant**; accept descriptions of a system **not** being **dependent** on **time**; prompt on descriptions of a system **not** being **dependent** on its **independent variable** with "What is that independent variable?"] (In general, an autonomous system lacks explicit dependence on its independent variables. In physics, that independent variable is almost always time.)

[10e] Poisson's equation for the Newtonian description of this weakest fundamental force includes a term for the Laplacian of the scalar potential of little  $g$ .

ANSWER: **gravity** [or **gravitational** force]

<Lalit Maharjan, Science - Physics> ~20453~ <Editor: David Bass>

12. A 2022 *Times* investigation of these businesses noted that treating an ear infection here was 5 times cheaper than in an ER. For 10 points each:

[10m] Name these businesses like Concentra and MedExpress that typically offer onsite X-ray and labs, but are staffed by nurse practitioners rather than physicians.

ANSWER: **urgent care** clinics [or **UCC**; accept **urgent treatment** center; prompt on **clinics** or **walk-in** clinics]

[10e] This 2010 healthcare bill's requirement that insurance plans cover emergencies led to an increase in urgent care clinic usage.

ANSWER: **Affordable Care Act** [or **ACA**; or Patient Protection and **Affordable Care Act**; accept **Obamacare**]

[10h] The Kaiser Family Foundation found that urgent care clinics fill gaps in this Medicare program's coverage. This program, which is one of the four main parts of Medicare along with inpatient, outpatient, and prescription drug coverage, provides payments to private-sector health insurers.

ANSWER: Medicare **Advantage** [or Medicare **Part C**]

<Michael Bentley, Current Events - U.S.> ~20259~ <Editor: Ganon Evans>

13. In the Qur'an, Musa watches as a Servant of God sometimes named for this color sinks a ship to prevent its capture by a cruel king. For 10 points each:

[10e] Name this favorite color of Muhammad, who was draped in a *hibra* burd of it after his death. The flags of Saudi Arabia and Pakistan use this color and white.

ANSWER: **green** [or **akhḍar**; accept **Al-Khidr**]

[10m] One of the Qur'an's shortest verses describes two dark green gardens in the Surah Ar-Rahman, a passage whose title is one of these 99 things.

ANSWER: **names** of **Allah** [accept **names** of **God**; accept word forms or clear knowledge equivalents]

[10h] According to Ibn Sa'd, Muhammad wore green while performing this act of circumambulating the Kaaba counterclockwise seven times. This Arabic term means "to encircle" and is comprised of seven *ashwat*.

ANSWER: **tawaf**

<Ganon Evans, RMP - Islam> ~21029~ <Editor: Athena Kern>

14. This play’s protagonist supposedly offered “the kingdom of Orangia” to Hilda Wangel when they met a decade prior to its main action. For 10 points each:

[10m] Name this 1892 play that ends with the title character, the architect Halvard Solness, falling to his death from a church steeple.

ANSWER: The **Master Builder** [or A **Master Builder** or **Bygmester Solness**]

[10e] *The Master Builder* is by this Norwegian playwright of *A Doll’s House*.

ANSWER: Henrik **Ibsen** [or Henrik Johan **Ibsen**]

[10h] Other Ibsen plays depicting the unfortunate deaths of designers include this final play of his, in which the sculptor Arnold Rubek and his model Irena die in an avalanche.

ANSWER: **When We Dead Awaken** [or **Når vi døde vågner**]

<William Grossman, Literature - European - Drama> ~15061~ <Editor: Joseph Krol>

15. Answer the following about the British soldier Orde Wingate, an eccentric who wore an alarm clock as a watch, for 10 points each.

[10m] A Survey Department named for this modern-day country sponsored Wingate’s quest to find Cambyses’s (“kam-BYE-seez’s”) lost army. The Mahdist State was established primarily in this modern-day country after a war with a northern neighbor’s Khedivate.

ANSWER: **Sudan** [accept Anglo-Egyptian **Sudan**; reject “Egypt” or “South Sudan”]

[10h] Wingate might be best known for operating the Chindits special forces in this modern-day country, where American general Joseph Stilwell built the Ledo Road to replace another supply route named for it.

ANSWER: **Burma** [or **Myanmar**; accept **Burma Road**]

[10e] Wingate was reburied in this National Cemetery in Virginia because he died in a plane crash alongside five Americans.

ANSWER: **Arlington** National Cemetery

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~17738~ <Editor: Michael Bentley>

16. After murdering his wife and her lover in bed, Carlo Gesualdo wrote the song “Moro, lasso, al mio duolo” as part of his six books in this genre. For 10 points each:

[10h] Name this genre, which Monteverdi used for nine books of pieces.

ANSWER: **madrigals**

[10m] With Antonio Lotti, a member of this family named Alessandro composed the madrigal “O morte” while popularizing the Italian overture as head of the Neapolitan school. A later member of this family composed 555 sonatas for the harpsichord.

ANSWER: **Scarlatti** [accept Alessandro **Scarlatti** or Domenico **Scarlatti**]

[10e] Near the end of the Baroque period, the role of madrigals in opera was largely replaced by these pieces.

These pieces for solo voice appear within operas, oratorios, and cantatas, and include Dido’s Lament or “When I am laid in earth” by Henry Purcell.

ANSWER: **arias**

<Ganon Evans, Fine Arts - Music - Baroque> ~20819~ <Editor: Young Lee>

17. The only firm record of a woman voting in this modern-day state in the 18th century was Lydia Chapin Taft, the widow of Uxbridge’s largest taxpayer. For 10 points each:

[10m] Name this state, the birthplace of a woman who advised her husband to “remember the ladies.”

ANSWER: **Massachusetts** [or **MA**] (The woman was Abigail Adams.)

[10h] Unmarried women in this state who owned property were allowed to vote until a campaign against “petticoat electors” removed that right in 1807. This state’s first female governor was Christine Todd Whitman.

ANSWER: **New Jersey** [accept **NJ**; prompt on **Jersey**]

[10e] Centuries before the Nineteenth Amendment, women helped choose the chiefs who represented local tribes at the council of this Native American confederacy. The Oneida and Mohawk were members of this confederacy.

ANSWER: **Iroquois** Confederacy [or **Haudenosaunee** Confederacy; or **Five Nations** or **Six Nations**]

<Michael Bentley, History - American - Pre-1865> ~20806~ <Editor: Michael Bentley>

18. 20% of industrial river pollution worldwide is caused by the textile industry's production and use of this compound. For 10 points each:

[10e] Name this compound. The beginning of organic chemistry is often dated to Adolf von Baeyer's 1870 synthesis of this natural purple dye used to color blue jeans.

ANSWER: **indigo** dye

[10m] Today, indigo is made from petroleum, formaldehyde, and this other highly toxic compound. It consists of a carbon atom single-bonded to hydrogen and triple-bonded to nitrogen.

ANSWER: **hydrogen cyanide** [or **prussic acid**; prompt on **HCN**; prompt on **cyanide**]

[10h] Textile factories also pollute sodium dithionite, a carcinogen used as one of these chemical species to convert white indigo into blue indigo. Green chemists prefer safer examples of these species like ascorbate.

ANSWER: **reducing** agents [or **reductants**; prompt on **antioxidants**]

<Adam Silverman, Science - Chemistry> ~20852~ <Editor: Adam Silverman>

19. Because of one author's frequent use of this word, William Gladstone hypothesized that the ancient Greeks may have perceived colors very differently. For 10 points each:

[10h] Name this compound word, used in an epithet describing the "sea," often when it is stormy. Berlin and Kay hypothesized that this word was used because cultures develop color words for "blue" last.

ANSWER: **wine-dark** [or **oinops**]

[10e] In addition to the epithet "wine-dark sea," Homer used the color epithet "gray-eyed" to describe this Greek goddess of wisdom, represented by the owl.

ANSWER: **Athena** [reject "Minerva"]

[10m] Homer describes this goddess of the dawn as "rosy-fingered." She turned her lover Tithonus into a cicada after he asks for immortal life but forgets to ask for immortal youth.

ANSWER: **Aurora** [accept **Eos**]

<Jaimie Carlson, RMP - Greco-Roman Mythology> ~20951~ <Editor: Jaimie Carlson>

20. An author in this novel kills off many of his characters in a fire after suffering burnout. For 10 points each:

[10m] Name this novel, whose title characters are the hack author Pedro Camacho and a relative of the protagonist whom he attempts to marry.

ANSWER: ***Aunt Julia and the Scriptwriter*** [or ***La tía Julia y el escribidor***]

[10e] In Mario Vargas Llosa's ("VAR-gas YOH-sah's") novel *Aunt Julia and the Scriptwriter*, Camacho writes soap operas for this broadcast medium. A 1938 broadcast of a version of *The War of the Worlds* via this medium incited mass panic.

ANSWER: **radio** plays [or **radio** dramas]

[10h] In one of Camacho's dramas, a policeman dies in a fire before later reappearing and undergoing this action. This action partly titles a story in which Esteban's body prompts villagers to make some massive clothes.

ANSWER: **drowning** [or **ahogado** or **ahogar**; accept "The Handsomest **Drowned** Man in the World" or "El **ahogado** más hermoso del mundo"; prompt on **shipwrecks**] ("The Handsomest Drowned Man in the World" is by Gabriel García Márquez.)

<Joseph Krol, Literature - World and Miscellaneous> ~15053~ <Editor: Joseph Krol>

21. This author and Richard Lewontin denounced their Harvard colleague E.O. Wilson's Sociobiology Group.  
For 10 points each:

[10m] Name this paleontologist whose essay collections on evolution include *The Panda's Thumb*. He theorized punctuated equilibrium with Niles Eldredge.

ANSWER: Stephen Jay **Gould**

[10h] This Gould book criticizes Samuel Morton's methods of skull measurement and was reprinted in 1996 with chapters debunking Charles Murray's *The Bell Curve*.

ANSWER: *The Mismeasure of Man*

[10e] Gould had a lengthy feud with E. O. Wilson, whose study of sociobiology Gould compared to this belief that selective breeding should remove undesirable genetics from the human gene pool.

ANSWER: **eugenics**

<Ganon Evans, Social Science - Anthropology> ~21292~ <Editor: Ganon Evans>