

PACE NSC 2022 - Round 02 - Tossups

1. A class of quantum techniques named for this adjective is exemplified by the annealing method allegedly used for optimization by the D-Wave One computer. That quantum computing technique uses a result named for this adjective, which states that a system remains in the same eigenstate ("EYE-gun-state") of the Hamiltonian if it is changed slowly. A quantity named for this adjective is 1.4 for a diatomic gas and is denoted gamma, such that (*) pressure times volume to the power gamma is constant in processes of this type. Reversible processes of this type are isentropic, such as the expansion phase of a Carnot ("KAR-noh") cycle. In processes of this type, the change in internal energy equals the work done. For 10 points, name this type of process with no net heat transfer.

ANSWER: adiabatic [accept adiabatic quantum computing or adiabatic theorem or adiabatic index]

<Joseph Krol, Science - Physics> ~23500~

2. In a novel by this author, Lucy Potts worries about falling off a foot-log and being bitten by the local cotton-mouth moccasin, prompting John to crush it. After taking a job in the "muck," the protagonist of another novel by this author gets into a fight with her husband over a woman named Nunkie. In a novel by this author, Hattie conjures a spell on Lucy causing her to fall ill and die, reflecting this author's (*) ethnographic studies on Hoodoo rituals. A novel by this author of *Jonah's Gourd Vine* is framed as a conversation with Pheoby Watson that takes place after its protagonist arrives at Eatonville. A rabid Tea Cake is shot by his wife Janie in, for 10 points, what author's novel *Their Eyes Were Watching God*?

ANSWER: Zora Neale Hurston

<Alyssa Jorgensen, Literature - American> ~21056~

3. A line from this opera, "Addio, senza rancor," appears on the tombstone of Australian soprano Nellie Melba, who regularly sung parts from it at Covent Garden. In 1926, King Vidor directed the most notable of at least eight silent film adaptations of this opera, many of which claimed to be based on the original Henri Murger novel for copyright reasons. 1920s gramophone clubs often owned recordings of "Che (*) gelida manina" ("kay JELL-ee-dah mah-NEE-nah") from this opera. A waltz from this opera made into the pop hit "Don't You Know" is sung during a quarrel at the Café Momus. A musical based on this opera changed its setting to the East Village during the AIDS crisis. *Rent* was based on, for 10 points, what opera composed by Giacomo Puccini titled for poor Parisians such as Mimi?

ANSWER: *La bohème*

<Michael Bentley, Fine Arts - Opera> ~23509~

4. In a story about this character in the *Iliad*, this hero is given a "folded tablet" inscribed with "murderous symbols," which he gives to his host after nine days of feasting. This hero exchanged a valuable cup for a belt from King Oineus (OY-"knee"-us), according to Diomedes, who hears this man's story from Glaucus. After this character becomes "hateful to the gods", he is sent to (*) wander on the Plain of Aleion. This man is eventually betrothed to Philonoe ("fi-LOE-noe-ee"), the daughter of King Iobates, whose wife falsely accused this hero of assaulting her. This hero uses an arrow dipped in hot lead to slay a monster with a lion's head and a goat's body. For 10 points, name this hero who kills the Chimera with the help of Pegasus.

ANSWER: Bellerophon [or Bellerophontes]

<Michael Bentley, RMP - Greco-Roman Mythology> ~23528~

5. Euler's ("OIL-er's") reflection formula is a simple way to find the value of the gamma function at this number; that value is the square root of pi. Weierstrass's ("VIE-er-strass's") variant of trig sub simplifies integrals using a variable equal to the tangent of this number times theta, which equals sine theta over the quantity "one plus cosine theta". This number is the real part of all known non-trivial zeros of the (*) Riemann zeta function. One-half of the perimeter times the apothem of a regular polygon is this fraction of the area. This fraction is the second term of the harmonic series. This fraction is the multiplicative inverse of the smallest prime. For 10 points, name this fraction equidistant from one and zero.

ANSWER: 1/2 [or one half; or 0.5; accept tangent half-angle substitution or half-angle formulae]

<Kevin Wang, Science - Math> ~23887~

6. This event was financed by "Young Men with Unlimited Capital," Joel Rosenman and John Roberts, although plans to charge an entrance fee were quickly dropped. A summer-long event often billed as the "Black" version of this event was organized by Tony Lawrence and was the subject of a 2021 documentary by Ahmir Thompson. Michael Wadleigh's documentary about this event popularized the idea that a lot of (*) "brown acid" was used during it. A group called the Hog Farm set up a free kitchen during this muddy event, which took place on Max Yasgur's farm. Most people had already left this "three days of peace and music" by the time Jimi Hendrix played the National Anthem. For 10 points, name this 1969 outdoor concert held in upstate New York.

ANSWER: Woodstock Rock Festival [or 1969 Woodstock Festival]

<Michael Bentley, History - American - 1945+> ~22644~

7. This philosophical theory is attacked using the example of Jim, a captain named Pedro, and twenty prisoners in an essay by Bernard Williams. Because of this theory's problems accommodating supererogation, it is open to the "demandingness objection." John Rawls criticized this theory on the grounds that it does not respect the "separateness of persons." Henry Sidgwick was a proponent of this theory, which he referred to as "universalistic (*) hedonism" in *The Methods of Ethics*. A proposed formal algorithm for this theory was the "felicific calculus" developed by Jeremy Bentham. J. S. Mill wrote a book titled after, for 10 points, what consequentialist ethical theory that seeks 'the greatest good for the greatest number'?

ANSWER: utilitarianism [accept word forms; prompt on consequentialism or word forms; accept universalistic hedonism and prompt on hedonism before "hedonism"]

<Anson Berns, RMP - Philosophy> ~23453~

8. In the 1920s, Jean Commaille ("koe-mah-eel") decided to leave several of the sites of this empire in a "ruined" state for political purposes. It's not related to Srivijaya, but George Coedès ("se-dais") used this empire's Stela 127 to argue that the number "zero" was not a Western invention. A half-mile-long bas-relief decorates the third enclosure of a temple complex built by this empire that was visited by Zhou (*) Daguan. In 1177, a king of this empire defeated the rival Cham kingdom and seized its capital; three centuries later, this empire fell to the Ayutthaya Kingdom. A complex whose architecture mimics Mount Meru was constructed by this empire's king Suryavarman II. For 10 points, name this empire that built a temple complex or "Wat" in Cambodia.

ANSWER: Khmer empire [or Angkorian empire]

<Michael Bentley, History - World - Asian> ~23869~

9. A play by this author ends with a stage direction where a couple embrace but "do not know the secret of the poet's heart." In another play by this author, a woman's speculation about how her gin-loving aunt may have been killed is presented as "the new small talk." That scene shocked contemporary audiences when this author's friend, actress Mrs. Patrick Campbell, said "not (*) bloody likely." One of this author's title characters is forced to decide between her husband James Morell and Eugene Marchbanks. This playwright of *Candida* wrote a play whose protagonist decides to marry Freddy Eynsford-Hill after being taught diction by Henry Higgins. For 10 points, name this Irish playwright who wrote about the cockney flower girl Eliza Doolittle in *Pygmalion*.

ANSWER: George Bernard Shaw

<Michael Bentley, Literature - British - Drama> ~23417~

10. In this city, Peter McLaughlin legally adopted 60-year-old Steven Whitfield to pass on below-market housing on islands served by Billy Bishop Airport. A medicine wheel appears on a "3D Sign" in this city's Nathan Phillips Square. Industrialist Henry Mill Pellatt ("PEL-ut") built the 98-room Casa Loma castle in this city. The William Davies Company is the origin of this city's nickname of Hogtown. This city is the most populous in the "Greater Golden Horseshoe," a region that also contains a research university at (*) Waterloo. This city's Bay Street is its country's equivalent to Wall Street. In this city, a stadium originally called the SkyDome is home to the only MLB team in its country. For 10 points, name this most populous city in Ontario.

ANSWER: Toronto [prompt on York]

<Michael Bentley, Geography - World> ~22885~

11. Chef Alexis Soyer invented an improved camp stove to feed troops during this conflict. One hero of this conflict funded future work by selling engravings of the painting *The Mission of Mercy*. During this war, art dealer Agnew & Sons financed Roger Fenton's photojournalism, and a "hotel" selling healing herbs and tonics was established by Jamaica-born Mary Seacole. The ability to speak French was one reason why Lord (*) Raglan was put in charge of British forces in this war. A long siege during this war followed one side's victory at Inkerman. An overcrowded hospital in Scutari during this conflict was made more sanitary under the direction of Florence Nightingale. For 10 points, name this 19th century war with Russia over a namesake peninsula.

ANSWER: Crimean War [prompt on the Russian War]

<Michael Bentley, History - European - 1500-1900> ~22659~

12. The central priming protein that forms this molecule initially attaches up to seven monomers to its tyrosine 194 because the enzyme which synthesizes this molecule cannot work without having at least 3 residues present. Ethanol precipitation of RNA typically incorporates this molecule to maximize recovery. UDP is conjugated to this molecule's monomers prior to incorporation via alpha 1,4 (*) glycosidic bonds. This molecule's many 1,6 glycosidic bonds create its many branches. Epi·neph·rine stimulates the breakdown of this substance to provide fuel for glycolysis. This molecule functions in animals analogously to starch in plants. For 10 points, identify this polymer that stores energy in the liver and muscles, which consists of thousands of glucose units.

ANSWER: glycogen

<Victor Prieto, Science - Biology> ~23968~

13. Description or proper name acceptable. In the hopes of being promoted, this character spends her evenings studying "shorthand and French." This character and her mother struggle to remove another character's writing-desk and chest of drawers containing a fretsaw. This character's parents watch her "spring to her feet and stretch her young body" while on a tram ride to the countryside. This character, who tells her parents that they have to get rid of "it," leaves scraps of (*) rotten food for the protagonist under his bed. This character's violin playing draws her brother out of his room, which scares lodgers due to his monstrous appearance. For 10 points, name or describe this sibling who grows to disdain the bug-like protagonist of a Franz Kafka novella.

ANSWER: Grete ("GREH-tuh") Samsa [or Gregor's sister; accept the sister OR the daughter from *The Metamorphosis*; prompt on Samsa]

<Jon Suh, Literature - European - Short Fiction> ~22501~

14. The PTP protocol designates leaders to distribute this kind of data and is often used underground. The standard for this kind of data has a meaningless acronym chosen to placate French and English speakers. The TAI ("T-A-I") standard succeeded an idealized standard for this kind of data developed for use in ephemerides ("eh-feh-MARE-id-ee's") and is defined relative to the geoid. This kind of data is provided alongside geophysical information by (*) GPS satellites, which use it to find their position. The NIST-F2 is used to calibrate this kind of data. The SI definition of this data's basic unit is used by the UTC standard and relies on the fundamental frequency of the cesium atom. For 10 points, name this kind of data which is defined relative to an epoch and provided by clocks.

ANSWER: times [or temporal data; accept dates or datetimes; accept specific time intervals like (milli)seconds or years; accept clock data before "clocks"; prompt on numbers or numerical data with "what is expressed by that?"]

<Michael Bentley, Science - Engineering and Miscellaneous> ~22960~

15. The opening of a symphony by this composer was once thought to evoke an Adolf Böttger poem that declares, "O turn, o turn, and change your course." Trombones and horns play a chorale in the parallel key of E-flat minor to open the "Feierlich" movement of this composer's third symphony, which is in five movements. This composer's B-flat major first symphony closes with a depiction of the title period (*) "In Full Bloom." This composer was inspired by the coronation of an archbishop at the Cologne Cathedral to write his third symphony, which is named for a river in which he would later attempt suicide by drowning in 1854. For 10 points, name this German composer of the "Spring" and "Rhenish" symphonies, who sometimes collaborated with his wife Clara.

ANSWER: Robert Schumann

<Clark Smith, Fine Arts - Music - Romantic> ~17438~

16. Rudyard Kipling wrote a poem celebrating the "Birkenhead Drill" that instituted a standard practice during these events. When news about one of these events reached London, the Lutine ("LOO-teen") bell at Lloyd's Coffee House was struck one time. One of these events in 1975 resulted in the mandatory adoption of LORAN systems. A tradition during these events is erroneously traced to the death of Edward Smith. A 1964 musical celebrated a nouveau riche socialite who survived one of these events named (*) Molly Brown. The *Carpathia* responded to one of these events in 1912 in a disaster for the White Star Line. For 10 points, the dictum of "women and children first" was followed during what type of disaster that killed thousands on the *Titanic*?

ANSWER: shipwrecks [or a sinking ship; or marine disasters; or maritime disasters; or a ship hitting an iceberg; prompt on mass drowning]

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~17031~

17. A speaker's distinction between these things can be measured by the Pillai score. These things show up as dark bands when visualized in spectrogram software like Praat and can usually be identified by examining their first two formants. One of these things represented by a lower-case epsilon was gradually replaced by one represented by a lower-cased ash amongst Californians. These things are charted on the vertices of a (*) trapezoid representing the mouth and range from open to close in the IPA. Single speech sounds that are represented by two of these things are called diphthongs. These things undergo nasalization when placed before a nasal consonant. For 10 points, name these things represented by the letters a, e, i, o, and u.

ANSWER: vowels [anti-prompt on specific vowels such as a or e until the last sentence; prompt on diphthongs, monophthongs, and triphthongs until diphthongs mentioned]

<Alyssa Jorgensen, Social Science - Linguistics> ~21061~

18. An untranslatable chant used in this religion that opens "Eko, eko, azarak" was popularized by Doreen Valiente. A tenet of this religion states that the energy that one puts into the world is returned threefold; that doctrine is called the Rule of Three. This religion's "Rede" is a moral code that commands, "An ye harm none, do what ye will." The liturgical calendar of this religion is called the (*) Wheel of the Year and includes eight "sabbats." One of this religion's founders, Gerald Gardner, was inspired by Margaret Murray's research into historical worship of a Horned God. This religion's practitioners are organized into covens. For 10 points, name this neopagan religion whose followers practice witchcraft.

ANSWER: Wicca [or Wiccan, prompt on neopaganism, witchcraft, or goddess movement before mentioned]

<Charles Yang, RMP - Other Religion> ~21525~

19. A biography of this author, written by the novelist of *War Trash*, analyzes how lines like "the wind, tens of thousands of miles long" were inspired by his relocation to a mountainous region as a five-year-old. This author wrote that it is "so late that the dew soaks my gauze stockings" and that the "steps are already quite white with dew" in their four-line "Jewel Stairs' Grievance." The speaker wonders "if it's (*) hoarfrost on the ground" in a much-memorized poem by this author whose speaker "lower[s] his head and think[s] of home." This poet legendarily died after reaching out of a boat towards the reflection of the moon while drunk. "Quiet Night Thought" and "Drinking Alone By Moonlight" are by – for 10 points – what Tang era Chinese poet?

ANSWER: Li Bai [or Li Po or Li Bo or Li Taibai or Rihaku or Qinglian Jushi] (The biography, *The Banished Immortal*, was written by Ha Jin.)

<Michael Bentley, Literature - World and Miscellaneous> ~22958~

20. This artist agreed to a reduced fee of 350 ducats rather than remove the Three Marys from a painting where those women stare at a man operating a drill. Irvin Rock coined a fallacy named for this artist that an astigmatism was why he gave Saint Sebastian such a long neck. A figure with two faces appears to the right of a ghostly Laocoon wrestling with a snake in a painting by this artist of the (*) *Disrobing of Christ*. Andres Nunez commissioned a painting by this artist in which Saints Stephen and Augustine wait to carry the armored title nobleman to Heaven. This Mannerist included a dark sky in his *View of Toledo*. For 10 points, name this artist of *The Burial of the Count of Orgaz*, nicknamed for his Cretan origins.

ANSWER: El Greco [accept Doménikos Theotokópoulos; prompt on The Greek]

<Kellin Carpenter, Fine Arts - Painting - European> ~13610~

21. A novel set in one of these places fictionalizes Frieda Fromm-Reichmann as a woman who discusses the world of Yr with Deborah Blau. In a novel primarily set at one of these places, a failed vote against rationing causes a character to drown himself in a pool. In that novel, characters in this type of place pretend to watch the World Series on a blank television. This type of place is populated by (*) Acutes andChronics in a novel that ends with its mute narrator throwing a massive control panel through a window to escape. Chief Bromden is one of the many inhabitants of this type of place who are inspired by Randle Patrick McMurphy's rebellion against Nurse Ratched. For 10 points, name this setting of Ken Kesey's novel *One Flew Over the Cuckoo's Nest*.

ANSWER: mental hospital [or psychiatric hospital; or sanatorium; or asylum; prompt on hospital or prison]
(the leadin is *I Never Promised You a Rose Garden* by Joanne Greenberg)

<Jonathan Magin, Literature - American> ~24121~

PACE NSC 2022 - Round 02 - Bonuses

1. Ludwig Mies van der Rohe's Villa Tugendhat ("TOO-gun-hot") is a UNESCO World Heritage Site in this country. For 10 points each:

[10] Name this modern-day country home to the city of Brno ("bir-NOE") and a president who wrote *The Memorandum*.

ANSWER: Czech Republic [or Czechia] (the president was Vaclav Havel)

[10] Brno was one of the first cities in Europe to adopt this general technology. Harold Brown executed a horse during a so-called "war" over standards for transmitting this technology that pitted George Westinghouse against Thomas Edison.

ANSWER: electricity [or electric lighting; prompt on lighting or electric currents]

[10] St. Thomas's Abbey in Brno is a tourist attraction today mainly because this man spent several years conducting experiments at the abbey. This man's relative obscurity helped a "blending" theory live on for decades after his 1884 death.

ANSWER: Gregor Mendel

<Michael Bentley, Other - Other Academic and General Knowledge> ~18082~

2. This element is present in most polymers used in durable water repellents. For 10 points each:

[10] Name this element, many equivalents of which are bound to carbon in "forever chemicals" like Teflon.

ANSWER: fluorine

[10] A fluorinated derivative of this compound serves as the monomer that forms Teflon. This two-carbon compound serves as a plant hormone that encourages ripening

ANSWER: ethylene [or C₂H₄]

[10] A mixture of hydrogen fluoride and antimony pentafluoride serves as one of these substances which definitionally have a Hammett function of less than -12. They can be used to stabilize car·bo·cat·ions.

ANSWER: superacids [prompt on acids]

<Michael Bentley, Science - Chemistry> ~18595~

3. A plague named for this emperor likely originated in the Tian Shan range. For 10 points each:

[10] Name this Byzantine Emperor who survived a deadly pandemic in 542. Tribonian worked on a legal code for this "great" emperor.

ANSWER: Justinian I [or Justinian the Great; or Flavius Petrus Sabbatius Iustinianus]

[10] A scholar from this city, Evagrius ("uh-VA-gree-us") Scholasticus, wrote an account of the Justinian Plague. This city was founded by a *Diadochus* and was later the capital of a crusader state once led by Bohemond of Taranto.

ANSWER: Antioch

[10] Another account of the Justinian Plague comes from a history by Procopius usually given this title adjective. Another history titled for this adjective gives the most complete Mongolian account of Genghis Khan.

ANSWER: secret [accept Secret History or *The Secret History of the Mongols*]

<Michael Bentley, History - European - Classical> ~17956~

4. A common variety of these things is associated with accessing a null pointer. For 10 points each:

[10] Name these things which are "thrown" by a child process to signal that they have a problem. These things are handled by try-catch blocks and are generally less severe than errors.

ANSWER: exceptions [accept throwing or catching an exception or NullPointerException]

[10] This language handles exceptions by altering return values, which are otherwise zero. This language's low-level interaction with memory produces segfaults that are absent in its "+" ("plus plus") and "#" ("sharp") successors.

ANSWER: C [do not accept or prompt on "C++" ("C-plus-plus") or "C#" ("C-sharp")]

[10] This keyword designates that code should be run after a preceding try block is completed, regardless of whether an exception was thrown, and commonly wraps clean-up functions.

ANSWER: finally [accept ensure; accept try-catch-finally block]

<Kevin Wang, Science - Computer Science> ~18804~

5. At one point in the early 19th century, five separate theater companies in London were staging dramatic adaptations of this novel. For 10 points each:

[10] Identify this novel. A 1952 film adaptation of this 1819 British novel has been read as a protest of McCarthyism due to its sympathetic treatment of the Jewish character Rebecca.

ANSWER: Ivanhoe

[10] *Ivanhoe* was written by this author who pioneered the historical fiction genre with novels like *Waverley*.

ANSWER: Sir Walter Scott, 1st Baronet

[10] This author wrote a spoof sequel to *Ivanhoe* titled *Rebecca and Rowena*. This writer for *Punch* popularized the term "snob" in a book published the same year as his magnum opus, a novel whose anti-heroine resolves "I must be my own Mamma."

ANSWER: William Makepeace Thackeray (the unnamed character is Becky Sharp from *Vanity Fair*)

<Michael Bentley, Literature - British - Long Fiction> ~17723~

6. A concerto for these instruments and orchestra consists of three movements called "The Bog," "Melancholy," and "Swans Migrating." For 10 points each:

[10] Name these instruments, recordings of which feature prominently in the 1972 piece *Cantus Arcticus*.

Ottorino Respighi specified that a phonograph recording of these instruments be played in *Pines of Rome*.

ANSWER: birds [accept birdsong; accept specific birds such as nightingales]

[10] *Cantus Arcticus* was composed by Einojuhani Rautavaara ("AE-nuh-yoo-hah-nee RAH-tuh-vuh-AHR-uh"), who is from this home country of fellow composer Jean Sibelius.

ANSWER: Finland [or Suomi]

[10] Sibelius, like Rautavaara, was also inspired by birdsong while composing his tone poem *The Swan of Tuonela*, in which the title swan is represented by this double reed woodwind instrument and larger relative of the oboe.

ANSWER: English horn [or cor anglais; do not accept or prompt on "horn"]

<Benjamin Chapman, Fine Arts - Music - 1900 to 1970> ~18416~

7. This structure is described as "not sane" and "holding darkness within." For 10 points each:

[10] Name this structure investigated by paranormal researcher John Montague in a 1959 novel by the author of *The Sundial*.

ANSWER: Hill House [accept *The Haunting of Hill House*]

[10] *The Haunting of Hill House* is a novel by this American author who also wrote *We Have Always Lived in the Castle*.

ANSWER: Shirley Jackson

[10] Jackson shocked readers with this short story, in which a town identifies a citizen to sacrifice via the title event.

ANSWER: "The Lottery"

<Michael Bentley, Literature - American> ~18783~

8. Sometimes transporting works of art can be a deadly business. For 10 points each:

[10] Two engineers were killed when the base collapsed on a 3-ton sculpture by this artist that was being installed in Princeton. One of this artist's signature mobiles hangs in the East Building of the National Gallery of Art.

ANSWER: Alexander **Calder**

[10] A rigger was killed when a portion of this artist's *Sculpture No. 3* fell. This man's controversial *Tilted Arc* was removed from Foley Federal Plaza in 1989.

ANSWER: Richard **Serra**

[10] This man's *Umbrellas* project was dismantled after one fatally broke loose; unfortunately, a Japanese worker was electrocuted in the dismantling. This man collaborated on *The Gates* in Central Park with Jeanne-Claude.

ANSWER: **Christo** [or Christo Vladimirov **Javacheff**]

<Michael Bentley, Fine Arts - Sculpture> ~18189~

9. For 10 points each, identify the following about the controversial career of J. Marion Sims.

[10] Sims unethically experimented on enslaved women in order to repair fistulas, eventually earning him the nickname as the "father" of this field of medicine. This field's name means "the science of women."

ANSWER: **gynecology** [accept obstetrics and **gynecology**; prompt on **OB-GYN** or obstetrics]

[10] Sims supposedly treated this fashion icon, who made Biarritz ("bee-uh-ritz") a hot destination for the wealthy. She married Napoleon III in 1853.

ANSWER: Empress **Eugénie** de Montijo [or María **Eugenia** Ignacia Agustina de Palafox y Kirkpatrick, 19th Countess of Teba, 16th Marchioness of Ardales]

[10] Sims formed the Anglo-American Ambulance Corps which helped treat soldiers who had been wounded at this decisive 1870 battle in the Franco-Prussian War. Napoleon III was captured in this battle.

ANSWER: Battle of **Sedan**

<Michael Bentley, History - Cross, Historiography, and Miscellaneous> ~17917~

10. The Jebba Figure, found in a Yoruba city in Nigeria, contains one of these items made from leopard's teeth. For 10 points each:

[10] Identify these accessories that in another culture are often given as gifts and might be made from ōhi‘a lehua.

ANSWER: **necklace** [accept beaded **necklaces** or **leis**]

[10] The lokelani flowers are used to make lei necklaces on one of the islands in this state.

ANSWER: **Hawaii**

[10] Ancient Egyptian necklaces might have beads made from this material, primarily obtained from the Serabit el-Khadim mine in the Sinai Peninsula. A double-headed Aztec serpent made of wood, oyster shell, and this material was included in *A History of the World in 100 Objects*.

ANSWER: **turquoise**

<Michael Bentley, Fine Arts - World Art> ~19126~

11. For 10 points each, answer the following about singing as part of the Christian worship experience.

[10] This word that roughly means "verily" or "let it be so" typically ends Christian prayers and hymns.

ANSWER: amen

[10] Ephesians 5:19 orders the church to speak to each other through these works and "hymns and spiritual songs." The 23rd of these works, a popular source of Christian devotional prayers, originates the saying "My cup runneth over."

ANSWER: Psalms [or Tehillim]

[10] Bethel Music, a popular Christian contemporary music collective with songs like "No Longer Slaves", is based out of this state. The Jesus Movement, which some consider to have started the genre of Christian rock, also began in this state.

ANSWER: California

<Jon Suh, RMP - Christian Practice> ~17739~

12. For 10 points each, identify the following about musicians who have gotten involved in politics.

[10] Bob Elvis, a musician from this country, had his song "Letter to Ya Tshitshi" banned due to its video imagining the deceased father of its current president, Felix Tshisekedi ("chee-say-kay-dee"), looking back scornfully at his son.

ANSWER: Democratic Republic of Congo [or DRC; prompt on Congo]

[10] Bobi Wine, the self-described "Ghetto President" of Uganda, was arrested in 2019 for leading a protest against a tax on this company. The whistleblower Frances Haugen worked at this company.

ANSWER: Facebook [or Meta Platforms]

[10] Fugees member Wyclef Jean filed to run for president in this country in 2010 but was ruled ineligible. In 2021, this Caribbean country's president Jovenel Moïse ("joe-ven-ELL moh-EES") was assassinated.

ANSWER: Haiti [or Aviti; or Republic of Haiti]

<Michael Bentley, Current Events - World> ~18188~

13. Many graduates from the then declining Academy of Gondishapur were hired to work at this institution. For 10 points each:

[10] Name this institution of learning which was greatly expanded by al-Ma'mun. Much of our knowledge regarding this Baghdad-based institution comes from al-Tabari.

ANSWER: House of Wisdom [or Bayt al-Hikmah; or Grand Library of Baghdad]

[10] The House of Wisdom was established by this caliphate's ruler Harun al-Rashid. Al-Mansur established Baghdad as the capital of this caliphate, which succeeded the Umayyads.

ANSWER: Abbasid caliphate

[10] In the 11th century, this man spent 200,000 dinars to found an even greater academy in Baghdad. This Seljuk vizier wrote the *Siyasatnama*, which exemplifies a literary genre known as "Mirrors for Princes."

ANSWER: Nizam al-Mulk [or Abu Ali Hasan ibn Ali Tusi]

<Hari Parameswaran, History - World - Middle Eastern> ~19034~

14. In one play, stroking a "bronze atrocity" by Barbedienne ("barb-ay-dee-EN") on the mantelpiece inspires a character to utter this line. For 10 points each:

[10] Give this line delivered in that play by Garcin ("gar-SAN"), after he notes that "there's no need for red-hot pokers."

ANSWER: "Hell is other people" [or "L'enfer, c'est les autres"]

[10] The line "Hell is other people" appears in *No Exit*, a play by this French existentialist.

ANSWER: Jean-Paul Sartre ("sart")

[10] Albert Camus ("cah-MOO"), who played Garcin at the premiere of *No Exit*, met Sartre at a performance of this first play by Sartre. Its own hellish imagery includes a cavern to the underworld, from which the dead emerge once a year to torment the wrongdoers of Argos.

ANSWER: *The Flies* [or *Les mouches*]

<Michael Bentley, Literature - European - Drama> ~18139~

15. For 10 points each, answer the following about the vibration frequencies of a string.

[10] For small vibrations, both the frequencies and the speed of the vibrations vary with this function of the tension on the string.

ANSWER: square **root** [or **power** one-**half** or clear equivalents; do not accept or prompt on "square"]

[10] This word refers to waves that vibrate at integer multiples of the vibration frequency. A "simple" type of "motion" described by this word exhibits sinusoidal behavior.

ANSWER: **harmonics** [accept simple **harmonic** motion]

[10] On stringed instruments, higher harmonics can be produced by placing the finger at these points, which are the points on a standing wave which do not vibrate.

ANSWER: **nodes**

<Joseph Krol, Science - Physics> ~18537~

16. Mary E. Hobart, a member of this party, received one vote from the legislature in Washington State to become its "senatress" in 1897. For 10 points each:

[10] Identify this political party whose platform was laid out in the Ocala Demands.

ANSWER: **Populist** Party [or **People's** Party; or the **Populists**]

[10] The Populist Washington legislature passed laws giving more rights to people who took out these types of loans. Fannie Mae is one of several federal programs that subsidize these loans to promote home ownership.

ANSWER: **mortgages**

[10] The Populist orator Mary E. Lease reportedly told farmers in this state to "raise less corn and more hell."

An editorial by William Allen White asked "What's the Matter With [this state]?"

ANSWER: **Kansas** [accept "What's the Matter With **Kansas**?"]

<Michael Bentley, History - American - 1865-1945> ~17911~

17. The "Golden Boy" Kintaro grew up to be one of the "Four Heavenly Kings" who served a member of this family. For 10 points each:

[10] Name this family of Japanese warriors also served by the warrior monk Benkei. After a naval victory by this family, the "Nun of the Second Rank" threw herself into the sea along with a child emperor and the Imperial Regalia.

ANSWER: **Minamoto** Clan [or **Genji** Clan]

[10] The aforementioned Kintaro usually carried this type of weapon, which was a tool of the trade for American folk hero Paul Bunyan.

ANSWER: **axes** [or **hatchets**]

[10] Minamoto no Raiko slew the monster Shuten-Doji, who was one of these Japanese demons. These *yokai* ("YO-kye") were usually depicted as horned, club-wielding giants with red or blue skin.

ANSWER: **oni** [prompt on **ogres**]

<Matthew Bollinger, RMP - World Mythology> ~19187~

18. Alice Oswald's book *Memorial* removed everything from this poem except for its similes and deaths. For 10 points each:

[10] Identify this classical text, which Pat Barker adapted into her 2018 novel *The Silence of the Girls*. It was also the chronologically first of two poems translated into English in a book of "Whole Works" by George Chapman.

ANSWER: The *Iliad*

[10] In 2017, Emily Wilson became the first woman to translate this other epic poem by Homer into English, including its story of the Cyclops.

ANSWER: The *Odyssey* [or *Odýsseia*]

[10] Wilson's translation opens by asking the muse to "tell me about a" man described by this English adjective translated from the Greek word *polytropos*, which literally means "much turning."

ANSWER: complicated

<Michael Bentley, Literature - World and Miscellaneous> ~13837~

19. Since 1978, belief in a strong correlation between the unemployment rate and this variable dropped by 65% amongst economists. For 10 points each:

[10] Name this variable which did not change unemployment rates in a 1994 study by Card and Krueger comparing different values of it in New Jersey and Pennsylvania.

ANSWER: minimum wage [prompt on wages]

[10] Arin Dube used that border county technique to study the employment impact of differences in the right of workers to join these organizations that can collectively bargain with employers.

ANSWER: trade unions [or labor unions]

[10] A 1994 paper by Krueger found that this broad variable followed a Kuznets curve. In 1991, Larry Summers argued that some poor countries should make this variable worse to boost growth. Description acceptable.

ANSWER: environmental quality [accept any answer mentioning the environment or air quality or pollution levels or water quality]

<Michael Bentley, Social Science - Economics> ~17895~

20. The biceps and triceps muscles contract to flex this joint. For 10 points each:

[10] Name this joint which contains the cubital fossa. Baseball pitchers who have damaged a ligament in this joint have a replacement grafted in during Tommy John surgery.

ANSWER: elbow joint

[10] Tommy John surgery replaces a collateral ligament named for this bone that connects it to the humerus. This bone runs parallel to the radius in the forearm.

ANSWER: ulna [accept ulnar collateral ligament]

[10] The overuse of joints in baseball may lead to this condition in the elbow or shoulder, the inflammation of a sac of synovial fluid.

ANSWER: bursitis

<Benjamin Chapman, Science - Biology> ~18941~

21. For 10 points each, identify the following about Russia's Sheremetev ("share-yeh-MYEH-tyef") family.

[10] The "improper" clothes worn by Yelena Sheremeteva, the daughter-in-law of this Russian tsar, may have prompted this man to murder his son and heir to the throne in 1581.

ANSWER: **Ivan IV** [or **Ivan the Terrible**; or **Ivan Grozny**; or **Ivan the Fearsome**; or **Ivan the Formidable**; or **Ioannes Severus**; prompt on **Ivan**]

[10] Boris Sheremetev was made the first Field Marshal of Russia after he won this decisive victory in the Great Northern War. Sheremetev received Charles XII's saddle after this battle.

ANSWER: Battle of **Poltava**

[10] In 1719, Boris Sheremetev was buried in a monastery named for this man in St. Petersburg. This man's greatest victory took place in a channel between lakes Pskov and Chud, and he died on the way home from his fourth trip to a foreign court in Saray.

ANSWER: Saint **Alexander Nevsky** [or **Aleksandr Yaroslavich**]

<Michael Bentley, History - European - Middle Ages> ~17718~