

## 2023 IQBT Undergraduate Championship

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### Round 16 – Tossups

1. A wealthy member of this dynasty patronized a scribe alternatively known as Anonymus or Master P, whose history of its country was continued by Simon of Keza. A ruler of this dynasty divided his kingdom's free people into the tax-exempt "castle warriors" and lower class "castle folk." An ancestor of this dynasty was born when Emese ("EH-meh-shay") was impregnated by a turul bird, which is depicted in the *Chronicon Pictum*. A ruler of this dynasty granted the nobility of his country the right of resistance in the (\*) Golden Bull of 1222. Almos fathered this dynasty's namesake, who held either the title *kende* or *gyula* ("JOO-luh"). Grand Prince Geza fathered a ruler of this dynasty who was crowned by Pope Sylvester II ("the second") on Christmas day, 1000 AD. For 10 points, name this dynasty, whose St. Stephen founded the Kingdom of Hungary.

ANSWER: Árpád Dynasty [or the House of Árpád or the Árpáds]

2. Historically, these people's healers used the petroleum-infused waters of their Oil Springs Reservation, which is uninhabited, unlike their Cattaraugus ("CAT-uh-ROG-uss") Reservation. Neighborhoods of a town named for these people, such as Rumseyville, may have inspired the town from *It's a Wonderful Life*. Tourists who take a "Wine Trail" around a lake named for these people often begin in the town of Elmira. These people and their neighbors, the (\*) Cayuga, name the two largest Finger Lakes. The historic Wesleyan Methodist Church in a town named for these people hosted Jane Hunt, Lucretia Mott, and Frederick Douglass for an 1848 meeting. For 10 points, what Iroquois tribe names the New York town where the Declaration of Sentiments was written at a women's rights convention?

ANSWER: Seneca [or Onödowá'ga; accept Seneca Lake or Seneca Falls; reject "Onondaga"] (Bedford Falls, the town from *It's a Wonderful Life*, is often thought to be inspired by Seneca Falls.)

3. Chemo-genetic screens in this organism often compare HIP and HOP profiles. A recombinase isolated from this organism is used in the FLP-FRT ("flip-frit") system. It's not phage, but this organism's A·g·a·2 protein can be used to display proteins on its surface. Reporter genes used in this organism include U·R·A·3 and L·Y·S·2. In this organism, Mark Johnston's group used the Kan·M·X·4 gene to replace over 6000 ORFs to create a knockout library. Another assay developed in this organism uses (\*) B·D and A·D fragments to activate transcription if bait and prey proteins interact. This organism has a ("A") and alpha mating strains. This organism has the first completely-sequenced eukaryotic genome, and it forms projections called shmoos during mating. For 10 points, name this model organism also known as baker's yeast.

ANSWER: Saccharomyces ("SACK-uh-roh-MY-seez") *cerevisiae* [or S. cerevisiae; accept baker's yeast before mention; prompt on yeast]

4. Conceptual artist Alighiero (“alley-GAIR-oh”) Boetti produced over 150 tapestries depicting these objects, woven by Afghan women. One of these objects representing the fight for women’s suffrage appears in the bottom right of Hannah Hoch’s *Cut with the Kitchen Knife*. Under inspiration from Buckminster Fuller, twenty-two triangular canvases were combined into one of Jasper Johns’s paintings of these objects. Neon lights and (\*) TV monitors form one of these objects in Nam June Paik’s *Electronic Superhighway*. These objects appear on the back wall in *Officer and Laughing Girl*, *The Art of Painting*, and other paintings by Jan Vermeer. Drawings of sea monsters often appeared on Renaissance examples of, for 10 points, what objects produced by men like Martin Waldseemüller (“VALT-say-müller”) and Gerardus Mercator?

ANSWER: maps [accept world maps; accept maps of Europe, accept maps of the United States; accept geographic projections; prompt on countries or the United States by asking “What is the representation used to depict the country?”]

5. This character says that if you tell a mathematician that  $x^2 + px$  does not equal  $q$ , you’ll anger them so much that they’ll try to knock you down. A short story ends with this character saying that another man’s wisdom has “no stamen” and is all head and shoulders, like a codfish. This character condemns that man for believing that because all fools are poets, all poets are fools, in a story in which this man has a gunshot fired outside a (\*) minister’s window, so he can recover an item that has been hidden in a card tray in plain sight. In another story, this man correctly deduces that Madame L’Espanaye and her daughter were killed by an orangutan. For 10 points, Edgar Allan Poe’s stories “The Purloined Letter” and “The Murders in the Rue Morgue” star what detective?

ANSWER: C. Auguste Dupin [accept either underlined portion]

6. The noblewoman Serena was falsely accused of collaborating with these people and, according to Zosimus, was strangled during an attack by them. The “Roman law” of these people was compiled by one of their kings in a namesake *Breviary*, even though they were already governed by the Code of Euric (“YOO-rick”). A group of these people that had settled Lower Moesia (“MEE-shuh”) revolted in reprisal for the disproportionate losses they took fighting at the River (\*) Frigidus. One of these people named Sarus was sent to fight a group of them under Athaulf (“ATH-uh-wolf”). Stilicho’s (“STILL-uh-koh’s”) execution precipitated an attack carried out by these people in which they abducted Galla Placidia, the sister of Emperor Honorius, and which inspired explanations by St. Augustine in *The City of God*. For 10 points, name this group that sacked Rome in AD 410 under Alaric.

ANSWER: Visigoths [prompt on Goths]

7. Photo-thermal temperature fluctuations can be measured by combining infra-red spectroscopy with this technique. Post-processing after this technique can remove artifacts caused by scanner bow and creep. Rastering in a form of this technique that uses a Kelvin probe can measure the work function. Capillary, van der Waals, and Coulomb (“KOO-lom”) interactions are combined into a namesake response curve in this technique that illustrates “snap-in.” Soft samples can be imaged using the (\*) “tapping” or “non-contact” modes of this technique. This technique’s similar precursor was Binnig and Rohrer’s scanning tunneling microscopy. For 10 points, name this technique which uses the deflection of a sharply-tipped cantilever to measure surface topography below nanometer resolution.

ANSWER: atomic force microscopy [or AFM; accept atomic force microscope; accept scanning force microscopy or SFM; accept Kelvin probe force microscopy or KPFM or scanning Kelvin probe microscopy or SKPM; prompt on scanning probe microscopy or SPM; prompt on force microscopy or microscope]

8. The recapitulation of the first movement of the fifth of these works begins in the subdominant key, E-flat, rather than the tonic, B-flat. The ninth of these works begins with the notes C, D, E, then A, B, C, played by two unaccompanied French horns. A missing one of these works, named for Gmunden-Gastein, may have become their composer's *Grand Duo* for piano four-hands. In the standard numbering scheme, there is no (\*) seventh of these works. The sixth and ninth of these works are both in C major, and are nicknamed "Little" and "Great" respectively. Some of the composer's incidental music to *Rosamunde* is sometimes used to "complete" the eighth of these works, which has only two movements, instead of four. For 10 points, name these orchestral works that include one nicknamed "Unfinished."

ANSWER: symphonies of Franz Schubert [both parts required; prompt on symphonies or Schubert by themselves; accept Franz Peter Schubert for "Franz Schubert"]

9. These people are called "the source of all human, social, historical progress" in a 1947 book of lectures titled an "Introduction to the Reading of" a certain philosopher. According to a different philosopher, a process named for these people begins by the creative deed of saying "no" to everything that is "outside" or "non-self." Through fear of death, these people successfully achieve "pure being-for-self," unlike their counterparts, according to a parable in the (\*) "Self-Consciousness" section of *The Phenomenology of Spirit*. These people's values of good and evil replaced the noble values of good and bad in their namesake "revolt" in morality, according to Nietzsche's ("NEET-shuh's") *On the Genealogy of Morality*. For 10 points, Hegel described a dialectic named for what people and their masters?

ANSWER: slaves [or enslaved people; or bondsmen; or servants; or Knechte; or Sklaven]

10. A character created by this author mourns the death of his grandmother in a section called "The Intermittencies of the Heart." A book by this author ends with a man bemoaning that he wasted years loving a woman "who wasn't even [his] type." That character created by this author uses a bee fertilizing an orchid as an analogy for the homosexual encounter he witnesses between a baron and the tailor Jupien ("zhoop-YAN"). The first English translation of this author's major work was named for a line in (\*) Shakespeare's Sonnet 30, and was by C.K. Scott Moncrieff. A phrase from a violin sonata by Vinteuil ("van-TOY") symbolizes Charles Swann's love in a novel by this author in which involuntary memories are triggered by eating a tea-soaked madeleine. For 10 points, name this French author of *In Search of Lost Time*.

ANSWER: Marcel Proust ("proost") [or Valentin Louis Georges Eugène Marcel Proust]

11. Strabo writes that a figure who died after losing in this activity was buried beneath a human-shaped hill, then re-buried by Quintus Sertorius, who found a sixty-cubit-long skeleton. Spartan settlers named a Sicilian city in honor of the place where the thieving king Eryx lost in this activity. Another instance of this activity in Aetolia produced a cornucopia. Many krater paintings show a man engaging in this activity with Triton or (\*) Nereus ("NEE-ree-uss"). As a favor to Admetus ("udd-MEE-tuss"), a hero won Alcestis ("al-SESS-tiss") back from the underworld by defeating Thanatos at this activity. The river god Achelous ("uh-KELL-oh-uss") lost in this activity during a contest for Deianeira ("dee-uh-NAIR-uh"). A giant Libyan son of Poseidon could not lose in this activity as long as his feet touched the earth. Heracles beat Antaeus ("ann-TEE-uss") in, for 10 points, what athletic activity?

ANSWER: wrestling [or pálē ("PAH-lay"); prompt on competing or competing for a woman by asking "in what activity?"]

12. During this man's presidency, the Cuban embargo was codified by the Helms–Burton Act after two planes operated by the Cuban exile group Brothers to the Rescue were shot down. Mansoor Ijaz ran off-the-books negotiations with Sudan for this president. Spies from the Wasp network known as the Cuban Five were arrested during this President's tenure. During an immigration surge prompted by Cuba's (\*) Special Period, this President restricted immigration to those reaching US land under the wet foot, dry foot policy. The raid that culminated in the return of Elián González to Cuba was ordered by this president's attorney general Janet Reno. For 10 points, name this President whose handling of the González case is sometimes credited with hurting his vice president Al Gore's campaign in Florida.

ANSWER: Bill Clinton [or William Jefferson Clinton]

13. In an opera by a composer with this surname, a man starts speaking Mandarin and says “I am strong / My heart is broken / I am a good cook,” after a woman vocalizes variations on the word “hey-yo” for a few minutes. In that opera by a composer with this surname, Chéng Qīng is one of four explorers who accompany a character based on Alexandra David-Néel. A musician with this surname wrote a jazz ballad titled for Pannonica de Koenigswarter, who told him to use the French word for twilight in his song (\*) “Crepuscule with Nellie.” The 1991 opera *Atlas* was written by an American experimental composer with this surname and the first name Meredith. For 10 points, give this surname of the jazz pianist profiled in the album series *Genius of Modern Music*, who wrote the standard “Round Midnight.”

ANSWER: Monk [accept Meredith (Jane) Monk; accept Thelonious (Sphere) Monk]

14. As he is being taken to a hotel, a man in a poem by this author muses that “Art is History's nostalgia, it prefers a thatched / roof to a concrete factory.” The speaker of another poem by this author feels his heart halt upon seeing “a slash of pink on the inner thigh” of a figure in the painting *The Feast of Levi*. While “searching for characters,” the first-person narrator of a poem by this author relates the life story of Sitting Bull's secretary Catherine Weldon. Characters in that poem by this author include a man whose shin wound from a rusty (\*) anchor never heals, and the blind poet Seven Seas. This author of *Tiepolo's Hound* wrote an epic poem in which Hector and Achille (“ah-SHEEL”) are rivals for the love of Helen. For 10 points, name this poet of *Omeros* who hails from Saint Lucia.

ANSWER: Derek (Alton) Walcott

15. C-star algebras with this property are isometrically isomorphic to an algebra of continuous functions, per the Gelfand–Naimark theorem. This property partly names a model shown to display self-organized criticality by Bak, Tang and Wiesenfeld, called a “sandpile”. For a given element  $g$  of a group, the centralizer is the set of elements that have this property in relation to  $g$ . Because  $Q \cdot E \cdot D$  is based on  $U(1)$  (“U-one”), it is a gauge theory with this property, unlike Yang–Mills theories which usually (\*) lack it. If a group has this property, then all of its subgroups are normal. The “anti-” version of this property is possessed by the cross product. A group whose operation has this property is called “abelian.” For 10 points, name this property summarized: “ $a$ -times- $b$  equals  $b$ -times- $a$ .”

ANSWER: commutative [or commutativity; accept word forms of commute; accept abelian before mentioned]

16. In this play, a tyrannical father declares that he would never have married anyone old or ugly when he was a lad, but is then flummoxed when his son asks, “Not to please your father?” A man in this play frets that his beloved became ill in his absence, but then becomes furious when he finds out she has been so healthy that she has been country-dancing and giving harpsichord recitals. In this play, a maid delivers love letters signed “Celia” that she claims are from a young lady, but are actually from her middle-aged aunt, who describes someone as like “an (\*) allegory on the banks of the Nile” and someone else as “The pineapple of politeness.” For 10 points, Jack Absolute adopts the identity Ensign Beverly to woo Lydia Languish in what play featuring Mrs. Malaprop by Richard Brinsley Sheridan?

ANSWER: The Rivals

17. Counter electrodes, such as reduced graphene oxide, reduce an anion (“ANN-eye-on”) of this molecular geometry in the most common mediator for dye regeneration in dye-sensitized solar cells. An electrophile with this molecular geometry is produced *in situ* from sulfuric and nitric acids in the production of TNT. The overall active silver complex in Tollens’ reagent has this coordination geometry. The point groups (\*)  $C_{\infty v}$  and  $D_{\infty h}$  define molecules with this geometry. An ion with this geometry is bonded to sodium in a common propellant in airbags. Thio-cyanates and azides (“AY-zydes”) have this molecular geometry, which can be explained using *s-p* hybridization. For 10 points, name this molecular geometry caused by the triple bond in acetylene (“uh-SET-uh-leen”), with a 180-degree bond angle.

ANSWER: linear

18. Henry C. Rose and John Clulich were hired to design a European-inspired palace in this city by a ruler who instituted the *monthon* (“moan-tone”) system in his country. Claude de Forbin (“duh for-BAN”) was governor of this city until he was driven from the country by Phetracha’s (“pet-RAH-chuh’s”) 1688 siege of this city. This city was the capital of a kingdom that employed a “vice king,” which was alternatively named for the Front Palace built in it. A religious building in this city is topped by a spire called a (\*) prang. France occupied Chantha-buri (“jun-TAH-boo-ree”) after using gunboats to blockade this city during the Paknam Incident. This city was founded across the river from Thon-buri (“tone-boo-ree”) after a coup which overthrew Taksin. This city on the Chao Phraya river became a capital under the Chakri dynasty. For 10 points, name this capital of Thailand.

ANSWER: Bangkok, Thailand

19. In one story, this person mysteriously mends a rich man’s wall and kills a poor couple’s cow. The practice of using amulets to protect pregnant women originates from this person cursing Lilith. A song about this person calls them “haGiladi” (“hah-gih-lah-DEE”), referencing their birth in the Gilead town of Tishbe (“TISH-bee”). After a gale, an earthquake, and a fire do not get this person out of a cave on Mount Horeb, they hear the “still, small (\*) voice” of God. This person, who has the epithet “haNavi” (“hah-nah-VEE”) mocked men who prepared a bull on wood that failed to light, then this person placed another bull on soaked wood and the wood burst into flames. A cup is left out and the door is left open for this person during a Passover Seder. For 10 points, what major Old Testament prophet ascended to heaven in a whirlwind of fire?

ANSWER: Elijah [or Elivahu; or Iivas; reject “Elisha.” ask them to spell if necessary; prompt on al-Khidr with “with whom is that figure often equated?”]

20. Deviations between “flow-consistent” and measured values of this variable are conceptually explained using the analogy of a bathtub. Using data from the Current Population Survey, Robert Shimer argued that this variable’s strongly counter-cyclical behavior violates the Morton–Pissarides (“piss-uh-REE-deez”) model. This variable lags behind the business cycle in a classic example of hysteresis (“hiss-tuh-REE-siss”). Non-zero values of this variable persist due to incentives offered to discourage (\*) shirking, according to the Shapiro–Stiglitz model. This variable is plotted against vacancy rate on a Beveridge curve, which often shifts rightward due to skill mismatch. A one-percent increase in this quantity correlates to a two-percent decrease in GDP, per Okun’s law. The Phillips curve is a trade-off between inflation and, for 10 points, what percent of workers who lack a job?

ANSWER: unemployment rate [accept employment rate before “counter-cyclical”; accept jobless rate before “job”; accept U1 or U2 or U3 or U4 or U5 or U6; prompt on u; prompt on unemployment-vacancy ratio]



## Round 16 – Bonuses

1. On the day of the title event of this novel, Rodion reveals that a spider dangling from the ceiling of the protagonist's jail cell is just a toy. For 10 points each:

[10m] Name this Russian-language novel by Vladimir Nabokov, about the final weeks of Cincinnatus C, who has been sentenced to execution for “gnostical turpitude.”

ANSWER: *Invitation to a Beheading* [or *Priglaseniye na kazn*; accept *Invitation to an Execution*]

[10e] Professor Woland correctly prophesies that Berlioz, the chairman of MASSOLIT, will be decapitated at the beginning of this novel by Mikhail Bulgakov.

ANSWER: *The Master and Margarita* [or *Master i Margarita*]

[10h] While visiting a military officer's house, this other character from Russian literature tells a servant about watching a man in Lyons (“lee-AHN”) cry before being guillotined, which led him to conclude that the mental anguish of knowing you're about to die is worse than physical torture.

ANSWER: Prince *Myshkin* [or *Lev* Nikolayevich Myshkin; prompt on *The Idiot*]

2. Highly ornate examples of these architectural elements are used to frame the images of saints in retablos done in the Spanish Churrigueresque (“CHUR-reeh-guh-RESK”) style. For 10 points each:

[10h] Name these architectural elements that Constantine brought to Rome, as shown in a painting by Raphael. According to legend, the bronze for four of these structures was taken and melted down from the Pantheon's ceiling.

ANSWER: Solomonic columns [prompt on columns]

[10e] Those Solomonic columns are part of the baldacchino (“BAL-duck-KEE-no”) of this church in Vatican City, which was designed by Donato Bramante and Michelangelo to commemorate the first pope.

ANSWER: St. Peter's Basilica

[10m] The legend about the baldacchino led to the quip that this family did what the barbarians couldn't. Francesco Borromini designed a helicoidal staircase featuring capitals topped with bees for this family's Roman “palazzo.”

ANSWER: Barberini

3. Answer the following about levels of analysis in social science, for 10 points each:

[10m] Robert Merton popularized this sociological paradigm, which rejects both “grand theory” that takes society as the level of analysis, as well as micro theory at the level of the individual. In addition to sociology, it also has wide use in nursing theory.

ANSWER: middle-range theory [or mid-range theory]

[10h] In quantitative fields, varying one's level of analysis may lead to this issue, where a statistical inference about a group is held to be true for individual members of the group. Simpson's paradox is a subset of this issue.

ANSWER: ecological fallacy [or ecological inference fallacy or population fallacy; accept Robinson's paradox]

[10e] Changing the level of analysis in one of these systems can lead to the modifiable areal unit problem, a type of ecological fallacy. The most popular software for these systems is made by Esri and prepends “Arc” to its name.

ANSWER: G·I·S databases [or geographic information systems; accept ArcGIS]

4. A Taylor cone is generated in the electro-spray method of achieving this process. For 10 points each:  
[10m] Name this process divided into “hard” and “soft” types, which vary in the amount of fragmentation induced in chemical compounds. Products of this process may pass through a time-of-flight analyzer.

ANSWER: **ionization** [accept electrospray **ionization**]

[10e] Ionization is an early and necessary step in this common analytical technique, which accelerates and deflects ions based on their *m-to-z* ratio to elucidate molecular structure.

ANSWER: **mass spectrometry** [or **mass spec**, or **MS**; however do not accept “mass spectroscopy”]

[10h] These early mass spectrometers, an evolution of the cyclotron, were operated at Oak Ridge during the Manhattan Project to separate uranium isotopes.

ANSWER: **calutron** (“cal-U-tron”) [or **California University Cyclotrons**]

5. This commodity was harvested by namesake “girls,” who formed the first woman’s union in Iceland. For 10 points each:

[10h] Name this commodity. During a namesake “adventure,” Siglufjörður (“SIK-loo-FJUR-thur”) almost instantly became the world’s largest plant for this commodity before a sudden decline in 1968.

ANSWER: **herring** [prompt on **fish**]

[10m] Carrie Chapman Catt, the founder of this American organization, encouraged the Icelandic suffragette movement by enlisting Bríet Bjarnhéðins-dóttir (“BREE-yet bjarn-HAY-theens-DOH-teer”). The NAWSA was succeeded by this organization that sponsored the U.S. presidential debates between 1976 and 1984.

ANSWER: **League of Women Voters** [ or **LWV**]

[10e] Women’s suffrage was signed into law by the king of this country, which owned Iceland at the time and still owns Greenland.

ANSWER: Kingdom of **Denmark** [or **Danmark**]

6. John Dick proposed the existence of a sub-population of cancer cells that resemble these other cells. For 10 points each:

[10e] Name this type of cell that can differentiate into a variety of other cells. The embryonic type of these cells can be isolated from the inner cell mass of a blasto-cyst.

ANSWER: **stem** cells [accept more specific answers like totipotent **stem** cells, pluripotent **stem** cells, human embryonic **stem** cells]

[10h] Hair follicles and intestinal crypts can serve as these micro-environments in which stem cells can remain undifferentiated and continuously self-renew.

ANSWER: stem cell **niche** (“neesh”)

[10m] Stem cell niches are regulated by this network that gives structure to tissue. Proteo-glycans and collagen are found in this network, which contains the basement membrane and interstitial portions.

ANSWER: **ECM** [or **extracellular matrix**]



7. This man made the standard English translations of most of Georges Perec’s novels, except for *La Disparition* (“lah dee-spah-ree-SYAHN”), which is mostly sold in Gilbert Adair’s translation. For 10 points each:

[10h] Name this English-born author, the leading English translator of Ismail Kadare (“ees-mah-EEL kah-dah-RAY”). He explored the history and philosophy of translation in his book *Is That a Fish in Your Ear?*

ANSWER: David **Bellos**

[10e] *Is That a Fish in Your Ear?* takes its title from the Babel Fish, a translation device from this author’s *The Hitchhiker’s Guide to the Galaxy*.

ANSWER: Douglas (Noel) **Adams**

[10m] *Is That a Fish in Your Ear?* discusses how E.V. Rieu formed the house style of Penguin Classics translations by recruiting novelists rather than academics, such as commissioning this English author to write his two-volume set *The Greek Myths*.

ANSWER: Robert **Graves** [or Robert von Ranke **Graves**]

8. Islamic pottery from Al-Andalus influenced the use of these two metals in glazes for maiolica (“muh-YOL-ick-uh”) and faience (“fuh-YAHNS”). For 10 points each:

[10h] Two answers required. Name these two metals also found in the “Yellow of the Old Masters,” which was replaced by Naples yellow in the 18th century.

ANSWER: **lead** AND **tin**

[10e] Lead-tin yellow appears on the palette held by this artist in the self-portrait he included in his masterpiece *Las Meninas*.

ANSWER: Diego **Velázquez** [or Diego Rodriguez de Silva y **Velázquez**]

[10m] The use of a light-sensitive chrome yellow in this series by a different artist has caused many of them to start turning brown. This series began as part of the decoration for the artist’s Yellow House.

ANSWER: **Sunflowers** (by Vincent van Gogh)

9. For 10 points each, answer the following about the Thai analogue of the *Ramayana*, the *Ramakien* (“ram-mah-kyen”):

[10e] In the *Ramakien*, this god enlarges himself into a bridge that Rama’s army can cross to Lanka. In the *Ramayana*, this monkey god instead becomes super-sized to carry a mountain to Lanka.

ANSWER: **Hanuman**

[10h] The first parts of the *Ramakien* retell the life of Phra Narai, or Vishnu, as this boar-shaped avatar, who defeats the demon Hiranyaksha (“HEE-ran-YAK-shuh”).

ANSWER: **Varaha** [or **Bhārāha**; reject “Bharat”]

[10m] The *Ramakien* has several differences with the original Indian version of the *Ramayana*, which is traditionally attributed to this poet.

ANSWER: **Valmiki** [or **Balmiki**]

10. The largest concentrations of dolmens, table-shaped rock structures of this type, are in the Korean sites of Gochang, Hwasun, and Gangwha. For 10 points each:

[10m] Name these things. The Japanese Kofun period is named for a type of these things.

ANSWER: **tombs** [or **burial** sites or **burial** mounds or keyhole **tombs**; prompt on keyhole **mounds**]

[10h] A large stele named for this Goguryeo (“koh-GOOR-yaw”) king was found in his tomb. Controversy exists over whether the “sinmyo” passage of that stele named for this king details the conquest of two Korean kingdoms by Goguryeo or Japan.

ANSWER: **Gwanggaeto** the Great

[10e] The first Korean excavations found a bowl made of this alloy of tin and copper associated with Gwanggaeto in a wooden-chamber tomb from Silla.

ANSWER: **bronze**

11. A few 20<sup>th</sup>-century violin concertos feature a second-movement scherzo instead of the traditional slow movement. For 10 points each:

[10e] The earliest such concerto in the standard repertoire is the first violin concerto of this Russian composer who wrote *Peter and the Wolf*.

ANSWER: Sergei Sergeyeovich **Prokofiev**

[10m] A tarantella-like scherzo marked "*Presto capriccioso alla napolitana*" is the second movement of this composer's violin concerto. This composer of the cantata *Belshazzar's Feast* also wrote the coronation marches for George VI ("the sixth") and Elizabeth II ("the second").

ANSWER: William **Walton** [or Sir William Turner **Walton**]

[10h] All four movements in this concerto, premiered in 1955, are in unusual genres for a concerto. In order, its four movements are a nocturne, scherzo, passacaglia, and burlesque.

ANSWER: Dmitri **Shostakovich's Violin Concerto No. 1** in A minor, Op. 77 [prompt on Shostakovich or Shostakovich's Violin Concerto]

12. This sect was named for a *da'i* ("DAA-ee") in Lower Iraq who tasked Abu Sa'id al-Jannabi ("ah-boo sah-EED all-juh-NAH-bee") with converting the region of Bahrayn, before the sect split from other Isma'ilis ("ISS-may-ILL-eez") under al-Mahdi Billah ("all-MAH-dee bill-AH"). For 10 points each:

[10h] Name this sect, which ruled an independent state from the Al-Ahsa ("all-HAH-sah") Oasis and sacked Mecca in 930 under Abu Tahir ("tah-HER") al-Jannabi.

ANSWER: **Qarmatians** [or **Karmathian**; or **Qarmati**; or **Qaramitah**; or **Karamiyah**; or **Karmatian**]

[10e] The Qarmatians warred with this Ismai'li dynasty named for Mohammad's daughter which established itself in Cairo in 973.

ANSWER: **Fatimid** Dynasty

[10m] The Qarmatian leaders Sahib al-Naqa ("all-NAH-kuh") and Sahib al-Shama ("all-SHAH-muh") laid siege to this city, later the Zengid Dynasty capital. The Council of Acre ("AY-ker") led to an unsuccessful siege of this city that ended the Second Crusade.

ANSWER: **Damascus** [or **Dimashq**]

13. During his treason trial, this author declared, "I never did believe in Fascism, God damn it; I am opposed to Fascism," a claim that conflicts with his myriad articles praising fascism. For 10 points each:

[10e] Name this American poet who described "The apparition of these faces in the crowd" in his poem "In the Station of the Metro."

ANSWER: Ezra **Pound** [or Ezra Loomis **Pound**]

[10m] The speaker sees the title phrase on a subway Bible poster in "O Taste and See," by Denise Levertov, a member of this group of avant-garde poets based in North Carolina. This group also included Charles Olson and Robert Duncan.

ANSWER: **Black Mountain** Poets [or **projectivist** poets; accept **projectivism**]

[10h] In 1992, the MTA in NYC helped to launch this initiative to place poems in public transit systems, such as subways, throughout the US.

ANSWER: **Poetry in Motion**

14. A study of income dynamics from the University of Michigan collects this kind of data using household surveys, and a type of study named for this kind of data usually sample a group's opinion over time. For 10 points each:

[10h] Name this kind of longitudinal data commonly used in econometrics, in which a group is followed over time and several variables are measured at multiple timepoints. Time-series data is a single-variable form of it.

ANSWER: **panel** data [or **panel** study]

[10e] When working with panel data, the Frisch–Waugh theorem reduces the multi-variate form of this technique to its uni-variate form. A simple form of this procedure finds a line that minimizes the sum of the squares of residuals.

ANSWER: **regression** [accept least-squares **regression**, linear **regression**, logistic **regression**, multivariate **regression**, univariate **regression**]

[10m] A popular panel data model is a least-squares method named for these variables. In general, these boolean or binary variables in a regression model are set to 0 or 1, based on the presence or absence of a categorical variable.

ANSWER: **dummy** variable [or **indicator** variable, **design** variable, **one-hot encoding**, or **qualitative** variable]

15. In Korean folk religion, *sansin* (“SAHN-shin”) are spirits associated with these entities, who are usually depicted as elderly men accompanied by tigers. For 10 points each:

[10m] Name these objects. The syncretic Shugendo religion conducts many of its rituals at these locations, one of which is the center of the world in Buddhist cosmology.

ANSWER: **mountains** [or equivalents such as **mount**; accept **Mount Meru**]

[10e] This mountain, Mount Haku, and Mount Tate (“TAH-tay”) make up the three sacred mountains of Japan. Kono-hana is a flower goddess associated with this dormant volcano.

ANSWER: Mount **Fuji** [or **Fugaku** or **Fuji-san**]

[10h] Shinto mountain shrines often lack these inner sanctuaries, because the *kami* of the shrine is the actual mountain. These portions of a Shinto shrine often contain a mirror or statue symbolizing the *kami*.

ANSWER: **honden** [or **shinden**; or **shōden**]

16. A potential replacement for this document, which included environmental protections and abortion rights, was rejected in a September 2022 plebiscite. For 10 points each:

[10m] Name this document, which is slated to be replaced in December 2023. Gabriel Boric campaigned on replacing this document.

ANSWER: **Constitution of Chile** [accept reasonable equivalents]

[10h] The new Chilean constitution would have enshrined this idea, which is already enshrined in Ecuador. This is the idea of multiple sovereign entities within one state.

ANSWER: **plurinationalism** [accept word forms like **plurinationality**]

[10e] The 2009 constitution of this country explicitly calls it a plurinational state. In 2020, Jeanine Anez ousted Evo Morales as president of this country in a coup.

ANSWER: Plurinational State of **Bolivia**

17. A Peter Godfrey-Smith book titled for this two-word concept explores how it's possible that cephalopods developed intelligence and consciousness on par with that of birds and mammals. For 10 points each:

[10h] Name this two-word phrase. The creator of reformed epistemology wrote a book whose title ends with this phrase, which claims by analogy that belief in this two-word concept is just as rational as believing in God.

ANSWER: **other minds** [accept ***Other Minds***: *The Octopus, the Sea, and the Deep Origins of Consciousness*; accept *God and **Other Minds***: *A Study of the Rational Justification of the Belief in God*]

[10m] The latter work, *God and Other Minds*, was written by this Christian analytic philosopher and emeritus professor at Notre Dame, who proposes warrant as an alternative to justification as the basis of belief.

ANSWER: Alvin Carl **Plantinga**

[10e] Those who deny the existence of other minds tend to subscribe to this philosophical position, which states that we cannot know anything outside of ourselves.

ANSWER: **solipsism** [or **solipsist**; or **solipsistic**]

18. In a book on this idea's "age," Stanley Elkins and Eric McKittrick credit Bernard Bailyn with explaining why writers from the British country faction were so much more popular in the U.S. than in Britain. For 10 points each:

[10e] Name this idea, which names the party led by John Adams and opposed by the Democratic-Republicans.

ANSWER: **federalism** [accept **Federalist** Party; accept *The Age of **Federalism***]

[10h] Country party authors Thomas Gordon and John Trenchard wrote essays popular in the colonies titled for this person's *Letters*. Hercules Mulligan and his slave of this name were patriot spies at a New York City tailor shop.

ANSWER: **Cato** the Younger [accept **Cato**'s *Letters*]

[10m] James Alexander used the pseudonym Cato in essays published by an editor of this ethnicity who was accused of libel in 1733. The first Speaker of the House was of this ethnicity.

ANSWER: **German**-American (The first speaker was Frederick Muhlenberg.)

19. This author inaugurated a theatrical company with a Machiavelli adaptation titled *The Cure*. For 10 points each:

[10m] Name this playwright and director who co-founded The Serpent Players in Port Elizabeth, which served as the setting of some of his early plays, such as *Boesman and Lena*.

ANSWER: Athol **Fugard** [or Harold Athol Lanigan **Fugard**]

[10e] One of the lead actors in The Serpent Players was John Kani, who wrote an essay titled for *Apartheid* and this Shakespeare character, whom he played in 1987 with Richard Haines as Iago.

ANSWER: **Othello** [accept *Apartheid* and ***Othello***]

[10h] Kani and Fugard co-wrote the plays *Sizwe Banze Is Dead* and *The Island* with this other lead actor in The Serpent Players. He played Gabriel Nkoko in Michael Hastings's one-man play *Full Frontal*.

ANSWER: Winston **Ntshona**

20. Greenberg suggests that violating this property implies the violation of Lorentz invariance. For 10 points each:

[10h] Name this fundamental property of any Lorentz invariant quantum field theory with a hermitian Hamiltonian. This property implies that a corresponding "anti-universe" would evolve under the same physical laws.

ANSWER: **CPT** symmetry [accept **CPT** theorem or **TCP** theorem; accept any answer involving the **product of charge, parity, and time reversal** in some order; accept "charge conjugation" in place of "charge"]

[10e] The existence of an electric dipole moment for this nucleon would imply CPT violation. This neutral particle is found alongside protons in the nucleus.

ANSWER: **neutron**

[10m] Parity violation was originally verified using a polarized atom of cobalt-60 undergoing this process. In this process, a down quark turns into an up quark.

ANSWER: **beta decay** [or **beta-minus decay**; do NOT accept "beta-plus decay"]