

PACE NSC 2022 - Round 17 - Tossups

1. One of the victors at this battle built the star fort of Palmanova to celebrate it. John Keegan argued that the most important consequence of this battle was the death of thousands of compound bowmen, largely to arquebusiers ("ar-K'WE-bus-EE-ears") and musketeers. Before this battle, the losing side flayed alive Antonio Bragadin after taking Famagusta. Sebastian Venier's galleasses were important in winning this battle where (*) Miguel de Cervantes was wounded. Reserve forces under Álvaro de Bazán helped reinforce an attack on the flagship of the Knights of Malta in this battle. In this battle, over 100 galleys commanded by Ali Pasha were destroyed by forces under Don Juan of Austria. For 10 points, name this 1571 naval victory for the Holy League over the Ottomans.

ANSWER: Battle of Lepanto

<Michael Bentley, History - European - 1500-1900> ~23002~

2. Locals rallied to save a candy-colored structure of this type above the Kamata train station, the last rooftop example in Japan. A "grand" one of these structures in Vienna was the setting for a speech about "little dots" from Carol Reed's film *The Third Man*. A record-setting one of these structures opened on Bluewaters Island in 2021 and is called the Ain Dubai; the previous record holder, the (*) High Roller in Las Vegas, could service 1,120 people at once. The first of these structures was the tallest structure built for the 1893 Chicago World's Fair. A trend for building these structures on renovated waterfronts was kicked off with the completion of the London Eye. For 10 points, name these circular amusement park attractions.

ANSWER: Ferris wheel [or observation wheel; or giant wheel; or big wheel; prompt on amusement park ride; prompt on wheel; prompt on Eye before mentioned]

<Michael Bentley, Geography - World> ~23679~

3. This physicist names a "cone" produced when a bullet passes through a glass pane, which he derived after basically founding the field of contact mechanics. This physicist invented a device with directivity 1.5, which is modeled as a length of conducting wire much shorter than the wavelength being used. This inventor of the dipole antenna observed that a receiver lost charge faster when illuminated by (*) UV light, making him the first to discover the photoelectric effect. This physicist verified Maxwell's equations by making the first observation of radio waves. This physicist's namesake SI unit is equal to inverse seconds and measures the number of cycles per second. For 10 points, what German physicist names the SI unit of frequency?

ANSWER: Heinrich Hertz ("HINE-rick HURTS") [accept Hertzian cone or Hertzian dipole antenna]

<Joseph Krol, Science - Physics> ~23507~

4. In the 1970s, two rival TV networks in this city established the crime-heavy local news format with *Eyewitness News* and *Action News*. Noel Ignatiev's book *How the Irish Became White* ends with a case study from this city. Social worker Donald Glassey recorded "The Guidelines" of a communal group in this city founded by John Africa. On the invitation of Charles Harrison, one sociologist interviewed 5,000 residents of this city before writing a book that introduced the term (*) "double consciousness." This city, the home of MOVE, titles a book on its Black population by W. E. B. Du Bois. William Labov's field recordings in this city capture the use of words like "jawn" and "hoagie." For 10 points, name this city home to the University of Pennsylvania.

ANSWER: Philadelphia [or Philly]

<Michael Bentley, Social Science - Sociology> ~23719~

5. This character discusses Queen Nanny of Jamaica and lives in North London in a Zadie Smith play that ends with a Retraction, much like the original poem in which she appears. This character is said to have lived in a land of "fairy power," but she laments how "no one now sees fairies any more" because they have all been replaced by friars. After she tears out pages from a sexist book, this character's (*) husband hits her so hard that she goes deaf in one ear. This character, who met her fifth husband Jankyn at the funeral of her fourth husband, recounts a story in which a knight strikes a deal with an old hag to discover "what women most desire." Alison is the real name of, for 10 points, what woman in Geoffrey Chaucer's *Canterbury Tales*?

ANSWER: Wife of Bath [accept Alison before "Alison"]

<Michael Bentley, Literature - British - Poetry> ~22998~

6. *Description acceptable.* A 1653 book by Giovanni Battista Riccioli is named for an update to this theory. This theory was challenged in the Maragha Revolution. A book challenging this theory consists of conversations between Salviati, Sagredo, and a strong adherent of this theory, Simplicio. A major challenge to this theory emerged from an institution sponsored by the King of Denmark at Uraniborg with a gigantic wall-mounted quadrant. After being forced to adhere to this theory, one man allegedly muttered, "and (*) yet it moves." This theory is sometimes named for the Greek author of the *Almagest*. Measurements taken by Tycho Brahe helped to overturn this theory. For 10 points, name this theory largely disproved by Galileo and replaced with the heliocentric theory.

ANSWER: geocentrism [accept answers like the heavens rotate around the Earth; accept Ptolemaic system before mentioned; prompt on answers like pre-modern astronomy or Greek astronomy]

<Michael Bentley, History - European - Misc> ~24071~

7. Journalist Steve Griggs found a rare live recording of this album being performed by Joe Brazil featuring playing from Carlos Ward and Donald Rafael Garrett. This album's opening track features a four-note *ostinato* of a solo double bass playing the notes F, A-flat, F, B-flat; an alternate take of its opening track omits the original vocals but features Art Davis and Archie Shepp. This album's creator wrote in its liner notes that he "experienced, by the grace of God, a (*) spiritual awakening." This album opens with a gong crash from Elvin Jones on a track where another musician performs an overdubbed chant of the album's title. This album was recorded five years after its artist's *Giant Steps*. For 10 points, name this John Coltrane album.

ANSWER: *A Love Supreme*

<Michael Bentley, Fine Arts - Jazz> ~22898~

8. Socrates calls the common attitude towards this concept a "pretense of wisdom" in the *Apology*, which ends by using a dilemma to show that this concept may be an "unspeakable gain." The "symmetry argument" about this concept appears in Lucretius's *De Rerum Natura*. That argument, like the Epicurean argument that this process has "no subject of harm," is meant to show that this process "is (*) nothing to us." Epictetus ("eh-"PICK"-teh-tus") and other Stoics taught that this process and pain are not as bad as the fear that they create. Socrates undergoes this general process at the end of the *Phaedo* ("FYE-doh"). For 10 points, name this process that everyone undergoes at the end of their life.

ANSWER: death [or dying; accept other word forms like when someone dies]

<Anson Berns, RMP - Philosophy> ~23459~

9. This author, who once wrote skits for the Science Museum of Minnesota, had his breakthrough when Lloyd Richards directed the first of his plays to premiere at the Yale Repertory Theatre. A "womanless man" created by this author delivers a monologue where he declares that if he "goes down," he intends to "go down swinging." That same character created by this author forces his wife to raise (*) Raynell after Raynell's mother Alberta dies in childbirth. In that same play by this author, Cory is forbidden from taking a football scholarship due to a sanitation worker's past experience of discrimination in the Negro Leagues. For 10 points, name this playwright who included plays such as *The Piano Lesson* and *Fences* in his *Pittsburgh Cycle*.

ANSWER: August Wilson [or Frederick August Kittel Jr.]

<Michael Bentley, Literature - American> ~24011~

10. A "tumor inducing" example of these structures induces crown gall disease in plants. Both *bla* ("blah") and *tetA* ("tet-A") are present on an example of these structures named pBR322 ("p-B-R-322"). These structures are extracted by the alkaline lysis method, which is used in minipreps. Engineered examples of these structures contain polylinkers with several restriction sites. These structures are the standard vector for molecular (*) cloning experiments. Electroporation increases a cell's ability to take these structures to undergo transformation. Genes coding for the F-pilus are found in one of these structures called the fertility factor. Genetic engineering of bacteria often inserts genes of interest using, for 10 points, what circular pieces of extra-chromosomal DNA?

ANSWER: plasmids

<Andrew Wang, Science - Biology> ~24060~

11. This civilization's thunder god had to defer to a higher authority, the "Superior" or "Veiled" gods. A gray-haired child born from a plough furrow, the prophet Tages ("TAG-eez"), was credited with revealing this people's cosmology. A semi-mythical king of these people let a would-be assassin go free after the assassin fearlessly thrust his own hand into a fire. A one-eyed hero legendarily (*) held off an entire army of these people, allowing his comrades to tear down the bridge on which he was standing. This people originated the art of haruspicy, a form of divination based on examining animal livers. Lars Porsenna and the Tarquins belonged to this people. For 10 points, name this ancient Italian civilization assimilated into the Roman Empire.

ANSWER: Etruscans [or Rasenna; prompt on Italians]

<Matthew Bollinger, RMP - Greco-Roman Mythology> ~23999~

12. In an aria from this musical work, the soprano sings a high D6 shortly after a high B5 in the word "Dulcissime" ("dool-CHEE-see-MAY"). A chorus in this musical work hails the "loveliest" and "precious jewel" of "Venus generosa" in a section titled for Blanziflor and Helena. A solo tenor singing in falsetto sings about how "once I dwelt in the lakes" in this work's "In Taberna" section, which depicts a (*) swan being roasted on a spit. This work's third and final section, "The Courts of Love," includes an aria in which high and low voices alternate singing "Veni, veni, venias." This musical collection of medieval Latin poetry begins and ends with a song about the goddess of fate. "O Fortuna" is included in, for 10 points, what cantata by Carl Orff?

ANSWER: Carmina Burana

<Jonathan Magin, Fine Arts - Music - 1900 to 1970> ~23730~

[Note to moderator: Read answer carefully]

13. Description acceptable. Scott Elias has done research on skeletal remains of beetles to support the "standstill" hypothesis for this process. One framework for this process extrapolated from projectile points from a culture succeeded by the Folsom tradition in the Younger Dryas. Another framework for this process posits that it was dependent on the availability of seaweed and is known as the (*) Kelp Highway hypothesis. This process may have begun 13,000 years ago with the Clovis culture. The Solutrean hypothesis posits that this process started with big-game hunters crossing Beringia during the most recent Ice Age. For 10 points, name this process of humans spreading throughout the New World.

ANSWER: the peopling of the Americas [or the settlement of North or South America or the Western Hemisphere; or the original colonization of the Americas; accept New World in place of America until the end; or colonization of the Americas; or migration to the Americas; prompt on human migration or discovery of America; prompt on crossing the Bering Strait before Beringia is mentioned; do not accept answers involving "European discovery or colonization of America"]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~23133~

14. An epigraph from *Through the Looking-Glass* opens a story by this author whose protagonist methodically imagines a "son" starting from his heart and working outward. In that story by this author, a wizard walks painlessly into a fire and realizes that "someone else was dreaming" him into existence. Corpses are thrown over railings in a story by this author, in which the narrator contemplates the phrase "O time thy pyramids" and people seek prophecies in (*) "Vindications." "Purifiers" destroy the contents of the title location of a story by this author of "The Circular Ruins," which is divided up into hexagonal galleries whose shelves contain every possible 410-page book. For 10 points, name this author whose book *Labyrinths* includes "The Library of Babel."

ANSWER: Jorge Luis Borges ("hor-HAY loo-EES bor-HEZ")

<Michael Bentley, Literature - World and Miscellaneous> ~23569~

15. Fred Hoyle developed the rapidly-decaying Planck particle in his final attempt to show that this value is infinite. Constraints on the density parameter made by the Planck and WMAP ("W-MAP") satellites have aided in the calculation of this value using the first Friedmann equation. This value has been constrained by observations of globular clusters, which have forced the adoption of models with non-zero values for (*) lambda. A belief that this value was infinite motivated Einstein to add the cosmological constant to his field equations. This value is coincidentally very similar to the reciprocal of the Hubble constant. For 10 points, name this value which is approximately 13.7 billion years, indicating the time since the Big Bang.

ANSWER: the age of the universe [accept the time since the Big Bang or the time since the start of the universe before "time"; prompt on age; prompt on time before read]

<Benjamin Chapman, Science - Astronomy> ~23682~

16. Nuns in this state's town of Clifton were accused of kidnapping Irish orphans who had just arrived from New York City. After being left for dead by Native Americans in this state, Larcena Pennington was able to crawl back 15 miles to safety. A gang known as the Cowboys perpetrated several massacres in this state's Skeleton Canyon. In 1881, Tom and Frank (*) Laury were killed in a city in this state's Cochise County. This state, where the Yavapai reservation is located, contains the western portion of the Gadsden Purchase. During an event in this state, the Clanton Gang was ambushed by Doc Holliday and Wyatt Earp. For 10 points, name this state whose town of Tombstone was the site of the O. K. Corral shootout.

ANSWER: Arizona

<Hari Parameswaran, History - American - 1865-1945> ~23894~

17. Description acceptable. One method for performing this task involves placing dough balls in front of the Jowo statue. During an instance of this action, a corpse's head tilted to the east, inspiring a visit to the village of Taktser. This is the most important procedure that determines a *tulku*. The use of the "golden urn" in Jokhang ("joh-khang") Temple was instituted to prevent corruption in this procedure. Senior members of the (*) Gelug school visit a lake called Lhamo Latso for guidance in this procedure. The most recent instance of this procedure occurred in 1939, when items such as a drum and a walking stick were correctly identified by a 2-year-old boy. For 10 points, what procedure determines who will hold the highest post of Tibetan Buddhism?

ANSWER: finding the next Dalai Lama [accept words like identifying, locating, choosing, picking, or searching for in place of "finding"; prompt on partial answers; prompt on divination]

<Michael Bentley, RMP - Buddhism> ~22472~

18. The slope of a titration's Gran plot equals a ratio of activity coefficients times this quantity. It's not entropy, but a ligand with higher denticity causes this quantity to increase in the chelate ("KEY-late") effect. The derivative of the log of this quantity with respect to temperature equals the change in enthalpy over R times T squared. Multiplying this quantity by an integer power of RT converts it to a related quantity calculated with (*) partial pressures. This quantity equals 10 to the negative 14 for the autoionization of water. If there is a surplus of products, this quantity is less than Q, the reaction quotient. The law of mass action calculates, for 10 points, what constant that characterizes a reaction with equal forward and reverse rates?

ANSWER: equilibrium constant [or K_{eq} ("K-sub-e-q"); accept acid dissociation constant or K_a ("K-sub-a"); accept K_p ("K-sub-p"); accept equilibrium only after "what constant"; prompt on K]

<Benjamin Chapman, Science - Chemistry> ~24109~

19. Proper name required. A painting of Daniel O'Connell on this fictional object was omitted from Lewis Page Mercier's awful translation of the novel in which it appears. When this object is attacked, its owner is dubbed an "archangel of hatred" before he kneels in front of a photo of his family in his stateroom. This object was secretly built on a desert island prior to Farragut trying to destroy it on the *Abraham Lincoln*. The (*) naturalist narrator writes an editorial arguing that this object is in reality a narwhal. This vehicle is escaped by the harpooner Ned Land and the narrator Pierre Aronnax after it enters a maelstrom. For 10 points, Captain Nemo commands what submarine in Jules Verne's novel *Twenty Thousand Leagues Under the Sea*?

ANSWER: the Nautilus

<Michael Bentley, Literature - European - Long Fiction> ~22667~

20. While in San Francisco, this artist depicted plant hybridization pioneer Luther Burbank as part human, part tree. A musical score appears above a self-portrait where this artist holds a pair of scissors. A painting by this artist depicting an event that took place on October 21st, 1938 includes two portraits of a Ziegfeld showgirl, one of which has her falling from Hampshire House. This artist of *The (*) Suicide of Dorothy Hale* painted an unusual dual self-portrait where a vein connects the two title figures. Another self-portrait uses a broken column to represent this artist's injuries from a bus accident. For 10 points, name this artist who emphasized her *mestiza* heritage in *Self-Portrait with Monkey*, a Mexican artist known for her unibrow.

ANSWER: Frida Kahlo [or Magdalena Carmen Frida Kahlo y Calderón]

<Michael Bentley, Fine Arts - Painting - U.S.> ~23757~

21. This country launched the secretive Operation Relex to seize tens of vessels termed SIEVs. Only William Spicer was arrested for participating in the anti-immigrant Lambing Flat Riots in this country. This country entered a diplomatic dispute with Norway after the *MV Tampa* capsized with 433 Hazara refugees. Since 2001, this country has transferred asylum seekers to (*) Christmas Island and Nauru as part of its "Pacific Solution." The mass arrival of Chinese to work at the Eureka Stockade fueled anti-immigration sentiments in this country. Recent attention has been drawn to refugees held in this country after it detained Novak Djokovic ("JOE-kuh-vich") for not being vaccinated. For 10 points, name this country led by Anthony Albanese.

ANSWER: Australia [or Commonwealth of Australia]

<Hari Parameswaran, History - World - Miscellaneous> ~23229~

PACE NSC 2022 - Round 17 - Bonuses

1. For 10 points each, answer the following about Russian science fiction.

[10] Two Soviet brothers with this last name wrote many works of science fiction, including a novel about "stalkers" who enter Visitation Zones to find alien artifacts, titled *Roadside Picnic*.

ANSWER: **Strugatsky** [accept Arkady **Strugatsky** or Boris **Strugatsky**]

[10] George Orwell contended that this British novel must have been based on Yevgeny Zamyatin's science fiction novel *We*, but its author Aldous Huxley denied it. Similarities include the One State in *We* and this novel's World State.

ANSWER: **Brave New World**

[10] This author wrote science fiction novels such as *Heart of a Dog*, in which a surgical procedure turns the dog Sharik into the human Poligraf Poligrafovich.

ANSWER: Mikhail **Bulgakov**

<Anson Berns, Literature - European - Long Fiction> ~15330~

2. William Monroe Trotter went to Paris to campaign for an expansion to these proposals that addressed racial equality. For 10 points each:

[10] Identify this set of proposals that included a restoration of all territory to Belgium and the creation of an independent Polish state.

ANSWER: **Fourteen Points**

[10] The Fourteen Points were formulated by this president, who suffered a stroke while attempting to convince the United States to ratify the Treaty of Versailles.

ANSWER: Woodrow **Wilson** [or Thomas Woodrow **Wilson**]

[10] Asian territorial transfers promised at the Paris Peace Conference were later renegotiated at this conference. This event was organized by Secretary of State Charles Evans Hughes, and its attendees signed the Nine-Power Treaty.

ANSWER: **Washington** Naval Conference [or **International Conference on Naval Limitation**]

<Michael Bentley, History - American - 1865-1945> ~17920~

3. One of this man's films had its production delayed after the crew accidentally started a forest fire in rural Oregon. For 10 points each:

[10] Name this rival of Charlie Chaplin and Harold Lloyd who has a house fall around him in the silent film *Steamboat Bill, Jr.*.

ANSWER: Buster **Keaton** [or Joseph Frank **Keaton**]

[10] Keaton's character accidentally throws a bomb at a parade of people in this job in a 1922 film. A later film has Keaton chased by "Keystone" examples of these characters.

ANSWER: **cops** [or **police** officers; accept Keystone **Kops** or synonyms of police officers]

[10] Keaton's character accidentally demonstrates skills in pole vaulting near the end of a 1927 comedy titled for one of these places. The protagonist runs through a quad at one of these places in the opening of David Fincher's *The Social Network*.

ANSWER: a **college** [accept **university**; accept **Harvard**; prompt on **school**]

<Michael Bentley, Fine Arts - Film> ~18464~

4. An organism in this phylum with species *mutans* is the principal contributor to dental caries. For 10 points each:

[10] Name this genus of gram positive bacteria whose group A species *pyogenes* often causes a namesake inflammation of the throat and tonsils.

ANSWER: **Streptococcus** [or **Strep**; accept **strep** throat]

[10] Molecular mimicry due to strep infection can lead to this inflammatory condition, which may cause T cells to damage the heart's valves.

ANSWER: **rheumatic fever** [or **rheumatic heart disease**]

[10] *Streptococcus* are part of an order of bacteria which produce this compound as a result of fermentation. It is converted to glucose in the liver as part of the Cori cycle in humans.

ANSWER: **lactic acid** [or **lactate**]

<Andrew Wang, Science - Biology> ~19157~

5. The polymath Al-Biruni was taken to the court of Mahmud of Ghazni after his sack of this region. For 10 points each:

[10] Name this Central Asian region. An empire named after this region made the foolish decision to behead some foreign emissaries, leading those foreigners to initiate a bloodbath in its capital of Urgench in 1221.

ANSWER: **Khwarazm** ("kah-REZ-em") [or **Chorasm**; or **Chorasmia**; accept **Khwarezmian** ("kah-REZ-mee-un") empire]

[10] Mahmud is most reviled in India for his sack of Somnath, during which he stole temple doors made of this material. The Pernambuco variety of this good was used to extract a reddish dye.

ANSWER: **wood** [accept Brazil **wood** or Pernambuco **wood**]

[10] In 1331, the declining city of Ghazni was visited by this Moroccan explorer, who wrote about his travels throughout Asia in his work *Rihla*.

ANSWER: Ibn **Battuta** [or Abu Abdullah Muhammad ibn **Battutah**]

<Hari Parameswaran, History - World - Middle Eastern> ~19031~

6. Smart contracts can impart this property by tying entries in a ledger to a URL. For 10 points each:

[10] Name this property of objects which can be uniquely distinguished. Most objects with this property point to a piece of digital media hosted by a third-party, leaving them vulnerable to link rot.

ANSWER: **non-fungible** [or **not fungible**; prompt on **NFTs**]

[10] NFTs work by adding new records to one of these distributed ledgers. These lists are used to record transactions of cryptocurrencies like Bitcoin.

ANSWER: **blockchains**

[10] The non-fungible part of an NFT is the link used to reference its information, meaning that others can still right-click the image and perform this action. This action can be performed by pressing control and C on the keyboard.

ANSWER: **copying** [prompt on **saving** or **save**]

<Kevin Wang, Science - Engineering and Miscellaneous> ~19325~

7. In 2013, the price of these "essential commodities" increased by 370% in India, sparking fears of inflation. For 10 points each:

[10] Identify this vegetable, so important to the Indian economy that a ban was imposed on exports of it in 2019 to keep down the price of meals like biryani.

ANSWER: onions [accept more specific answers like red onions or bulb onions; accept Allium cepa]

[10] The Chinese government, meanwhile, closely tracks the price of meat made from these animals. Millions of these stock animals were killed in China in 2019 following a flu outbreak.

ANSWER: pigs [or hogs; accept swine]

[10] In 2021, food prices around the world increased due to a shortage in this chemical, the most common "foliar feed" fertilizer in the world. Impurities in this alternative to phosphate fertilizers produce biuret ("bi-yer-et").

ANSWER: urea [or carbamide; or CO(NH₂)₂]

<Michael Bentley, Current Events - World> ~18197~

8. In a play by this author, three brothers are challenged by the devil Bolom. For 10 points each:

[10] Name this author who wrote the plays *Ti-Jean* ("tee-ZHAHN") and *his Brothers* and *Dream on Monkey Mountain* as well as the poem "A Far Cry from Africa."

ANSWER: Derek Walcott [or Sir Derek Alton Walcott]

[10] In *Ti-Jean and his Brothers*, a frog uses this author's name in place of "excuse me." This ancient Greek playwright wrote the *Oresteia* ("oh-rest-AY-uh").

ANSWER: Aeschylus ("EE-skill-uss")

[10] It's not St. Lucia, but a 1984 Walcott play is titled for the "Earth" of this country. An author from this non-U.S. country wrote *The Farming of Bones* as well as a novel in which Sophie's mother checks her virginity every week.

ANSWER: Republic of Haiti [or République d'Haïti or Repiblik Aviti; accept *The Haitian Earth*] (the novel is *Breath, Eyes, Memory* by Edwidge Danticat)

<Joseph Krol, Literature - World and Miscellaneous> ~18791~

9. The book *Inhibitions, Symptoms and Anxiety* was a response to a book titled for this event. For 10 points each:

[10] Name this event, whose "trauma" titles an Otto Rank book. Rank posits that the anxiety this event causes is the base of other anxieties that humans experience.

ANSWER: birth [accept word forms; accept *The Trauma of Birth*]

[10] More recent theories about trauma hold that childhood trauma increased one's likelihood of developing this mental disorder. It is characterized by disturbed thoughts related to a horrible event and often afflicts soldiers.

ANSWER: post-traumatic stress disorder [or PTSD; prompt on shell shock or neurasthenia]

[10] Rank believed that these figures had a "specially severe birth trauma" owing to persecution by their fathers. Rank wrote a book on the myth of the birth of these figures.

ANSWER: heroes [accept *The Myth of the Birth of the Hero*]

<Benjamin Chapman, Social Science - Psychology> ~18814~

10. This creature is chosen following a casting of lots and gets a red thread tied to it that turns white if a certain ritual proves effective. For 10 points each:

[10] Identify this term given to a creature driven out into the wilderness "for Azazel" in a ceremony described in Leviticus.

ANSWER: **scapegoat** [prompt on goat by asking, "What specific term is the goat known by?"]

[10] Leviticus instructs the blood of the goat that is sacrificed instead of the scapegoat to be placed on the mercy seat in this specific location. The Ark of the Covenant and the Table of Showbread were also in this location.

ANSWER: **Holy of Holies** [or **Kodesh HaKodashim**; prompt on the Tabernacle or Tent of the Congregation or Tent of Meeting or Solomon's Temple or Second Temple, by asking, "What specific location inside?"]

[10] Joseph B. Soloveitchik argued that the casting of lots symbolizes how "Only God knows to what extent a man was a free agent in making his decisions" on this holiday. This Day of Atonement is one of the High Holy Days along with Rosh HaShanah.

ANSWER: **Yom Kippur**

<Michael Bentley, RMP - Jewish Practice> ~18936~

11. In 1942, Bill Volz supervised a massacre at one of these institutions in Cedar Rapids to help the war effort. For 10 points each:

[10] Identify these institutions whose European keepers conducted mass euthanization campaigns in World War II. These institutions evolved from menageries.

ANSWER: **zoos** [or **zoological** garden; or **animal park**; prompt on garden or park]

[10] The zoo in this city heroically did not kill any of its animals during World War II. The Road of Life, this city's main supply route during the war, is now a UNESCO World Heritage Site.

ANSWER: **Leningrad** [or Saint **Petersburg**; or **Petrograd**]

[10] Nikolay Vavilov starved to death while preserving an important repository of these things during the Siege of Leningrad. A "Millennium" repository of these things resides at Wakehurst Place in England.

ANSWER: **seeds** [accept Millennium **Seed** Bank; prompt on plants]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~18752~

12. During the 19th century, middle-class American and English families typically put pianos in these rooms. For 10 points each:

[10] Name these rooms. In the Victorian era, music that was published for amateurs to play in their homes was typically referred to as music to be played in these rooms.

ANSWER: **parlors** [or **parlor music**; prompt on reception rooms or recreation rooms or drawing rooms]

[10] This 19th century American composer wrote popular parlor music pieces such as "Jeanie with the Light Brown Hair." He also composed "Camptown Races."

ANSWER: Stephen **Foster**

[10] In Victorian England, working-class audiences flocked to these places to listen to comic songs. These places often featured performances by "lions comiques," which were comedians who parodied upper-class aristocrats.

ANSWER: **music halls** [prompt on theaters]

<Jonathan Magin, Fine Arts - Music - Romantic> ~18976~

13. *Description acceptable.* This section takes the form of a lecture given by Professor Pieixoto ("pie-eh-zoto") at the University of Denay, Nunavit. For 10 points each:

[10] Name this section of a larger work which attempts to authenticate some cassette tapes found in Bangor, Maine. This section posits that an unnamed character could have been Frederick R. Waterford or B. Frederick Judd.

ANSWER: **Historical Notes** on *The Handmaid's Tale* [accept the **epilogue**, **end**, or **last** chapter of *The Handmaid's Tale*; prompt on just *The Handmaid's Tale*; prompt on the **frame story** of *The Handmaid's Tale*]

[10] This Canadian author wrote about Offred and the Commander in *The Handmaid's Tale*.

ANSWER: Margaret **Atwood**

[10] Historical Notes takes place at the "Twelfth Symposium" on the studies of this country. This fictional republic is the setting of *The Handmaid's Tale*.

ANSWER: Republic of **Gilead**

<Tony Chen, Literature - British - Long Fiction> ~15042~

14. This quantity remains equal when a solid object is uniformly extruded along an axis according to the "stretch rule." For 10 points each:

[10] Name this quantity with units "mass times distance squared," which is the rotational analog of mass.

ANSWER: mass **moment of inertia** [accept **rotational inertia** or **angular inertia**]

[10] For any axis passing through the center, a solid uniform sphere has moment of inertia equal to its mass times its radius squared, all times this rational number.

ANSWER: **two-fifths** [or **0.4** or clear equivalents]

[10] Due to symmetry, the sphere's three moments of inertia described by this name are all equal, and thus any axis through the center can be described by this adjective. Engineers sometimes use a type of "component analysis" named for this adjective.

ANSWER: **principal** [accept **principal** moments of inertia or **principal** axis or **principal** component analysis]

<Joseph Krol, Science - Physics> ~18403~

15. A character in this author's Broadway smash *Ponder Heart* "could sit and ponder all day" about the Coca-Cola logo. For 10 points each:

[10] Name this author who wrote a story where the narrator complains about her sister Stella-Rondo titled "Why I Live at the P.O."

ANSWER: Eudora **Welty** [or Eudora Alice **Welty**]

[10] Welty's "Why I Live at the P.O." was included in a short-story collection titled for a curtain of this color. In a story from *The Four Million* by a different author, a piano salesman finds a starving shop girl behind a door of this color.

ANSWER: **green** [accept *A Curtain of Green* or "The **Green** Door"]

[10] Welty's "The Wide Net" won a prize named after this author of the "The Green Door." This author's penchant for twist endings can be seen in "The Gift of the Magi."

ANSWER: O. **Henry** [or William Sydney **Porter**]

<Michael Bentley, Literature - American> ~19198~

16. Although this book is held to have shaped American opinions about Japan, it sold just 28,000 copies between 1946 and 1971. For 10 points each:

[10] Name this book produced for the Office of War Information. It examines the differences between guilt and shame cultures.

ANSWER: *The **Chrysanthemum and the Sword**: Patterns of Japanese Culture*

[10] More influential than Ruth Benedict's *The Chrysanthemum and the Sword* was this man's 1954 best-seller *Sayonara*. This author of the family saga *Hawaii* won a Pulitzer for *Tales of the South Pacific*.

ANSWER: James **Michener**

[10] *The Chrysanthemum and the Sword* went back on the best-seller lists when it was translated by an anthropologist on this island named Huang Dao-Ling. This island was long ruled by the Kuomintang party.

ANSWER: **Taiwan** [accept **Formosa**; the island isn't called "Republic of China" or "China" so do not accept those answers]

<Michael Bentley, Other - Other Academic and General Knowledge> ~18143~

17. The frontside bus connects the RAM to the L1 or L2 layers of this thing. For 10 points each:

[10] Identify these parts of a CPU where data can be accessed more quickly than in main memory. A "miss" named for these entities can cause a program to stall considerably.

ANSWER: CPU **cache** [accept **cache** miss]

[10] These storage devices are accessed through the slower external bus. These devices contain a set of rotating platters capable of storing potentially terabytes of data and have been slowly phased out in favor of faster solid-state drives.

ANSWER: **hard drives** [or **hard disk drive**; or **hard disk**; or **fixed disk**; or **HDD**]

[10] These hardware devices have driven the replacement of the PCI bus with PCI Express. The parallel programming frameworks CUDA, OpenGL, and DirectX were designed to use these devices.

ANSWER: **GPUs** [or **graphics processing unit**; or **graphics card**]

<Michael Bentley, Science - Computer Science> ~18837~

18. *Description acceptable*. The term *vahana* denotes creatures who fill this role, such as the elephant Airavata ("EYE-ruh-vut") and the rat Mooshika. For 10 points each:

[10] Identify this role also occupied by Nandi, a white bull and companion of Shiva.

ANSWER: divine **mounts** [accept descriptions that convey that the god is **riding** on the animal; prompt on **familiars**; prompt on **associates**]

[10] The rat Mooshika is the mount for this Hindu god, Shiva's elephant-headed son.

ANSWER: **Ganesha**

[10] The goddess Lakshmi's mount is one of these creatures. Demeter turned Ascalaphus into one of these creatures for revealing that Persephone had eaten pomegranate seeds.

ANSWER: **owls** [or screech **owls**]

<Matthew Bollinger, RMP - World Mythology> ~19304~

19. A William Carlos Williams poem describes how the artist of this painting "has chosen / a winter-struck bush for his / foreground to / complete the picture." For 10 points each:

[10] Name this painting by Pieter Bruegel ("BROY-gul") the Elder where 13 dogs join the three title figures as they return to a town full of people skating.

ANSWER: The Hunters in the Snow [or The Return of the Hunters; or Jagers in de Sneeuw]

[10] Many late-period paintings by Bruegel depict this broad class of rural folk, including a Dance and a simple Wedding where a bride sits alone under a green textile.

ANSWER: peasants [accept the Peasant Wedding or the Peasant Dance; anti-prompt on serf or lower class people]

[10] A man bites into a pillar in the bottom left of this Bruegel painting, whose other scenes include a knight placing a bell on a cat and a man "falling from the ox onto the rear end of an ass."

ANSWER: Netherlandish Proverbs [or Flemish Proverbs or The Blue Cloak or The Topsy Turvy World]

<Michael Bentley, Fine Arts - Painting - European> ~18728~

20. A new statue of this woman sculpted by Gillian Wearing was unveiled in Parliament Square in 2018. For 10 points each:

[10] Identify this leader of the moderate NUWSS who co-organized the 1907 Mud March with Lady Frances Balfour.

ANSWER: Millicent Garrett Fawcett [or Millicent Garrett]

[10] Millicent Fawcett's NUWSS advocated for this cause. Christabel and Emmeline Pankhurst used more radical tactics to achieve this aim, gained in the US through the Nineteenth Amendment.

ANSWER: universal women's suffrage [accept answers such as votes for women; prompt on universal suffrage]

[10] In 1918, Constance Markievicz was elected to Parliament as a member of this party but refused to serve. Gerry ("JERRY") Adams became leader of another political party of this name in 1983.

ANSWER: Sinn Féin ("shin FAYN")

<Michael Bentley, History - European - 1900+> ~17926~

21. A Paula Vogel play depicts the scandals surrounding a real-life play about prostitution by an author with this first name. For 10 points each:

[10] Name this first name shared by the author of the play *God of Vengeance* and the author of stories about a milkman who "strikes it rich."

ANSWER: Sholem [or Sholem Asch or Sholem Aleichem]

[10] Performances of *God of Vengeance* on Broadway were stopped because its entire cast was arrested for this crime, which Penguin Books was tried for after publishing *Lady Chatterley's Lover*.

ANSWER: obscenity [accept word forms like being obscene; accept equivalents like indecentcy or publishing pornographic material]

[10] Sholem Asch, the playwright of *God of Vengeance*, was born in this modern-day country home to the author of the novel *Quo Vadis*. Ubu becomes king of it in the riot-causing play *Ubu Roi*.

ANSWER: Poland [or Republic of Poland or Rzeczpospolita Polska] (The last author is Henryk Sienkiewicz)

<Vishwa Shanmugam, Literature - European - Other> ~13491~