

PACE NSC 2022 - Round 04 - Tossups

1. The legal concept of *murum aries attigit* derives from a Roman policy governing these events described by Julius Caesar. A "parallel" named for these events was repeatedly employed by the Marquis de Vauban. Polyidus ("PAH-lee-"EYE"-dus") of Thessaly created a gigantic Helepolis for use in one of these events. In the ancient world, it was common to construct an earthwork mole during these events. (*)

Sappers were originally used for undermining efforts during these operations. A failed one of these operations at Rhodes in 305 BCE involved the use of a giant portable tower. Before the spread of gunpowder, "engines" such as trebuchets were widely used in these operations. For 10 points, name these military operations that might involve starving out a fortified castle.

ANSWER: sieges [accept blockade or more specific answers like besieging a castle or a fort; prompt on battles or warfare; prompt on surrendering on the first sentence by asking, "during what type of event?"]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~23135~

2. Carbon migrations may expand one of these structures to enhance car·bo·cat·ion stability. The formation of an oxa·phosph·etane ("OCKS-ah-FOSS-fih-tayn") containing one of these structures controls the stereochemistry of the Wittig reaction. Molecules containing these structures and significant de·localization may produce a roughly 7 ppm NMR shift due to a namesake current. (*) Lactones are esters containing one of these structures, which are present in sugar structures depicted in Haworth ("HAY-worth") projections. Planarity, appropriate electron count, and one of these structures satisfy Huckel's rules for aromaticity. Five or six membered examples of these structures are the most stable. Benzene contains, for 10 points, what kind of molecular structure produced by a cycloaddition?

ANSWER: rings

<Andrew Wang, Science - Chemistry> ~24134~

3. The "Paganini" of this instrument, Giovanni Bottesini, composed a "Grand Duo Concertante" for two of them and orchestra. Domenico Dragonetti popularized the "German" style of playing this instrument. This instrument plays a muted solo beginning with the notes "D (pause), E (pause), F, E, D" under alternating timpani strokes to open the third movement of Gustav Mahler's First Symphony, in reference to the (*) nursery rhyme "Frère Jacques." This instrument, which descends from the *viol da gamba* and is thus tuned in fourths, uniquely replaces the second violin in Franz Schubert's *Trout Quintet*. The cello is often doubled in a lower octave by, for 10 points, what lowest-pitched string instrument in the orchestra?

ANSWER: double bass

<Benjamin Chapman, Fine Arts - Music - Romantic> ~23313~

4. An essay by this scholar argues that a successful author is a "sub-creator" who makes "a Secondary World which your mind can enter." An essay by this scholar contains an allegory about an old stone tower toppled by people looking in vain for "hidden carvings and inscriptions." This author of "On Fairy-stories" defended the literary merit of creatures like the dragon and (*) Grendel in "Beowulf: The Monsters and the Critics." This scholar and C. S. Lewis were the two most famous members of the literary group the Inklings. His son Christopher compiled his stories about places like Númenor into *The Silmarillion*, his history of the land of Middle-Earth. For 10 points, name this British author of *The Lord of the Rings*.

ANSWER: J. R. R. Tolkien [or John Ronald Reuel Tolkien]

<Michael Bentley, Literature - British - Other> ~23262~

5. On Election Day in 1857, the Chunkers and other nativist gangs in this city started an anti-Catholic riot that killed 8 people. In 1848, 76 enslaved people escaped this city onboard the *Pearl*, only for bad weather to doom their chance at freedom. This city was the Eastern terminus of a waterway nicknamed the "Grand Old Ditch". After designing the Charleston County Courthouse, James (*) Hoban was asked to design a prominent building in this city. Benjamin Banneker and Andrew Ellicott led the first surveys of this city. Contrary to popular belief, only 1% of this city was built on swampland according to the L'Enfant Plan of this city. For 10 points, name this city burned by the British in the War of 1812, damaging the White House.

ANSWER: Washington, D.C. [or D.C. or District of Columbia]

<Michael Bentley, History - American - Pre-1865> ~23097~

6. A "Seminar" named for this man was criticized for having film director Paul Verhoeven as a member. The "criterion of embarrassment" is used to assess the historicity of events in this man's life. An "e" instead of an "i" in the spelling of a name makes it unclear whether Suetonius wrote about the followers of this man. Three scholarly "quests" about this man's life began after the publication of a 1906 Albert Schweitzer work. In Book 20, Chapter 9 of the (*) *Antiquities of the Jews*, Josephus mentions James as the brother of this man, who was killed on the orders of Pontius Pilate. For 10 points, name this religious leader, whom most historians agree was a real person who lived in first century Judea and was crucified.

ANSWER: Jesus of Nazareth [or Jesus Christ; accept Chrestus or Chresto]

<Jon Suh, RMP - Other Religion> ~22518~

7. A poet who mainly used this language wrote that "I'm going to hide behind language" in their collection *Extracting the Stone of Madness*. A poem in this language repeats "pretend I'm chaste," and is titled "You Want Me White." One poet used this language to write that "the earth will be a soft cradle" and to describe "that frozen niche [where] men have put you" in a sequence about their dead lover, titled (*) *Sonnets of Death*. Another poet used this language to write that "it is the hour of departure" and "in you everything sank!" in the last part of their collection *Twenty Love Poems and a Song of Despair*. For 10 points, name this language used by Gabriela Mistral ("mee-STRAHL") and Pablo Neruda.

ANSWER: Spanish [or Español] [The first two poets are Alejandra ("al-eh-HAND-rah") Pizarnik and Alfonsina Storni.]

<Joseph Krol, Literature - World and Miscellaneous> ~23683~

8. The first modern drug of this type, now primarily used to treat glaucoma, is the carbonic anhydrase inhibitor acetazolamide. Drugs of this type that inhibit epithelial sodium channels act in a potassium-sparing manner. These drugs, along with beta blockers, angiotensin inhibitors, and ACE inhibitors are agents of choice for chronic heart failure. The most potent of these substances, like furosemide, act on the (*) ascending loop, while thiazide examples act on the sodium-chloride symporter of the distal convoluted tubule. These drugs help lower blood pressure in part by reducing blood volume and are used by athletes attempting to cheat drug tests. For 10 points, what type of drugs cause an increase in urine production?

ANSWER: diuretics [accept carbonic anhydrase inhibitors until "carbonic"; prompt on antihypertensives; prompt on water pills or water tablets]

<Andrew Wang, Science - Biology> ~24152~

9. Farmers were given the right to engage in these events by the Frazier-Lemke Act of 1934. Following these events, FpML guidelines mandate that SubTier1 stakeholders are lowest in seniority and thus have the lowest priority. A 2005 paper co-authored by Elizabeth Warren argued that individuals who start these events were likely to have had a medical emergency. The US code governing these events allows for an automatic (*) stay. On September 15, 2008, the largest one of these proceedings in US history was started by Lehman Brothers. These events may be followed by a reorganization in the Chapter 11 type, unlike Chapter 7, which leads to liquidation. For 10 points, name this legal process in which debtors obtain relief from their creditors.

ANSWER: declaring bankruptcy [accept answers like engaging in bankruptcy proceedings; accept medical bankruptcy; prompt on answers like going into debt or running out of money or closing a business]

<Michael Bentley, Social Science - Other> ~22469~

10. After an irksome encounter with the governor Pythius, this man had Pythius's son cut in two, then instructed his soldiers to march through the two halves of the dead body. The mother of this king's mistress was horribly disfigured on the orders of his jealous wife Amestris. Herodotus claims that this ruler ordered his men to drop chains in the ocean and (*) lash the ocean 300 times after the destruction of his pontoon bridges. Scholars most often identify King Ahasuerus from the Book of Esther with this ruler, who had a throne set up on Mount Aigaleo so that he could watch his navy's performance at the Battle of Salamis. For 10 points, name this hubristic king of Persia, who invaded Greece to avenge the defeat of his father Darius.

ANSWER: Xerxes the Great [or Xerxes I]

<Matthew Bollinger, RMP - Greco-Roman Mythology> ~23991~

11. The "super grandfathers" from this country recorded a breakout album in which Ry Cooder played slide guitar. A Wim Wenders documentary captures artists in this country's EGREM Studios recording an album that opens with a *trova* song titled "Chan Chan." The film *Too Many Girls* popularized a carnival dance from this country where participants kick out their legs on the fourth beat. A 1996 world music album was named for this country's (*) Buena Vista Social Club. In the 1930s, a band from this country called *Arcaño y sus Maravillas* pioneered a variation of the *danzon* genre that eventually gave way to *mambo*. For 10 points, conga drummer Desi Arnaz was born in what country, the home of the *rumba*?

ANSWER: Cuba [or Republic of Cuba]

<Michael Bentley, Fine Arts - Jazz> ~22994~

12. In 2018, the NSF transferred control of one of these things to the University of Central Florida without an increase in funding. 38 *kupuna* were arrested in 2019 after blockading an access road for a proposed one of these things. The namesake of one of these things fired a gay employee during the Lavender Scare, which has prompted a recent renaming petition. After a lengthy cooling period in early 2022, one of these things used a device called (*) NIRCams for alignment. One of these things in Puerto Rico collapsed in 2020. A controversial "Thirty Meter" one of these things is being built on Mauna Kea. For 10 points, the James Webb is what kind of scientific device that will observe early stars?

ANSWER: telescope [accept observatory or space telescope or extremely large telescope or infrared telescope or radio telescope; prompt on a rocket or spacecraft by asking "what was it carrying?"]

<Michael Bentley, Current Events - U.S.> ~22956~

13. Characters originally from this novel transform into *koi* fish after jumping into water in Nghi Vo's ("NEE VOH's") *The Chosen and the Beautiful*. Maureen Corrigan argued that "one of the first graphic novel moments" in Western literature occurs due to the dash that represents a dock on the last page of this novel. Michael Pekarofski's argument that this novel is a (*) Jewish passing narrative examines its references to the fictional book *The Rise of Colored Empires*, as well as its portrayal of the bootlegging gambler Meyer Wolfsheim. John T. Irwin connected the light of a movie screen to this novel's symbol of a green light. For 10 points, name this novel largely set on East Egg by F. Scott Fitzgerald.

ANSWER: The *Great Gatsby*

<Michael Bentley, Literature - American> ~22661~

14. Matches always exist in the game *Dobble* because its cards form a finite example of these objects that has been augmented with intersections at infinity. Every boundary point of a convex set is "supported" by one of these objects. According to the ham sandwich theorem, there exists one of these objects that can evenly split three labeled sets of points. These objects may be defined in (*) point-normal form by using any three non-collinear points and taking the cross product of their vectors. Two distinct examples of these objects will intersect along a line or not at all. Descartes was the first to assign coordinates to these objects. For 10 points, name these two-dimensional objects which extend infinitely in all directions.

ANSWER: planes [accept finite projective planes or hyperplanes or the Cartesian plane]

<Kevin Wang, Science - Math> ~24209~

15. In this region, Daniel Messerschmidt discovered the first fossils of a creature known locally as the *maimanto*. Traders used a road usually named for this region to bring tea to the Irbit fair. The conquest of this region was aided by a victory over Kuchum Khan's forces at Qashliq by an army led by Yermak. The *yasak* tax, applied to the indigenous people of this region, was usually paid in fur. In the 19th century, the Akatuy Katorga in this (*) "prison without a roof" was home to many exiled Polish nationalists. A transportation project named for this region ends in Vladivostok and needed to go around this region's Lake Baikal. For 10 points, name this frigid eastern region of Russia.

ANSWER: Siberia [accept Trans-Siberian Railway; prompt on Northern Russia or Eastern Russia or Arctic Russia or Russian Far East; prompt on Russia until read]

<Emmett Laurie, History - European - 1500-1900> ~22175~

16. This character is accused of a crime after a description of a "power that crosses the white sea," which inspired lectures by Martin Heidegger. This is the younger of two characters who are interrupted by an unnamed "Stranger" in a sacred grove. A play titled for this character features the line "Wonders are many, and none is more wonderful than man." Guards see this character pouring wine on the ground after the end of a dust storm. This character's suicide in a cave prompts the suicide of her lover (*) Haemon ("HEE-mun"). This woman, who acts as a guide for her father in a play set in Colonus, is sentenced to death by Creon after trying to bury the body of her brother Polyneices ("polly-NIGH-sees"). For 10 points, what daughter of Oedipus names a Sophocles play?

ANSWER: Antigone ("an-TIG-oh-nee")

<Joseph Krol, Literature - European - Drama> ~23661~

17. Cucumbers are often added to this food for a "cozy" meal consumed on Fridays in Sweden. The so-called "Lyon" or "French" version of this food is always pluralized and may have been invented by the Moroccan Moubarek family. A franchise named for this food previously used Mission Revival architecture and adapted a novel preparation of it from the Mitla Cafe. The Rubios chain popularized adding seafood to this food. In 2019, LeBron James was denied a trademark for consuming this food on (*) Tuesdays. Roy Choi helped popularize the "Korean" carne asada version of this food. A business named for this food partnered with Frito-Lay to make a Dorito-flavored hard shell. For 10 points, what Mexican-American street food names a franchise founded by Glen Bell?

ANSWER: tacos [accept French tacos; accept hard-shell tacos]

<Michael Bentley, Other - Other Academic and General Knowledge> ~23368~

18. One holder of this title angered critics by extending the Vienna Convention to all US contractors, making them immune from local prosecution. A holder of this title was praised by a US President for ruling over "an island of stability in shark infested waters." A holder of this title established a Literacy Corps as part of a series of secular reforms termed the (*) White Revolution. Jimmy Carter allowed the last holder of this title to seek refuge in New York for cancer treatment. The SAVAK was controlled by the last holder of this title, who came to power after the ouster of Mohammed Mossadegh. For 10 points, name this title held by Mohammed Reza Pahlavi, who was overthrown in a revolution that installed Ayatollah Khomeini.

ANSWER: Shah of Iran [or Shahanshah; or King of Iran; or Emperor or Iran; prompt on partial answer]

<Michael Bentley, History - World - Middle Eastern> ~22475~

19. This color is the background of the Met's *Portrait of Madame Ginoux*. A pipe and some tobacco leaves rest on a simple object of this color in an 1888 still-life often held to be a self-portrait. Along with brown, this color dominates the bottom half of a landscape with crows usually considered the artist's last painting. The chair in the painting *Chair with Pipe* is this color, as is the bedframe in the same artist's painting (*) *Bedroom in Arles*. A clock reads 12:15 in a painting whose bottom half is dominated by this color; that painting is *The Night Cafe*. An artist holds his brush to flowers of this color in a portrait by the artist's friend Paul Gauguin. For 10 points, name this color that dominates Vincent van Gogh's paintings of sunflowers.

ANSWER: yellow [accept gold or more specific shades of yellow; do not accept or prompt on "orange"]

<Michael Bentley, Fine Arts - Painting - European> ~15637~

20. These *two* quantities are obtained by multiplying elements of a tensor written capital F by minus one-half of the Levi-Civita tensor, or by the speed of light, respectively. These quantities are calculated by accounting for propagation delay in Jefimenko's equations. In macroscopic materials, these two quantities are replaced by similar ones denoted by D and H. Up to a constant, energy flux is represented by the cross product of these quantities in the (*) Poynting vector. The curl of one of these quantities equals minus the partial time derivative of the other, by Faraday's Law. Along with velocity, these two vector quantities cause the Lorentz force on a moving charged particle. For 10 points, name these two vector fields symbolized B and E.

ANSWER: magnetic field and electric field [accept answers in either order; both answers required, prompt on partial; accept B field in place of magnetic field and E field in place of electric field before they are mentioned]

<Lalit Maharjan, Science - Physics> ~17273~

21. A 1992 *New York Times* op-ed by orthodontist Sheldon Peck argued that the dental features of this monument meant that it does not depict the man who erected a stele next to it. A ruler who was promised "White and Red Crowns" constructed the Dream Stele next to this monument. A team led by Giovanni Battista Caviglia unsuccessfully tried to excavate this monument but did find a piece of a (*) cobra that was once affixed to its head. This monument features a headdress called a *nemes* and most likely depicts a ruler named Khafre. Legend has it that a cannonball shot by Napoleon destroyed this object's nose. For 10 points, name this monumental Egyptian sculpture of a mythical creature.

ANSWER: The Great Sphinx of Giza [or Horemakhet]

<Michael Bentley, History - European - Classical> ~22486~

PACE NSC 2022 - Round 04 - Bonuses

1. This process produces cells from both myeloid and lymphoid progenitors. For 10 points each:

[10] Name this process of producing blood cells, which occurs through namesake stem cells found in the bone marrow.

ANSWER: **hematopoiesis** [or **hemopoiesis**; prompt on erythropoiesis]

[10] The kidneys enhance red blood cell formation through erythro·po·ie·tin in response to low levels of this compound, a situation called hypoxia.

ANSWER: blood **oxygen**

[10] Glycoproteins that stimulate hematopoietic stem cells are named CSFs, where the C stands for this word.

This word refers to the fact that cells derived from a single stem cell in culture would cluster around the original cell's location.

ANSWER: **colony** [or **colonies**; accept **colony stimulating factor**]

<Andrew Wang, Science - Biology> ~15031~

2. A 2016 review of this hoax found that the amount of archeological knowledge required to perpetrate it ruled out Arthur Conan Doyle as a suspect. For 10 points each:

[10] Name this hoax where Charles Dawson attached an orangutan jaw to a human cranium and claimed it was an early species of hominid named after a site in Sussex.

ANSWER: **Piltdown** Man [or **Piltdown** hoax]

[10] Dawson initially referred to the Piltdown Man using this outdated term, implying that it was the transition fossil marking the evolutionary point where apes turned into modern humans.

ANSWER: **missing link**

[10] Another potential missing link was this *Australopithecus africanus* skull from South Africa, partly named for belonging to a youthful hominid.

ANSWER: **Taung** Child [or **Taung** Baby; or **Taung** hominid; or **Taung** skull]

<Chauncey Lo, History - Cross, Historiography, and Miscellaneous> ~16945~

3. The *dawsah* ritual, in which the *sheikh* of the Sadi order rode a horse over his followers, was held to honor this event. For 10 points each:

[10] Name this event that occurred during the Year of the Elephant. The *Burdah*, an ode by Al-Busiri, is recited on a holiday commemorating this event called Mawlid.

ANSWER: **birth** of **Muhammad** [or the **Muhammad's birthday**]

[10] Many Mawlid texts touch on this episode in Muhammad's life, his journey from Mecca to Medina.

ANSWER: **hijrah** [or **hijra**; or **hegira**]

[10] Another trip recounted in Mawlid texts is the Night Journey, Muhammad's journey to the Dome of the Rock in this city. The Temple Mount is in this holy city of the three major Abrahamic religions.

ANSWER: **Jerusalem** [or al-**Quds**; or **Yerushalavim**]

<Michael Bentley, RMP - Islam> ~18880~

4. Conservator Michael Skalka has discussed how asphaltum pigment makes this artist's paintings especially hard to preserve. For 10 points each:

[10] Name this American artist fond of mixing tobacco juice and tar into his paintings. This artist's painting *The Race Track (Death on a Pale Horse)* is at the Cleveland Museum of Art.

ANSWER: Albert Pinkham **Ryder**

[10] Ryder was the only American included in the "Old Masters" section of this event. Walt Kuhn and Arthur B. Davies helped organize this 1913 exhibition, featuring works such as Edvard Munch's *Vampire*.

ANSWER: **Armory** Show [or **International Exhibition of Modern Art**]

[10] Ryder's legacy has been damaged due to countless numbers of these works, which can be detected by looking for things like anachronistic paint pigments.

ANSWER: **forgeries** [accept answers like **counterfeits** or **fakes**]

<Michael Bentley, Fine Arts - Painting - U.S.> ~18172~

5. The practical value of this discipline was demonstrated when a wireless spectrum auction netted double the predicted ten billion dollars. For 10 points each:

[10] Identify this discipline whose "theory" was elucidated in a 1944 book by Oskar Morgenstern and John von Neumann.

ANSWER: **game** theory [accept **Theory of Games** and *Economic Behavior*; prompt on mathematical economics]

[10] Matching Pennies is an example of one of these games, where the payoffs always come out to the same value. This term refers to any situation where making one player better off makes another player equally worse off.

ANSWER: **zero-sum** games

[10] In this game, Alice wants to go to the ballet while Bob wants to go to a boxing match. Alice and Bob must decide which event to attend after they are separated in this game.

ANSWER: **Battle of the Sexes** [or **BoS**; or **Bach or Stravinsky**]

<Michael Bentley, Social Science - Economics> ~18055~

6. Along with Nikolai Joukowski ("joo-KOV-ski"), this scientist names a theorem that gives lift as density times velocity at infinity, all times the circulation. For 10 points each:

[10] Name this scientist. Fluid dynamicists often use a method for solving differential equations that this scientist co-developed with Carl Runge ("RUNG-uh").

ANSWER: Martin **Kutta** [accept **Kutta**-Joukowski theorem or **Runge-Kutta** method]

[10] The Kutta-Joukowski theorem is applied to these parts of an airplane, which generate lift and can have jets attached to them.

ANSWER: airplane **wings** [or **airfoils** or **aerofoils**]

[10] Kutta's condition can be illustrated using these lines that are parallel to the fluid velocity. The way these lines pass smoothly around a vehicle in aerodynamic designs inspired the use of a wind tunnel in designing the Chrysler Airflow.

ANSWER: **streamlines**

<Joseph Krol, Science - Physics> ~18147~

7. The first feature film made with this technology, *Becky Sharp*, was panned due to the unnatural skin tones it produced on the actors. For 10 points each:

[10] Identify this brand-name technology that required extremely bright lights to capture shots onto three strips of film.

ANSWER: **Technicolor** [prompt on color]

[10] Elizabeth Arden's Technicolor-friendly makeup first appeared in the 1937 version of this film. Two later versions of this film cast Judy Garland and Barbara Streisand as Esther.

ANSWER: *A **Star is Born***

[10] This fashion magazine warned readers to not use Arden's makeup for most occasions because it was too garish. Anna Wintour has edited this rival of *Harper's Bazaar*, *Elle*, and *Cosmopolitan* since 1988.

ANSWER: **Vogue**

<Michael Bentley, Fine Arts - Miscellaneous> ~17884~

8. Thanks to his tireless champion and translator Ivan Turgenev, this French author gained fame in Russia before France. For 10 points each:

[10] Name this writer of *Germinal* who defended Alfred Dreyfus in the article *J'Accuse*.

ANSWER: Émile **Zola** [or Émile Édouard Charles Antoine **Zola**]

[10] Turgenev also was a promoter of Jules ("ZHOOOL"), an author with this surname, who co-wrote an influential diary with his brother Edmond ("ED-mon"). Those inseparable brothers with this surname co-wrote novels like *Germinie Lacerteux* ("ZHAIR-min-ee lah-sert-UR").

ANSWER: **Goncourt** ("gon-COR") [accept the **Goncourt** brothers or Jules **Goncourt** or Edmond **Goncourt**]

[10] Turgenev claimed that his own character Akim was of the "same caliber" as this other character. In an 1852 novel, this husband of Aunt Chloe saves Little Eva from drowning.

ANSWER: Uncle **Tom** [accept *Uncle **Tom**'s Cabin*]

<Michael Bentley, Literature - World and Miscellaneous> ~18063~

9. *Bakuto* were itinerant workers in this industry in Japan. For 10 points each:

[10] Name this industry. Portuguese merchants allowed this industry to operate keno in Macau, which is today the world's capital for this industry.

ANSWER: **gambling** industry [accept **lotteries**; accept **betting** industry or **casino** industry]

[10] These Japanese crime syndicates are believed to have formed out of *bakuto*. Members of these Mafia-like organizations get full-body tattoos, a tradition shared with the *bakuto*.

ANSWER: **yakuza** [or **gokudō**; or **bōryokudan**; or **ninkyō dantai**]

[10] This historical work claims that Emperor Tenmu played *sugoroku*, a backgammon-like game that was later banned due to its players' propensity for gambling. Unlike the *Kojiki*, this work of history extends until the 8th century.

ANSWER: **Nihon Shoki** [or **Nihongi**; or **Chronicles of Japan**]

<Hari Parameswaran, History - World - Asian> ~17748~

10. A character from this city experiences a phenomenon she calls "dissolving margins." For 10 points each:
[10] Name this city, where characters nicknamed Lila and Lenù grow up in novels such as *The Story of a New Name*.

ANSWER: **Naples** [or **Napoli**; accept the **Neapolitan** novels]

[10] *The Story of a New Name* is part of this author's series the *Neapolitan Novels*. An intrusive 2016 investigation by Claudio Gatti sought to reveal this pseudonymous author's identity.

ANSWER: Elena **Ferrante** [prompt on Anita **Raja** or Domenico **Starnone** by asking "What name were the novels were published under?"]

[10] Ferrante's true identity was supposedly "confirmed" in a fake interview by prankster Tommaso Debenedetti, whose other exploits include pretending to be a Czech ambassador in 2020, in which guise he claimed that this author of *The Unbearable Lightness of Being* had died.

ANSWER: Milan **Kundera**

<Joseph Krol, Literature - European - Long Fiction> ~18241~

11. A basic model of this process treats a surface as energetically homologous, all sites as equivalent, and assumes that at full capacity only a monolayer can form. For 10 points each:

[10] Name this process where molecules bind to the surface of a material. Highly porous substances are preferred for this process due to their increased surface areas.

ANSWER: **adsorption** [do not accept or prompt on "absorption"]

[10] Phys-i-sorption is a type of adsorption that is mediated by Van der Waals forces, which consist of Keesom forces, Debye ("de-Bai") forces, and this class of forces between instantaneous induced dipoles.

ANSWER: **London** dispersion force [or **LDFs**]

[10] A simple model of adsorption is named for this proposer of the 18-electron rule who also names the American Chemical Society's surface science journal.

ANSWER: Irving **Langmuir**

<Fredrick Morlan, Science - Chemistry> ~19071~

12. Followers of this man believed in the doctrine of the "transmigration of souls." For 10 points each:

[10] Identify this Greek philosopher who founded a school in Croton. According to legend, by listening to blacksmiths at work, this philosopher discovered the frequency ratios underlying musical harmony.

ANSWER: **Pythagoras** [or **Pythagoras** of Samos]

[10] Pythagoras claimed to remember his previous incarnations, including his life as Pyrrhus, a fisherman from this island. Apollo and Artemis were born on this Greek island.

ANSWER: **Delos**

[10] Arabic traditions held that Pythagoras was taught the secrets of this figure, based on a Greek deity syncretized with Thoth. This figure was the purported author of the Emerald Tablet, an alchemical text.

ANSWER: **Hermes Trismegistus** [or **Hermes the Thrice-Greatest**; prompt on **Hermes**]

<Michael Bentley, RMP - Greco-Roman Mythology> ~19056~

13. The protagonist of this novel has a religious awakening at the Temple of the Fire Baptized on the same day that his brother Roy is stabbed. For 10 points each:

[10] Name this novel about John Grimes's relationship with his religious father, Gabriel.

ANSWER: **Go Tell It on the Mountain**

[10] *Go Tell It on the Mountain* is a novel by this gay Black expatriate author, who also wrote the novel *Giovanni's Room*.

ANSWER: James Arthur **Baldwin**

[10] This other novel by Baldwin partly takes its title from a W.C. Handy blues song set in Memphis and centers on Tish and Fonny, the latter of whom is in jail after being falsely accused of rape.

ANSWER: **If Beale Street Could Talk**

<William Grossman, Literature - American> ~14254~

14. In a thought experiment by this author, two people are trapped in a house while one of them grows, eventually crushing the other. For 10 points each:

[10] Name this philosopher who used the example of "people-seeds" taking root in a house. This thinker also imagined the Society of Music Lovers kidnapping someone to save a dying violinist.

ANSWER: Judith Jarvis **Thomson**

[10] Those examples appear in a Thomson paper that offers a "defense" of this practice, which is supported by the "pro-choice" movement.

ANSWER: **abortion** [accept "A Defense of **Abortion**"]

[10] Thomson also modified this thought experiment introduced by Philippa Foot. In this thought experiment, a person at a switch must choose whether to pull it to save five people and kill one.

ANSWER: **trolley** problem

<Anson Berns, RMP - Philosophy> ~18766~

15. Scholars debate whether ordinary people in this civilization actually practiced its official religion, as no archaeological evidence for menorahs or similar symbols have been found. For 10 points each:

[10] Identify this civilization, whose leaders, the beg and kaghan, practiced Judaism.

ANSWER: **Khazars** ("KUZ-ers") [or **Khazar** khaganate]

[10] The Khazars made examples of these objects called Moses dirhams that proclaimed "Moses is the Messenger of God." Peter the Great instituted the first decimal-based system for these units of exchange.

ANSWER: **coins** [accept gold **coins**; prompt on **gold** or **money** or **currency**]

[10] Khazar envoys tried to convert this monarch to Judaism but he went with Eastern Orthodoxy instead. This Prince of Novgorod and Grand Prince of Kiev who died in 1015 is known as The Great.

ANSWER: **Vladimir** the Great [or **Vladimir** I; or Saint **Vladimir**]

<Michael Bentley, History - European - Middle Ages> ~17931~

16. This character sings about stars that "are drawing up the clouds of human grief" in the aria "Now the Great Bear and Pleiades." For 10 points each:

[10] Name this maligned fisherman from a 1945 opera from which *Four Sea Interludes* are often excerpted.

ANSWER: Peter **Grimes** [or **Peter** Grimes]

[10] *Peter Grimes* is an opera by this composer of *The Young Person's Guide to the Orchestra*.

ANSWER: Benjamin **Britten** [or Edward Benjamin **Britten**]

[10] The closing "mad scene" of *Peter Grimes* features an ominous solo for this instrument that signals the death of the apprentice John. Ralph Vaughan Williams ("rayf von williams") wrote an F minor concerto for this instrument.

ANSWER: **tuba**

<Wonyoung Jang, Fine Arts - Music - 1900 to 1970> ~19329~

17. Worldwide, at least 19,000 of these structures are still operating beyond their 50 year lifespans. For 10 points each:

[10] Name these structures, one of which in Mosul was dangerously seized by ISIS in 2014. The "retained sediment approach" is one way to deliberately remove these structures.

ANSWER: **dams** [accept hydroelectric **dams**]

[10] Heavy rains caused the Kandesha Dam in this country to fail in 2021. One of China's earliest investments in Africa was a railway that ends in Kapiri Mposhi in this landlocked country's Copperbelt.

ANSWER: **Zambia** [or Republic of **Zambia**]

[10] In 2020, the UN granted this country a \$250 million loan to improve dam safety. At least 25,000 people were killed in 1979 when a dam failed in this extremely populous country's state of Gujarat.

ANSWER: **India** [or Republic of **India**]

<Michael Bentley, Geography - World> ~18107~

18. A carol by this poet notes of "Our God" that "heaven cannot hold Him / Nor earth sustain." For 10 points each:

[10] Name this Victorian poet, who wrote about Laura trading a lock of her hair for some "orchard fruits" in "Goblin Market."

ANSWER: Christina **Rossetti** [or Christina Georgina **Rossetti**; do not accept or prompt on "Dante Gabriel Rossetti"]

[10] Rossetti described a time when "frosty wind made moan" and "Earth stood hard as iron" in this poem, which was set to music by Gustav Holst in a popular British Christmas carol.

ANSWER: "**In the bleak midwinter**"

[10] Rossetti and her brother Dante both contributed to *The Germ*, a short-lived periodical created by this artistic and literary movement. As its name suggests, members of this group tried to use an aesthetic that predates the Italian Renaissance artist of *The School of Athens*.

ANSWER: **Pre-Raphaelite** Brotherhood [or **PRB**]

<Joseph Krol, Literature - British - Poetry> ~19082~

19. The breakdown of this system coincides with a reversal of the prevailing westerlies and an abrupt warming of the stratosphere. For 10 points each:

[10] Name this large circulating system which lies beyond the mid-latitudes. Large Rossby waves can cause this region to drift towards the equator, causing extreme weather.

ANSWER: circumpolar **vortex** [or **polar vortices**; accept tropospheric or stratospheric **polar vortex**; prompt on the **polar cell** or the **poles**]

[10] The polar vortex is confined by these fast-flowing atmospheric currents known for their impact on airline travel.

ANSWER: **jet streams** [accept polar **jet streams**]

[10] The ozone hole lies over Antarctica because these compounds are concentrated in the southern polar vortex. Polar stratospheric clouds provide ideal reaction sites for these halogenated compounds to destroy ozone.

ANSWER: **HCFCs** [or hydro**chlorofluorocarbons**; accept **Freons**; prompt on **halocarbons**, **haloalkanes**, **halons**, or **refrigerants**]

<Benjamin Chapman, Science - Earth> ~18774~

20. In 1998, voters in this state approved Proposition 227, cutting funding for bilingual education programs. For 10 points each:

[10] Name this state, whose representative Nancy Pelosi has supported grants that funded predominantly African-American and Hispanic colleges.

ANSWER: **California**

[10] The 14th Amendment was used to strike down a law that banned teaching this language in the case *Meyer v. Nebraska*. The first Speaker of the House, Frederick Muhlenberg, supposedly kept this language from becoming an official language of the US.

ANSWER: **German** [or **Deutsch**]

[10] Methods in this state's "Little School of the 400" were applied nationwide following the passage of the Bilingual Education Act. A president and former teacher from this state signed the Elementary and Secondary Education Act.

ANSWER: **Texas** (The president was Lyndon B. Johnson.)

<Michael Bentley, History - American - 1945+> ~17881~

21. After a critic complained about the title of this artist's *Symphony in White*, this artist retorted, "Does he then believe that a Symphony in F contains no other note, but shall be a continued repetition of F, F, F? Fool!" For 10 points each:

[10] Name this artist who clashed with another critic, John Ruskin, over his *Nocturne in Black and Gold*.

ANSWER: James Abbott McNeill **Whistler**

[10] Whistler depicted a person with this relationship to him in profile in *Arrangement in Grey and Black No. 1*.

ANSWER: his **mother** [accept answers like his **mom**]

[10] In Whistler's second *Symphony in White*, model Joanna Hiffernan holds one of these objects in her right hand, an example of the *Japonisme* of the era.

ANSWER: a **fan** [or a folding **fan** or Japanese **fan** or handheld **fan** or hand **fan** or **ogi** or **uchiwa**]

<Michael Bentley, Fine Arts - Painting - European> ~18169~