

PACE NSC 2022 - Round 06 - Tossups

1. The first experiment that studied these phenomena was built at the University of Maryland golf course and centered on an aluminum bar named for Joseph Weber ("webber"). These phenomena will be studied by the Japanese KAGRA experiment and by the LISA space probe. A "scientific collaboration" that studies these phenomena was founded by Barry Barish alongside Rainer Weiss ("RINE-uh-VICE"). These phenomena were observed at two sites in (\*) Hanford, Washington and Livingston, Louisiana, each consisting of two perpendicular 4-kilometer long arms. Two massive laser interferometers were used to first detect these phenomena resulting from a black hole merger, which helped confirm general relativity in 2016. For 10 points, LIGO ("LIE-go") detected what waves named for a fundamental force?

ANSWER: gravitational waves [or gravitational radiation; accept gravitational waves after "waves" and prompt beforehand; do not accept or prompt on "gravity waves"]

<Joseph Krol, Science - Physics> ~23514~

2. African American sculptor Edmonia Lewis created a large marble statue depicting the death of this person for Philadelphia's Centennial Exhibition. This inventor of a baldness treatment supposedly oversaw experiments on executed women to track fetal development. A Handel opera negatively compares this woman to the more exemplary Cornelia. This woman fears the cannibalism of an invading army in a (\*) George Bernard Shaw play. Charles Whitaker published an *Ebony* essay exploring whether this person "was Black," although most scholars agree she primarily had Greek ancestry. In the highest grossing film of 1963, Elizabeth Taylor starred as this ruler alongside Richard Burton's Mark Antony. For 10 points, name this Egyptian queen.

ANSWER: Cleopatra [or Cleopatra VII Philopator]

<Michael Bentley, Other - Other Academic and General Knowledge> ~23274~

3. This mountain range was once populated by the mixed-race descendants of shipwrecked Portuguese sailors and Africans known as the Melungeon. The 1888 New Years' Massacre took place during a dispute in this range between leaders "Devil Anse" and "Ole Ran'l". Richard Henderson's Transylvania Company sent expeditions through this range. People who lived in this range made up the "overmountain men" who helped win the Battle of (\*) King's Mountain. The Wilderness Road goes through this range and was traversed by Daniel Boone. The Proclamation of 1763 prohibited settlement west of this range, whose Scottish and Irish settlers were derisively termed "hillbillies." For 10 points, name this major mountain range located in the eastern United States.

ANSWER: Appalachian Mountains [or Appalachia; accept Blue Ridge Mountains]

<Hari Parameswaran, History - American - Pre-1865> ~23303~

4. Every day for almost 50 years, an artist from this country painted white letters onto a monochrome background for his *Today* series of "date paintings." Another artist from this country plastered eyeballs onto mushrooms for the painting *Super Nova* and included a sharp-toothed character with Mickey Mouse-style ears in prints such as *Reversal DNA* and *Melting* (\*) *DOB* ("D-O-B"). During large naked happenings, an artist from this country painted participants' bodies with colored dots. Sculptures of pumpkins covered with polka dots were created by a contemporary artist from this country who is also responsible for the Instagram-friendly *Infinity Mirror Rooms*. For 10 points, name this country whose artist Takashi Murakami often riffs on anime culture.

ANSWER: Japan (The other artists are On Kawara and Yayoi Kusama.)

<Michael Bentley, Fine Arts - World Art> ~23018~

**5. A heroine created by this author is mistaken for Jenny Cameron, the lover of Bonnie Prince Charlie, by the landlady of the Upton Inn. In a novel by this author, the main character often shows his love for that heroine by kissing her fur hand muff, such as after rejecting Arabella Hunt's marriage proposal. One of this author's title characters has brief flings with Molly Seagrim and Mrs. (\*) Waters before traveling to London with his servant, Partridge. In that novel by this author, the title character is banished from his estate by his scheming rival Blifil before discovering that he is the legitimate heir to Squire Allworthy and marrying Sophia Western. For 10 points, name this English author who wrote about a "foundling" in his novel *Tom Jones*.**

ANSWER: Henry Fielding

<Jonathan Magin, Literature - British - Long Fiction> ~23823~

**6. A production of this work by Berthold Schneider and Veronika Witte used loudspeakers to carry voices throughout the *Staatsbankberlin* ("STAH-ts-bank-berlin") and removed all text except for Samuel M. Johnson's sections on lovers. The orchestra dresses up as the title character in a 1984 revival of this work that was choreographed by Lucinda Childs. This opera, which features a "Spaceship" scene, ends with a choir singing number patterns such as "1-2-3-4" in (\*) German. A "prematurely air-conditioned supermarket" is mentioned in Robert Wilson's libretto for this opera, which contains five *intermezzos* called "knee plays." This opera was the first entry in the *Portrait Trilogy*, whose last entry is *Akhnaten*. For 10 points, name this opera by Philip Glass titled for a nuclear physicist.**

ANSWER: *Einstein on the Beach*

<Michael Bentley, Fine Arts - Opera> ~24010~

**7. The para·vascular glymphatic system appears to be most active during this process. A lack of orexin causes this process to spontaneously occur, typically accompanied by cata·plexy. A form of inherited prion disease is named for initially presenting with the inability to perform this process. Tra·zo·done is commonly prescribed off label to help in this process, which is also supported with Z·drugs like zolpidem. Desynchronized (\*) waves are found in a "paradoxical" stage of this process which is preceded by a slow-wave stage 3 counterpart. C·PAP machines apply constant pressure to prevent obstructive loss of breathing, or apnea during this process. Rapid eye movements occur during, for 10 points, what process which may be accompanied by dreaming?**

ANSWER: sleep

<Michael Bentley, Science - Biology> ~23187~

**8. The Elan Vital movement based in this country teaches the techniques of "Knowledge" of Prem Rawat. The leader of a sect in this country did daily "drive-bys" in his Rolls Royce. Virchand Gandhi popularized Jainism and Swami Vivekananda evangelized for Hinduism at the Parliament of the World's Religions held in this country. A religious organization founded in this country promotes Bhakti yoga and goes by the acronym (\*) ISKCON. In an attempt to influence an election in this country, a salmonella outbreak was orchestrated by the Rajneeshee sect. The Hare Krishna movement was founded in this country. For 10 points, name this country where the non-violent doctrines of Mahatma Gandhi were adopted by Martin Luther King, Jr.**

ANSWER: United States of America [or USA]

<Michael Bentley, RMP - Hinduism> ~23095~

**9. Robert Watson-Watt oversaw the first nationwide deployment of this technology in Britain in a system called Chain Home. In Japan, this technology replaced the "war tuba." In the Tizard Mission, an MIT lab led by Vannevar Bush learned of British improvements to this tech. CHILL is a countermeasure to this technology that supplements the usefulness of another countermeasure, chaff. Soviet scientist Pyotr Ufimtsev ("you-fimt-sev") discovered how to reduce an object's (\*) signature when seen on this technology, a technique applied to the Lockheed Nighthawk. The British used this new technology to provide early warnings for RAF pilots during the Blitz. For 10 points, stealth bombers counter what technology that uses electromagnetic waves to detect enemy aircraft?**

ANSWER: radar [or radio detection and ranging; or Doppler radar; accept answers like ground-based radar; prompt on Doppler]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~22484~

**10. A poem from this country states "I had often cowed in the slumbrous heavy air" and is titled "Dürer: Innsbruck, 1495." In this modern-day country, the poem "Up the Country" prompted the "Bulletin Debate," involving a poet who wrote a poem about the country-dwelling Thomas Gerald Clancy. In this country, the journal *Angry Penguins* published surrealist poetry by the fictional (\*) Ern Malley. A poem from this country, which notes "up rode the squatter, mounted on his thoroughbred" and describes a man who "waited till his Billy boiled," is by Banjo Paterson. That poem from this country describes a "jolly swagman" who "camped by a billabong." For 10 points, what country's "bush ballads" include its unofficial anthem "Waltzing Matilda?"**

ANSWER: Australia [or Commonwealth of Australia]

<Joseph Krol, Literature - World and Miscellaneous> ~23696~

**11. In this city, a paramilitary unit known as "the Hawks" killed hundreds of civilians during the Corpus Christi Massacre. The Olympia Battalion committed a massacre in this city whose survivors were interviewed by Elena Poniatowska ("pon-YA-tov-ska"). Students at this non-Argentine city's UNAM protested during a Dirty War in the 1960s. Ambassador Henry Lane Wilson gave support to a coup in this city known as the (\*) Ten Tragic Days. Presidents who lead governments in this city handpick their successor in a tradition termed *el dedazo*. In 1968, Gustavo Ordaz Diaz ordered protesters in this city to be shot *en masse* in its Tlatelolco ("TLAH-tay-LOHL-koh") square. For 10 points, name this capital city from which Enrique Peña Nieto led a Central American government.**

ANSWER: Mexico City [or Ciudad de México]

<Jakob Boeye, History - World - Latin American> ~16256~

**12. The writing of this play was financed by the hit song "Cindy, Oh Cindy" and it was adapted into a Tony-winning musical by Judd Woldin. A woman in this play declares "with feminine vengeance" that love is not enough for women just because "that's what it says in all the novels that men write." A name that means "one for whom bread is not enough" is given to a woman in this play who switches to a natural hair style after meeting a (\*) Yoruban student. Willy Harris steals life insurance money originally intended to be invested in a liquor store in this play, which centers on the Younger family's attempts to move to a white neighborhood of Chicago. A line from a Langston Hughes poem titles, for 10 points, what play by Lorraine Hansberry?**

ANSWER: *A Raisin in the Sun*

<Michael Bentley, Literature - American> ~22464~

**13. Volcano plots show how materials used in this non-statistical process are most effective at medium strength according to the Sabatier ("sab-uh-tee-ay") principle. Acid strength is related to the ability to contribute to this process in Brønsted's ("BRAHN-sted's") relation named for this process. Benjamin List and David MacMillan were awarded a 2021 Nobel Prize for pioneering the use of chiral organic compounds for this process. The rate at which compounds can perform this process is quantified with the (\*) turnover number. Quaternary ammonium salts help mitigate this process by migrating compounds between heterogeneous phases. A reaction's activation energy is reduced through, for 10 points, what process which uses a namesake non-consumed substance to increase reaction rates?**

ANSWER: catalysis [accept equivalents mentioning a reaction being catalyzed or word forms; accept asymmetric organocatalysis; accept Brønsted catalysis equation]

<Benjamin Chapman, Science - Chemistry> ~23881~

**14. A recent book by Ed Caesar documents Maurice Wilson's fatal visit to this place via biplane in 1933. An event called the "Tao of [this place]" sought to restore dignity to the pioneering American woman Francys Arsentiev and to "Green Boots." Tourists visiting this place forfeit their \$4,000 deposit if they do not return with at least 8 kilograms of trash. Google executive Dan Fredenburgh was killed at this place following a 2015 (\*) earthquake that left many people stranded near Khumbu ("KOOM-boo"). Traffic jams often develop at this place's Hillary Step. The Sagarmāthā Pollution Control Committee is working with Sherpas to reduce this mountain's garbage problem. For 10 points, name this tallest mountain in the world.**

ANSWER: Mount Everest [accept Sagarmāthā before mention; prompt on the Himalayas or Nepal]

<Michael Bentley, Geography - World> ~22878~

**15. After a rival died at Kimbolton Castle, this woman controversially wore a "joyful" yellow dress to the funeral. This woman was habitually referred to with the unflattering term "la Putain" by diplomat Eustace Chapuys. This lady-in-waiting to Queen Claude of France was once betrothed to Henry Percy. This Marquessate of Pembroke was made the first woman in England with a hereditary peerage so she'd have a high enough title to meet (\*) Francis I. This queen's alms distributor John Skip caused a rift over what to do with proceeds from the dissolution of the monasteries with Thomas Cromwell. After being charged with incest, a swordsman from Calais ("cal-AY") was brought in to execute this mother of Elizabeth I. For 10 points, name this second wife of Henry VIII.**

ANSWER: Anne Boleyn [or Anne Bullen; accept Marquessate of Pembroke before mentioned; prompt on Queen Anne]

<Michael Bentley, History - European - 1500-1900> ~22477~

**16. One conspiracy holds that Tetrapods serving as armor for this material are kickbacks to the Japanese construction industry. Preparing an area for traffic with greater draft involves the removal of this material, which may be secured horizontally by a groin. Slag and crushed stone are used alongside this material in construction aggregate, which requires it to have been unexposed to (\*) aeolian weathering. This material and other fillers are mixed with cement to form concrete. Breakwaters are typically installed to prevent longshore drift of this material, which will otherwise be taken away by the action of waves. For 10 points, name this granular material commonly found on beaches and deserts.**

ANSWER: sand [accept gravel; prompt on sediment or rock; prompt on coastline or shoreline before "longshore"]

<Kevin Wang, Science - Engineering and Miscellaneous> ~24176~

**17. Two men who pioneered a "higher-class" form of this dance were famously said to have feuded at The Black Ram, but historians who dispute that claim point to one of them dedicating a "Separation" piece to the other. Josef Lanner was instrumental in the development of a variant of this dance that, in its "International Style," features a limited number of moves such as canter pivots and *fleckerls* being danced in closed position. This dance, which developed out of precursor dances such as the (\*) *Ländler* ("LEND-lur") and the *Allemande*, was said to have provoked scandal due to the close proximity of its dance partners. This dance became popular in 19th century Viennese ballrooms due to the works of Johann Strauss and his son, the composer of "The Blue Danube." For 10 points, name this triple-meter dance.**

ANSWER: waltz [or International Style waltz or Viennese waltz]

<Wonyoung Jang, Fine Arts - Music - Romantic> ~24215~

**18. This god's union with a Nereid produced a pair of mysterious deities worshiped at Samothrace, the Kabeiroi ("kah-BUY-ree"). At the end of *Iliad* Book One, the Olympians roar in "unquenchable laughter" at this god's attempts to end a quarrel. According to the *Theogony*, this god married the youngest of the Graces; in Homer, he marries Kharis. This god fights the river (\*) Scamander to save Achilles during the Trojan War. In some versions, this god is conceived without any father by the goddess Hera. This god fell for nine days and nine nights, eventually landing on the island of Lemnos, after being thrown from Mount Olympus. For 10 points, name this Greek god of the forge.**

ANSWER: Hephaestus [or Vulcan]

<Michael Bentley, RMP - Greco-Roman Mythology> ~23620~

**19. A Canadian non-profit founded by Kalle Lasn and named for being opposed to this industry had advocated the practice of culture jamming. Regulations on this industry pertaining to children stem in part from the "pester power" phenomenon. This industry prioritized a "flooding out" of emotion in women according to a 1976 book on this industry's reinforcement of gender stereotypes by Erving Goffman. It's not movies, but in 1957 James Vicary falsely claimed that he had used (\*) subliminal stimuli in this industry to drive demand. World War I propaganda techniques were applied to this broad industry by Edward Bernays, who consulted for Lucky Strike cigarette campaigns. For 10 points, name this industry whose "mad men" created commercials.**

ANSWER: advertising [or marketing; accept Adbusters; accept commercials before the end; prompt on sales or media or television]

<Michael Bentley, Social Science - Psychology> ~23510~

**20. In a children's novel from this country, Sir Tomato and Prince Lemon battle the title proletarian "Little Onion." The Russian author Aleksey Tolstoy adapted a children's novel from this modern-day country in his novel *The Golden Key*. The Green Fisherman catches a character from this country, who is tricked into planting gold coins in the "Field of Miracles" near the town of Catchfools by The (\*) Fox and the Cat. The Blue-Haired Fairy repeatedly saves the hero of that novel from this country, who kills the Talking Cricket. In that novel from this country, a talking log is used by a poor woodcarver to make a wooden puppet whose nose grows when it lies. For 10 points, name this modern-day home country of the creator of Pinocchio, Carlo Collodi.**

ANSWER: Italy [or Italia] (the first line refers to *Cipollino* by Gianni Rodari)

<Michael Bentley, Literature - European - Other> ~22712~

**21. In 1864, a medical school in this city graduated Rebecca Crumpler, the first African-American woman to receive a doctorate in medicine. This city's namesake Vigilance Committee helped the fugitive slave Shadrach Minkins escape capture. A mob in this city was referred to as a "motley rabble of saucy boys" as part of a defense of Captain Thomas (\*) Preston's actions during an event in this city. Joseph Cinque was defended by an ex-politician from this city during the *Amistad* case. The African Meeting House in this city's Beacon Hill neighborhood became known as the Black Faneuil ("fah-nyul") Hall. Crispus Attucks, the "first victim" of the American Revolution, died in this city. For 10 points, name this city which was the home of the Adams family.**

ANSWER: **Boston** [accept **Braintree**; accept **Cambridge**]

<Hari Parameswaran, History - American - Pre-1865> ~22834~

## PACE NSC 2022 - Round 06 - Bonuses

1. A thaw centering on this activity began when Glenn Cowan missed his bus in Nagoya, Japan. For 10 points each:

[10] Identify this Olympic sport engaged in by Chinese and American teams a year prior to Richard Nixon's historic visit to China.

ANSWER: ping-pong [or table tennis; accept Ping-Pong Diplomacy; prompt on sports; do not accept or prompt on "tennis"]

[10] Years before Ping-Pong Diplomacy, this country sent a basketball team to Maoist China. A communist party in this country, the SFIC, published the *Humanity* newspaper and joined a 1936 coalition led by a Jewish prime minister.

ANSWER: France [or French Republic; or République française] (the PM was Leon Blum)

[10] The French team was astonished to find the Chinese head coach studying this text for basketball strategy during timeouts. Billions of people learned sayings like "a revolution is not a dinner party" from this text.

ANSWER: *The Little Red Book* [or *Quotations from Chairman Mao Tse-tung*; or *Máo Zhǔxí Yǔlù*]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~13990~

2. John Gray wrote a book on the "Seven Types" of this title philosophical position. For 10 points each:

[10] Name this position argued for by Richard Dawkins in *The God Delusion*.

ANSWER: atheism [or word forms]

[10] Gray criticizes this man's argument in *Dialogue between a Priest and a Dying Man* by pointing out "if everything human beings do is natural, how can religion be singled out as being contrary to Nature?" Simone de Beauvoir wrote an essay asking, "Must We Burn [This Writer]?"

ANSWER: Marquis de Sade ("mar-KEY de sah") [or Donatien Alphonse François, Marquis de Sade]

[10] Gray's book uses the ideas of this philosopher and Joseph Conrad as examples of "atheism without progress." This Spanish-American philosopher declared "those who cannot remember the past are condemned to repeat it."

ANSWER: George Santayana [or Jorge Agustín Nicolás Ruiz de Santayana y Borrás]

<Michael Bentley, RMP - Philosophy> ~13654~

3. Iron-sulfur proteins exist in clusters described as having the structure of this compound. For 10 points each:

[10] Name this prismane compound with formula C<sub>8</sub>H<sub>8</sub> ("C-8-H-8"), which, while very stable, is extremely difficult to synthesize due to its extremely strained carbons.

ANSWER: cubane

[10] Cubanes with several examples of this group substituted have been investigated as potential explosives. Three examples of this meta-directing group are substituted onto toluene in a more well-known explosive.

ANSWER: nitro

[10] Several organic compounds containing this metal exist in cubane-like clusters, such as a pyrophoric tert-butyl derivative. Organic reagents containing this alkali metal are commonly used in organic synthesis due to being extremely strong bases and nucleophiles.

ANSWER: lithium

<Andrew Wang, Science - Chemistry> ~19287~

4. Economist M. Keith Chen used geolocation data to demonstrate that it took 29 percent longer to engage in this practice in Black neighborhoods. For 10 points each:

[10] Name this process that has been done exclusively by mail in Oregon each November since 2000.

ANSWER: **voting** [accept answers like **casting a ballot** or participating in an **election**]

[10] The Leadership Conference on Civil and Human Rights found that 1,688 polling sites were removed following the decision in this 2013 case which invalidated the preclearance clause of Section 4(b) of the Voting Rights Act of 1965.

ANSWER: **Shelby County v. Holder** [or **Shelby County, Alabama, Petitioner v. Eric H. Holder, Jr., Attorney General, et al.**; prompt on **Holder**]

[10] In 2018, a District Judge ruled that this state's "exact match" law imposed a "severe burden" on voters. Trump enemy Brad Raffensperger won a 2022 primary for Secretary of State in this state.

ANSWER: **Georgia**

<Michael Bentley, Current Events - U.S.> ~18088~

5. For 10 points each, answer the following about Biblical characters who were described as being "jealous for," or having "zeal" for God.

[10] While hiding from Jezebel, this prophet complained to God to take his life away, as he felt that his being "very jealous" for God was for naught. God later sent a chariot of fire to whisk him away into heaven.

ANSWER: **Elijah** [or **Elias**]

[10] To demonstrate his "zeal for the Lord," Jehu killed the seventy sons of this wicked, Baal-worshiping king of Israel, the husband of Jezebel.

ANSWER: **Ahab**

[10] God blessed this grandson of Aaron, who killed the Israelite Zimri and the Moabite woman Cozbi out of righteous zeal for God. He later became the third High Priest of Israel.

ANSWER: **Phinehas** [or **Phineas**]

<Jon Suh, RMP - Hebrew Bible> ~19333~

6. Richard Rogers often moved these parts of a building to the corner towers, such as in his 1978 design for Lloyd's of London. For 10 points each:

[10] Name these features that, like the pipes and HVAC systems, prominently appear on the exterior Rogers's Centre Pompidou.

ANSWER: **stairs** [or **escalators**]

[10] The Lloyd's building has been described as the "pop" form of this architectural style. Reims Cathedral exemplifies the "High" version of this style and has eleven flying buttresses.

ANSWER: **Gothic** [accept Pop-**Gothic** or High **Gothic**]

[10] The dome of a Rogers building originally named for this event was imagined as "a cosmos under which all events take place." A bridge in London named for this event notoriously wobbled until engineers at Arup fixed it.

ANSWER: the coming of the new **millennium** [accept **Millennium** Bridge or **Millennium** Dome; accept answers like the year **2000** or the coming of the **21st century**]

<Michael Bentley, Fine Arts - Architecture> ~18062~



7. In 2019, Kimberly Teehee became this people's first delegate to Congress. For 10 points each:

[10] Name these people whose government prioritized getting COVID-19 vaccines to speakers of its native language. These people from Georgia today make up the largest Native American population in Oklahoma.  
ANSWER: Cherokee [accept Cherokee Nation of Oklahoma]

[10] In the Cherokee community, there is still a rift over the signing of this notorious 1835 treaty, which was supposed to guarantee Cherokee representation in Congress.

ANSWER: Treaty of New Echota

[10] Since 2017, the Cherokee are alone among the Five Tribes in granting full citizenship to people referred to by this term. Andrew Johnson vetoed funding for a federal agency for people referred to by this term.

ANSWER: Freedmen [accept Freedmen's Bureau; do not accept other synonyms]

<Michael Bentley, History - American - 1945+> ~18173~

8. For 10 points each, identify the following about some books with a certain something in common.

[10] Thomas Frank's 2016 book *Listen, Liberal* argues that this political party has been captured by elites. Thomas Nast popularized the use of a donkey to symbolize this party.

ANSWER: Democratic Party [accept Democrats]

[10] This sociologist's book *Listen, Yankee!* was based on interviews with Fidel Castro, who claimed to have read this man's best-known book, *The Power Elite*.

ANSWER: C. Wright Mills [or Charles Wright Mills]

[10] This activist and Ricardo Alarcon also used the title *Listen, Yankee!* for a 2015 book on "Why Cuba Matters." 50 years earlier, this member of the Chicago Seven and onetime spouse of Jane Fonda drafted the document that became the Port Huron Statement.

ANSWER: Tom Hayden [or Thomas Emmet Hayden]

<Michael Bentley, Other - Other Academic and General Knowledge> ~18052~

9. This epic incorporates a brief section written by Daqiqi ("DAH-ki-ki"), who was murdered by his slave after writing only a thousand couplets. For 10 points each:

[10] Name this national epic of Iran, written by Ferdowsi ("fur-DOW-see"). In the most famous part of this epic, Rostam unknowingly kills his son Sohrab ("SORE-rab") in battle.

ANSWER: Shahnameh ("SHAR-nah-meh") [accept Book of Kings]

[10] Like much Iranian literature, the *Shahnameh* was written in this language also used for Rumi's *Spiritual Couplets*.

ANSWER: Persian [or Farsi; accept New Persian or Early New Persian or Modern Persian]

[10] In the *Shahnameh*, this mythical bird raises the abandoned child Zal. Farid ud-Din Attar wrote a poem in which the hoopoe leads thirty birds in search of this figure, only for them to punningly find their own reflection.

ANSWER: the simurgh ("SIM-erg") [or simorgh or simorg or simourv] ("Simurgh" literally means "thirty birds")

<Joseph Krol, Literature - World and Miscellaneous> ~18793~

10. An early predecessor of this statement, which mainly considers length, is called Maupertuis' ("MOW-pert-wee's") principle. For 10 points each:

[10] Name this principle, one formulation of which is Hamilton's principle. It can be used to determine the equations of motion of physical systems by extremizing its namesake functional.

ANSWER: principle of least action [or stationary-action principle or principle of extremal action]

[10] The action is the time integral of this function named for a naturalized French scientist, which is the Legendre ("luh-ZAHN-druh") transform of the Hamiltonian.

ANSWER: Lagrangian ("luh-GRANZH-ee-uhn")

[10] The Lagrangian itself can be calculated by subtracting the potential energy from this other kind of energy, whose translational type for a particle equals "one half mass times velocity squared."

ANSWER: linear kinetic energy

<Joseph Krol, Science - Physics> ~18404~

11. This president introduced both private television channels and proportional representation for Parlement in a failed attempt to maintain his party's legislative majority. For 10 points each:

[10] Name this politician who later appointed Edith Cresson as his country's first female prime minister.

ANSWER: Francois **Mitterrand** ("mee-ter-RAWND") [or François Marie Adrien Maurice **Mitterrand**]

[10] Mitterrand pushed for the adoption of this 1992 treaty named for a Dutch city, formally called the Treaty on European Union, which called for the eventual adoption of the euro and a European citizenship.

ANSWER: **Maastricht** Treaty

[10] Mitterrand passed the Badinter Act, which abolished this practice in France. France was the last country in Western Europe to carry out this judicial practice in public.

ANSWER: **death penalty** [or **capital punishment**; accept answers like being killed by **firing squad** or **guillotined**]

<Michael Bentley, History - European - 1900+> ~19220~

12. An influential essay by this writer on how photo negatives were "wrong" and "depraved" resulted in paper photography taking longer to become popular in the US than in France. For 10 points each:

[10] Name this author of "The Chambered Nautilus" whose essay "The Autocrat of the Breakfast Table" appeared in the first issue of *The Atlantic Monthly*.

ANSWER: Oliver Wendell **Holmes** Sr.

[10] Holmes wrote a biography of this man, who gave a speech to the Phi Beta Kappa Society calling for the title figure to be a "Man Thinking" rather than just a "mere thinker."

ANSWER: Ralph Waldo **Emerson** (the speech was "The American Scholar")

[10] A Holmes poem about one of these objects that fought in the War of 1812 opens "Aye tear her tattered ensign down" and is titled "Old Ironsides."

ANSWER: a **ship** [accept answers like a **warship** or a **frigate**]

<Michael Bentley, Literature - American> ~18672~

13. Rajah Humabon converted to Christianity upon meeting this explorer. For 10 points each:

[10] Name this Portuguese explorer who sailed west to the Moluccas. After this man's 1521 death, Juan Sebastián Elcano completed the first circumnavigation of the world.

ANSWER: Ferdinand **Magellan** [or Fernão de **Magalhães** or Fernando de **Magallanes**]

[10] Humabon ruled this kingdom, whose capital of Singhapala was supposedly founded by the prince Sri Lumay. This kingdom shares its name with a modern Filipino province whose capital contains a cross planted by Magellan.

ANSWER: Rajahnate of **Cebu** [accept Province of **Cebu**; accept **Cebu** City]

[10] The prince Sri Lumay was half-Malay and half-[this ethnicity]. The three great kingdoms to rule these Dravidian peoples were the Chola, Chera, and Pandyas.

ANSWER: **Tamils**

<Hari Parameswaran, History - World - Asian> ~19088~

14. This spiritual, which partly titles a 1961 Sam Cooke album, was played at Harriet Tubman's funeral. For 10 points each:

[10] Name this spiritual that describes looking "over Jordan" to see "a band of angels coming after me."

ANSWER: "**Swing Low, Sweet Chariot**"

[10] The lyrics of "Swing Low, Sweet Chariot" may be a coded reference to this group, which supposedly used songs like "Follow the Drinking Gourd" to help slaves escape to the North.

ANSWER: **Underground Railroad**

[10] In 2002, the Library of Congress inducted this a cappella group's 1909 recording of "Swing Low, Sweet Chariot" into the National Recording Registry. This ensemble, which was formed in 1871 at Fisk University, popularized traditional African-American music, paving the way for successful musical ensembles at other HBCUs.

ANSWER: Fisk **Jubilee Singers**

<Jonathan Magin, Fine Arts - Music - Romantic> ~18975~

15. A poem titled for this man that Peter Schjeldahl ("**shell-doll**") called "the most delicious poem about someone dying" describes how "silence invaded the suburbs" on "an afternoon of nurses and rumors." For 10 points each:

[10] Identify this person who "disappeared in the dead of winter" in that same elegy.

ANSWER: William Butler **Yeats** [accept "In Memory of W.B. **Yeats**"]

[10] "In Memory of W.B. Yeats" is a poem by this British-born poet who collaborated on several plays with Christopher Isherwood and who wrote "September 1, 1939."

ANSWER: W. H. **Auden** [or Wystan Hugh **Auden**]

[10] Auden wrote this poem just a month before Yeats' death. This poem notes how a torturer's horse "scratches its innocent behind on a tree" after opening "About suffering they were never wrong."

ANSWER: "**Musee des Beaux Arts**"

<Michael Bentley, Literature - British - Poetry> ~14993~

16. This field was chosen as the "Method of the Year" in 2010 by *Nature Methods*. For 10 points each:

[10] Name this field commonly used to study the brain, whose pioneers include Karl Deisseroth and Zhuo-Hua Pan ("jwoh-WAH-pan"). Several methods in this field involve the manipulation of rhodopsins.

ANSWER: **optogenetics**

[10] Channelrhodopsins function through the light-induced isomerization of a derivative of this vitamin from its all-*trans*- to 13-*cis*-conformation, as seen in the human eye.

ANSWER: Vitamin **A** [accept **retinol** or **retinal**]

[10] Another technique for using light to analyze the brain is Brainbow, which uses Cre-Lox recombination to make neurons express variations of this luminescent protein discovered in the jellyfish *Aequorea victoria*.

ANSWER: **green fluorescent protein** [or **GFP**]

<Michael Bentley, Science - Biology> ~17879~

17. Tang Taizong escaped this place thanks to the chicanery of Cui Jue (SWEE JWAY), an official who extended his lifespan by twenty years. For 10 points each:

[10] Name this location from Chinese mythology, which is run by an extensive bureaucracy. This place is divided into eighteen levels with different punishments for wrongdoers. Description acceptable.

ANSWER: Chinese **hell** [or the **underworld**; or **Divu**; or **earth prison**; or **Naraka**; or the Chinese **afterlife**; or **Yellow Springs**]

[10] This supreme ruler of the dead sits at the top of the Chinese underworld bureaucracy. This grim judge derives his name from the Hindu god of death.

ANSWER: King **Yama** [or **Yanlo** Wang; or King **Yan**]

[10] The robes of Qing dynasty bureaucrats are worn by the undead *jiangshi* (JONG-shee), who exhibit this characteristic behavior. In English, the *jiangshi* are colloquially referred to as vampires who perform this action.

ANSWER: **jumping** [or **hopping**; accept moving around by **jumping**; do not accept or prompt on "flying" or "floating"]

<Matthew Bollinger, RMP - World Mythology> ~19199~

18. A newspaper in this city led a campaign to block a university here from accepting Judy Chicago's *The Dinner Party*. For 10 points each:

[10] Name this city home to the Phillips Collection. A portrait gallery in this city owns a Kehinde Wiley portrait of a man sitting in a chair in front of foliage.

ANSWER: **Washington**, D.C. [or **D.C.** or **District of Columbia**] (the portrait is of Barack Obama)

[10] In 1987, the conservative *Washington Times* brought this artist's *Piss Christ* to the attention of lawmakers. This American artist's *Semen and Blood III* was used for a Metallica cover.

ANSWER: Andres **Serrano**

[10] In another newspaper-stoked art controversy, the *New York Daily News* sharply criticized Chris Ofili's depiction of this religious figure, who holds her son in Michelangelo's *Pieta*.

ANSWER: Virgin **Mary** [accept **Madonna**; prompt on the **Virgin**]

<Michael Bentley, Fine Arts - Painting - U.S.> ~17900~

19. Miguel de Cervantes' ("sair-VAN-tays") novel *Persiles* ("PAIR-sill-eez") and *Sigismunda* was inspired by *Aethiopica* ("eeth-ee-OPE-ick-uh"), one of five surviving ancient novels written in this language. For 10 points each:

[10] Name this language, whose modern form was used by Nikos Kazantzakis ("KAH-zahnt-ZAH-kees") for a novel about Zorba.

ANSWER: Ancient **Greek** [or Modern **Greek**; or **Hellenika**]

[10] Ancient Greek romance novels are thought to have inspired this novel by the Roman author Petronius, in which Encolpius ("en-KOL-pee-us") attends an opulent feast held by Trimalchio ("tri-MAL-kee-oh").

ANSWER: **Satyricon** *Liber*

[10] Shorter surviving ancient Greek prose includes this author's proto-sci-fi novella *A True Story* or *A True History*, in which the protagonists end up in a war between the Sun and the Moon over the colonization of Venus.

ANSWER: **Lucian** of Samosata

<Joseph Krol, Literature - European - Long Fiction> ~18818~

20. This quantity aligns with the normal concept of dimension for well-behaved shapes but takes on logarithmic values in the general case. For 10 points each:

[10] Name this value which often coincides with the box-counting dimension and is defined by considering the number of balls needed to cover a shape.

ANSWER: **Hausdorff**-Besicovitch dimension [prompt on dimension]

[10] The Hausdorff dimension is one way to describe these self-similar shapes. Well-known examples of these shapes include the Sierpiński ("seer-PIN-ski") triangle and Koch snowflake.

ANSWER: **fractals** [accept **fractal** dimension]

[10] Lewis Fry Richardson's work approximating equivalents of the Hausdorff dimension for these geographical features inspired Benoît Mandelbrot's paper introducing the term "fractal".

ANSWER: **coasts** [or **coastlines**; accept specific examples like the **coast of Britain**]

<Kevin Wang, Science - Math> ~18878~

21. This author refused to republish his early story "A Girl I Knew," a story about a girl with "the most exquisite pairs of ears I have ever seen." For 10 points each:

[10] Name this author who opened one novel with the narrator disparaging a schoolmate who is "about as sensitive as a ... toilet seat." This author also wrote "Hapworth 16, 1924."

ANSWER: J. D. **Salinger** [or Jerome David **Salinger**]

[10] The aforementioned schoolmate is one of the "phonys" that Holden Caulfield rails against in this J. D. Salinger novel.

ANSWER: *The **Catcher in the Rye***

[10] The central character of this Salinger short story kills himself in a hotel room in Florida after realizing he's made a horrible mistake marrying Muriel.

ANSWER: "A **Perfect Day for Bananafish**"

<Michael Bentley, Literature - American> ~19200~