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**TOSSUPS:**

1. **The first systematic theological treatise on this religious group was *The Apology* of Robert Barclay. Members of this sect refer to Jeremiah 31:31-34 as scriptural support for the doctrine of individual covenant with god “written on one’s heart.” This sect, which is divided into Evangelical, Conservative and Liberal traditions, practices a “priesthood of all believers” that forgoes (\*) sermons and a clergy. Conservative members of this sect usually worship in complete silence in Meeting Houses. This sect was founded in the Northwest of England during the Civil War by George Fox. For 10 points, name this protestant religious sect that refer to themselves as the Society of Friends, who get their name from their movements often seen while worshipping.**

ANSWER: **Quakers** [accept Society of **Friends** before mentioned]

<TH, Religion>

2. **An essay on this author by Maureen McLain notes that the only known use of the word *kankedort* in the English language comes in a long poem by him while a male hero is waiting for Pandarus to bring forth his lover. In a poem by this author, the old blind man Januarie lifts his young wife May into a pear tree, where she has sex with her lover Damyan. This man’s long poem about two Trojan lovers is a major source for Shakespeare's (\*) *Troilus and Cressida*. This poet’s most famous poem begins “Whan that Aprill with his shoures soote / The droghte of March hath perced to the roote.” For 10 points, name this 14th century English poet who inspired many later writers with his *Canterbury Tales*.**

ANSWER: Geoffrey **Chaucer**

<TH, Poetry>

3. **A toymaker with this surname produced the U-238 Atomic Energy Laboratory, which allowed children of the 1950s to play with radioactive elements, but is more famous for inventing the Erector Set. A female jazz saxophonist with this surname and the first name Peggy led a series of all-female bands in the 1930s and 40s. An architect of this surname designed the state capitals of Minnesota and Arkansas and designed early gothic skyscrapers like the (\*) Woolworth Building. A librettist with this surname wrote the lyrics to the song “Three Little Maids from School,” which is sung by Ko-Ko. That writer of this surname wrote the librettos for a series of Savoy Operas that includes *The Mikado*. For 10 points, give the surname of a collaborator with Arthur Sullivan.**

ANSWER: **Gilbert** [accept Albert Carlton **Gilbert**; accept Peggy **Gilbert**; accept Cass **Gilbert**; accept W(illiam) S(chwenck) **Gilbert**]

<TH, Mixed Academic>

4. In a play set in this country, a one-armed man who serves as an informant against an independence group is killed after backstabbing a comrade. A woman complains that her husband always “struts around” with Joxer Daly in a play by an author from this country. A character in a play from this country who can only speak when wearing a bowler hat uses (\*) nonsense words like “Acacacademy.” That character, Lucky, is the slave of Pozzo. Two characters discuss hanging themselves from trees in a play by an author from this country centering on Vladimir and Estragon. For 10 points, name this country home to the authors of *Juno and the Paycock* and *Waiting for Godot*, Sean O’Casey and Samuel Beckett.

ANSWER: Ireland [or Eire]

<JF, Drama>

5. Frederick Wiseman made a 2011 documentary focusing on a nude dancing establishment in this city. It's not Los Angeles, but the David Lynch-designed nightclub *Silencio* is located in this city. The Bluebells Girls perform at a venue in this city, also home to the Crazy Horse Saloon. This city's Lido Theater was a frequent site of performances by Edith (\*) Piaf. Django Reinhardt pioneered gypsy jazz while working in this city. A red windmill adorns the roof of a club in this city, where performing prostitutes invented a dance meant to show their legs off to the audience, the can-can. For 10 points, name this European capital, the site of many famed cabarets like the Folies Bergere and the Moulin Rouge.

ANSWER: Paris, France

<TH, Geography>

6. The night before a battle in this state, Union and Confederate bands traded off playing “Yankee Doodle” and “The Bonnie Blue Flag” before joining together to play “Home! Sweet Home!” In addition to the Battle of Stones River, this state was the site of a Nathan Bedford Forrest-orchestrated massacre of African-American troops at Fort Pillow. Prior to one early battle in this state, (\*) Lew Wallace controversially marched his troops away from the fighting, thereby reaching Pittsburg Landing late. Confederate General Albert Sidney Johnston was killed during that battle in this state, which also featured heavy fighting around a position known as “The Hornet’s Nest.” For 10 points, name this U.S. state, the site of the battles of Shiloh and Chattanooga.

ANSWER: Tennessee

<TH, American History>

7. A player of this instrument collaborated with pianist Brad Mehldau on a 2017 album that included covers of songs by Bob Dylan and Elliot Smith. The song “Kentucky Waltz” was written by Bill Monroe, a player of this instrument who pioneered the rhythm style known as “the chop.” A player of this instrument who has played in the groups (\*) Nickel Creek and The Punch Brothers replaced Garrison Keillor on *A Prairie Home Companion* in 2015. Chris Thile plays this instrument, whose four courses of doubled metal strings are standardly tuned the same as a violin. For 10 points name this small lute-like instrument often played in bluegrass bands along with guitars and banjos.

ANSWER: mandolin

<TH, World and Folk Music>

8. Above the austenite finish temperature, shape memory alloys possess a “pseudo” form of this property in which they undergo reversible phase transformations. The maximum energy a material can store while retaining this property is its proof resilience. Materials possess this property while in the linear regime of the stress-strain curve where the slope is (\*) Young’s modulus. In a collision with this property between two equal mass particles with one at rest, the incoming particle stops and the target has the same final velocity as the incoming particle. Particle collisions with this property conserve total kinetic energy. For 10 points, name this property that describes a material’s ability to return to its original shape after force is applied, like how a rubber band contracts after it is released.

ANSWER: elastic [or elasticity; accept elastic collision; accept perfectly elastic collision]

<LL, Physics>

9. In 2019, the Supreme Court unanimously ruled in *Timbs v. Indiana* that the 14th Amendment’s Due Process Clause incorporates a clause in this other amendment to the state level. William Brennan identified four principles in evaluating a clause from this Amendment during the case *Furman v. Georgia*, including one that asks if an action is (\*) “degrading to human dignity.” In *Atkins v. Virginia*, the Supreme Court ruled that executing the mentally handicapped violated this amendment. This amendment prohibits excessive fines and bail. For 10 points, name this Bill of Rights amendment that prohibits the government from inflicting cruel and usual punishment.

ANSWER: Eighth Amendment

<TH, Political Science>

10. Pausanias attributes the creation of the wooden xoanon cult figurines to this figure. This figure’s nephew shares his name with a giant automaton made by Hephaestus to defend Crete. This figure threw that nephew out of a window after he made a saw out of a fish skeleton. This man taught the Sicilian king Cocalus how to thread a seashell using an ant. This uncle of (\*) Talos created the first dancing floor for Ariadne and a wooden bull for Pasiphaë. This figure boiled King Minos alive in a bathtub. This man created a pair of wings for his son who perished after flying too close to the sun. For 10 points name this mythological inventor and father of Icarus, who created the Labyrinth that housed the Minotaur.

ANSWER: Daedalus

<JH, Mythology>

11. The narrator of this novel notes that Lot’s Wife “did look back” and that he “love[s] her for that, because it was so human.” This novel’s narrator often uses the phrase “blue and ivory” to describe the feet of corpses. While drinking a bottle of flat champagne, the protagonist of this novel experiences a war film in reverse, culminating with specialists putting minerals from (\*) bombs back in the ground. This novel relates how the universe will be destroyed by a pilot experimenting with new fuel, though a race of hand-like aliens always allows this to happen because they see time all at once. The Tralfamadorians introduce the phrase “so it goes” to Billy Pilgrim in, for 10 points, what novel by Kurt Vonnegut?

ANSWER: Slaughterhouse-Five

<TH, Long Fiction>

12. **Accumulator architectures have only one implicit operand, while all operands are implicit in architectures named for this object. The link register is placed on this object to correctly return from nested subroutines. Subtracting from this object's pointer allocates space on it to store local variables. The scope of a function is defined by its associated (\*) frame created on this object.** This hardware object used for static memory allocation shares its name with a data structure used to perform iterative depth-first search. Incorrect implementation of the base case leads to infinite recursion, causing this object to overflow. The heap is contrasted with, for 10 points, what memory location that shares its name with a last in, first out data structure?

ANSWER: **stacks** [accept **stack** machine or **stack** architecture; accept **stack** frame; accept **stack** overflow]

<JS, Other Science CS>

13. **D.J. Hershman and Julian Lieb outlined how some patients with this condition were highly productive and creative in their book *The Key to Genius*. In her study of Pennsylvania Amish, Janice Egeland found that the family inheritance of this disorder may be linked to chromosome 11. Patty Dukes raised public awareness of this disorder with her memoir *Call Me Anna*. This is the most common disorder treated with doses of (\*) lithium carbonate.** This disorder is divided into Type I and Type II based on the occurrence of episodes involving rapid speech, flight of ideas, and irritability. For 10 points, name this psychological disorder characterized by dramatic mood changes between manic and depressive episodes.

ANSWER: **bipolar** affective disorder [accept **manic depression** until “manic”; prompt on **depression** or word forms; prompt on **mania** or word forms; anti-prompt on **seasonal affective** disorder or **SAD**]

<TH, Psychology>

14. **Theodosius I defeated the Frankish usurper Arbogast at a 394 battle named for a “cold” one of these things. Paper making was likely introduced to Europe following a 751 battle named for one of these things in Kyrgyzstan, held between the Abbasids and the Tang Dynasty. It's not a lake, but Prince Alexander of (\*) Novgorod received his sobriquet referencing one of these geographical features after defeating the Swedes near one in modern-day Estonia. Alexander the Great's main victory during his Indian campaign came at one of these features named Hydaspes. During the Third Crusade, the weight of his armor caused Frederick Barbarossa to drown in one of these places.** For 10 points, name these bodies of water that include the Talas, the Neva and the Nile.

ANSWER: **rivers** [accept Frigidus **River**, Talas **River**, Neva **River**, Saleph **River**, or Hydaspes **River**; prompt on **body of water**, or other similarly vague descriptions]

<TH, Other History>

15. **Morris Cohen and Ernest Nagel coined the term Genetic Fallacy to describe a problem arising in this area of philosophy. The stance of reliabilism is a viewpoint in this branch of philosophy. In the analytic tradition, investigations in this area of philosophy involve tracing explanations back to brute facts. A counterexample to a definition important in this branch of philosophy presented in a very short but highly cited paper involves Smith and Jones both applying to a job. The (\*) Gettier Problem is a central thought experiment in this branch of philosophy.** This branch of philosophy's central concept is classically said to be justified true belief. For 10 points, name this branch of philosophy that explores the rationality of beliefs and the sources of knowledge.

ANSWER: **epistemology** [prompt on theory of **knowledge** before “knowledge”]

<TH, Philosophy>

16. In trilo-bites, this organ was made of calcite and was either holo-chroal or schizo-chroal. Units of this organ rapidly activate and deactivate in a “flicker effect”. The halteres (“hal-tear-eez”) work with this organ to control stabilization reflexes. Rudimentary forms of this organ called ocelli are thought to help maintain orientation in space. One type of this organ integrates responses from (\*) rhodopsin molecules in each ommatidium. In insects, scattering pigments in these organs prevent incidental light from reaching the lens. For 10 points, insects and arthropods have the compound type of what visual organ?

ANSWER: eyes [accept compound eyes; accept simple eyes; accept eyesspots; accept ocelli until mentioned, after prompt with “What other organ are ocelli like?”]

<JS, Biology>

17. In 2018, the U.S. Supreme Court ruled in favor of this state’s water rights, after this state argued its economic activity was negatively affected by decreased flow into the ACF River Basin. A politician from this state caused controversy when he used the phrase “monkey this up” when referring to the policies of his African American opponent. Bans on both offshore (\*) drilling and indoor vaping were combined into one ballot amendment in this state’s most recent election. The passage of Amendment 4 on this state’s 2018 ballot marked the largest expansion in voting rights since the 26th Amendment. Republican Ron DeSantis defeated Democrat Andrew Gillum to become governor of, for 10 points, what state, where Gillum had previously served as mayor of Tallahassee?

ANSWER: Florida

<JM, Current Events>

18. A portrait by this painter shows its subject holding a toy airplane while both the sun and the moon are present in the sky to her left and right. Another portrait by this artist shows its subject covered in nails and with a fissure-like split torso within which a doric column appears. This artist depicted a volcano, a building, and plants emerging from tub water in (\*) *What the Water Gave Me*. Another painting by this artist shows its subject flanked by a black monkey and black cat while a dead hummingbird hangs from her neck. A historic museum dedicated to this artist’s life and work is housed in her long-time home, a cobalt-colored house known as La Casa Azul. For 10 points, name this unibrow-sporting Mexican artist known for her surrealist self-portraits.

ANSWER: Frida Kahlo [accept Frida Kahlo de Rivera; accept Magdalena Carmen Frida Kahlo y Calderón]

<DG, Painting>

19. The diary of Nicolo Barbaro is a primary source on events involving this city. After the death of Jacomo Coco, Dolfino Dolfino took command of a fleet defending this city. The wounding of Genoese mercenary captain Giovanni Giustiniani resulted in the scattering of forces defending this city. The Hungarian engineer Orban cast several (\*) giant cannons used in a siege of this city. Attacks on Damascus and Baghdad by Tamerlane led Bayezid the Thunderbolt to pull out of a siege of this city. After the earlier failure to take this city by his father Murad II, Mehmed the Conqueror captured this city for the Ottoman Empire in 1453. The Fourth Crusade ended with sacking this city instead of Jerusalem. For 10 points, name this capital of the Byzantine Empire.

ANSWER: Constantinople [prompt on Istanbul; prompt on Byzantium]

<TH, European History>

20. A song by this band features a distorted bass guitar playing a chromatic run from D to B flat twice before cadencing from F sharp to G in imitation of Boris, the title spider. The riff from that song was later used in this band's rendition of "In the Hall of the Mountain King" from their album that includes the songs "Odorono" and "Heinz Baked Beans." This band satirized product endorsement on their album (*this band*) (\*) *Sells Out*. This band closed their rock opera *Quadrophenia* with the song "Love, Reign O'er Me." Another rock opera by this band describes a "deaf, dumb, and blind kid" who excels at pinball. The concept album *Tommy* is by, for 10 points, what English rock band also known for songs like "Baba O'Reilly" and "My Generation."

ANSWER: The Who

<JH, Pop Culture Music>

21. After one was hospitalized following a heart attack, two figures from this family repeatedly replaced each other's posters with large photos of themselves, in what became known as the "poster war." After one member of this family died in a 1994 car crash, his brother was immediately groomed for leadership of their country. After gaining power in the Corrective Revolution, one leader from this family ordered the Defence Companies to besiege the town of (\*) Hama in 1982, to quell an uprising by the Muslim Brotherhood. Salah Jadid was held in Mezzah Prison after being overthrown by a member of this family who controlled his country's branch of the Ba'ath Party. For 10 points, Hafez and Bashar are members of what currently-ruling Syrian political dynasty?

ANSWER: al-Assad family [accept Rifaat al-Assad; accept Hafez al-Assad; accept Bassel al-Assad; accept Bashar al-Assad]

<TM, World History>

22. One of these objects belonging to the narrator is inspected at the Phoenix of the Sky work camp at the beginning of *Balzac and the Little Chinese Seamstress*. One of these objects is used professionally by Michael, who carries out an affair with Julia in the novel *An Equal Music*. The farm hand Harold "studied Latin like" one of these objects in "Death of a Hired Man." Pozdnyshv rants against marriage on a train after stabbing his wife to death because of an affair with a user of one of these objects in *The* (\*) *Kreutzer Sonata*. The user of one of these objects appears in the title of a musical adapted from a set of Sholem Aleichem stories that focuses on Tevye and his daughters. For 10 points, name this musical instrument played "on the roof" in a Broadway musical.

ANSWER: violin [accept fiddle; accept *Fiddler on the Roof*; prompt on musical instrument]

<TH, Mixed Lit>

23. High pressure stacks for this process eliminate the need for mechanical compression of the output, but introduce high back diffusion and membrane creep. Sources of resistance in this technique include bubble formation on the diaphragm as well as oxygen and hydrogen evolution reactions. The Faradaic efficiency for this process is the ratio of equilibrium (\*) voltage to cell voltage, and the amount of material produced by this process is given by Faraday's two laws governing it. A 1.23 Volt potential difference is required to perform this process on water, producing hydrogen and oxygen gas. For 10 points, name this process that uses a direct current to separate a molecule into its constituent elements.

ANSWER: electrolysis [accept electrolysis of water; do not accept "hydrolysis"]

<JS, Chemistry>

24. The “Pavana Lachrymae” movement of George Crumb’s *Black Angels* quotes a piece by this composer. Ferdinand Troyer commissioned this composer’s *Octet in F*, scored for string quartet, horn, bassoon, clarinet and double bass. This composer adapted one of his songs into his 14th string quartet, written during the same period of sickness that produced his (\*) *Rosamunde* quartet. This composer again drew on his earlier lied “Die Forelle” for a five-performer chamber work featuring a double bass and piano. *Death and the Maiden* and *The Trout Quintet* are chamber works by this composer whose cycles of lieder include *Winterreise* and *Die Schöne Müllerin*. For 10 points, what German composer left his eighth symphony in B minor unfinished at his death?

ANSWER: Franz **Schubert**

<TH, Classical Music>

## BONUSES:

1. In this play, a character referred to as “the Count” is never seen but his presence is hinted at by the ringing of a bell and his boots and gloves on the stage. For 10 points each:

[10] Name this play in which Jean and the title character plot to run away together to start a hotel. When that plan falls through because of the Count’s arrival, Jean suggests that the only way out for the title character is suicide.

ANSWER: Miss Julie

[10] *Miss Julie* was written by this Swedish playwright. His play *The Father* was savaged by fellow naturalist author Emile Zola.

ANSWER: August Strindberg

[10] August Strindberg also wrote this two part play, in which Captain Edgar is compared to a vampire, Kurt bites Alice like a vampire, and Alice’s daughter Judith is portrayed as a youthful vampire.

ANSWER: *The Dance of Death*

<JF, Drama>

2. During this man’s first 100 days in office, he has raised his nation’s minimum wage by 16 percent and cancelled plans for a new airport in its capital city. For 10 points each:

[10] Name this man who won Mexico’s presidential election in 2018, running on a platform promising to combat poverty, corruption, and violence.

ANSWER: Andrés Manuel López Obrador [accept AMLO; prompt on partial answer]

[10] López Obrador rose to prominence as the Head of Government of this city, the most populous in North America.

ANSWER: Mexico City

[10] While mayor of Mexico City, López Obrador hired this US politician as a crime consultant. During his time as mayor of an American city, this man hired police chief William Bratton, who pursued aggressive policies based on Broken Window Theory.

ANSWER: Rudy Giuliani

<JM, Current Events>

3. For 10 points each, answer some questions about the effect of concentration on chemical properties:

[10] Des Cloiseaux’ (“de clwah-sohs”) law states this quantity scales with the concentration of the solute to the nine-fourths power in a semidilute solution of neutral polymers. In ideal solutions, van’t Hoff found that this quantity equals molarity times RT.

ANSWER: osmotic pressure [prompt on pi]

[10] Raoult’s law predicts that this quantity for a solvent is lowered when a solute is added. Volatile substances have a high value for this quantity that reaches its equilibrium value when evaporation and condensation occur at the same rate.

ANSWER: equilibrium vapor pressure [accept saturated vapor pressure]

[10] This colligative property is depressed by addition of solute, as seen when salt is used to de-ice roads. This temperature at which solid and liquid phases coexist is 0°C for water.

ANSWER: freezing point [or melting point]

<JS, Chemistry>



4. Answer some questions about a very sad period in baseball history, for 10 points each:

[10] This period in baseball lasted from around 1900 to 1919 and was characterized by low scoring games and a dearth of home runs. The lowest league run average in history of 3.4 runs per game happened in 1908 during this era.

ANSWER: **dead-ball** era [accept **dead-ball** period]

[10] The dead-ball period ended with the emergence of this legendary Red Sox and Yankees player who earned the monikers “The Sultan of Swat” and “The Bambino” for his superb batting ability.

ANSWER: Babe **Ruth**

[10] One of the contributions to the low scoring dead-ball era was the use of this type of now banned pitch, where pitchers would manipulate the ball before pitch with some foreign substance like petroleum jelly or tobacco juice.

ANSWER: **spitball** [accept **spitballing**]

<JH, Pop Culture Sports>

5. A great way to solve the paradox of choice is to add ridiculous restraints. For 10 points each:

[10] This author founded the Oulipo (“OO-li-POE”) movement, known for its ridiculous literary restraints. His novel *A Void* never uses the letter “E” while another of his novels, *Life: A User’s Manual*, has a structure based on a knight’s tour across a chessboard.

ANSWER: Georges **Perec**

[10] This other member of the Oulipo movement wrote about a programmer who uses algorithms to solve an arson case in “The Burning of the Abominable House.” He is better known for writing a novel in which “you, the reader” interact with Ludmilla.

ANSWER: Italo **Calvino** (the novel is *If On a Winter’s Night a Traveler*)

[10] Oulipo authors often make use of these types of statements, which read the same forward and backward. Examples include “Able was I, ere I saw Elba” and “never odd or even.”

ANSWER: **palindromes**

<JH, Mixed Lit >

6. An Andean legend describes a beautiful and crafty woman being sacrificed, sliced in half, and buried, leading to this thing sprouting from her grave, and receiving her name. For 10 points each:

[10] Name this substance, whose usage was assisted with the golden *poporo*, a receptacle for carrying lime. Prior to a decree from Philip II of Spain that discouraged usage of this substance, it was commonly chewed or burned as part of religious rituals.

ANSWER: **coca** [accept **coca leaves**; prompt on **leaves**; prompt on **cocaine** with “What other substance does cocaine come from?”]

[10] While coca was utilized by many South American civilizations, such as the Inca, it was also commonly consumed by this modern-day country’s Quimbaya and Muisca peoples, the latter of whom were the subject of the Spanish *El Dorado* myth.

ANSWER: Republic of **Colombia**

[10] A hemispherical arrangement of 150 bodies found in a cave near Suesca provided evidence that the Muisca undertook this practice. Found in the Atacama Desert, bodies of the Chinchorro culture that underwent this practice predated those found in Egypt’s Valley of the Kings by over 2,000 years.

ANSWER: **mummification** [accept anything mentioning **mummies**; prompt on **preservation**]

<TM, World History>

7. This piece, the twelfth in its composer's Opus 10, opens with multi-octave descending runs that build up a dominant seventh chord, and the majority of this piece requires constant sixteenth-note arpeggios in the left hand. For 10 points each:

[10] Name this C minor piece dedicated to the composer's friend Franz Liszt. It was inspired by hearing of the 1831 November Uprising while its composer was traveling to Paris.

ANSWER: **Revolutionary Etude** [accept **Etude on the Bombardment of Warsaw**]

[10] This Polish pianist composed the *Revolutionary Etude* along with others nicknamed *Winter Wind* and *Black Keys*. He also composed numerous mazurkas, polonaises and preludes, including one nicknamed *Raindrop*.

ANSWER: Frederic **Chopin**

[10] Etude number 2 from Chopin's Opus 10 has a nickname referring to the runs in the right hand playing in this way. This word refers to a scale consisting of twelve tones, each a semitone above or below its neighbours.

ANSWER: **chromatic** [accept playing **chromatically**; accept **Chromatique**]

<TH, Classical Music>

8. The complex phase of the C·K·M matrix arises from this phenomenon. For 10 points each:

[10] Name this phenomenon, observed experimentally by James Cronin and Val Fitch in neutral kaon ("kay-on") decay. This phenomenon has not been observed in Q·C·D, giving rise to its namesake "strong" problem.

ANSWER: **CP violation** [or **charge parity violation**; prompt on **strong CP** problem; do not accept or prompt on partial answer]

[10] Unlike C·P symmetry, C·P·T symmetry cannot be broken in this theory due to Lorentz invariance. One of the postulates of this theory is that the speed of light is constant in every reference frame, and unlike a more general theory, it does not include gravity.

ANSWER: **special relativity** [prompt on **relativity**; do not accept "general relativity"]

[10] Special relativity rests upon the spatial form of this property which states that the universe is indistinguishable in every orientation. The physical qualities of solids with this property are the same in all directions.

ANSWER: **isotropy** [or **isotropic**]

<LL, Physics>

9. Book III of this work presents the four causes for every sensible thing as material, formal, efficient and final. For 10 points each:

[10] Name this work of ancient philosophy that identifies the preconditions of motion as place, void, and time. This work discusses an Unmoved Mover, much like a later work by the same author named for being "beyond" this work's subject.

ANSWER: **Physics** [accept **Phusike akroasis**; do not accept or prompt on "*Metaphysics*"]

[10] This ancient Greek thinker wrote *Physics* and *Metaphysics*, and was the leader of the Lyceum. He also wrote about virtues in his *Nicomachean Ethics*.

ANSWER: **Aristotle**

[10] In his *Physics*, Aristotle used this Greek-language term to refer to the inherent purpose of a thing. For example, this thing for a cup is to hold some potable liquid.

ANSWER: **telos**

<LL, Philosophy>

10. The *Pararaton*, or the Book of Kings, describes how this man refused to consume any spices before he had successfully unified the *nusantara*, referring to the archipelago that surrounded his kingdom. For 10 points each:

[10] Name this 14th-century ruler who served as prime minister of the Majapahit Empire at its zenith. He fell into obscurity after demanding submission from the Sunda during a wedding ceremony, which resulted in their officials being murdered, and their princess committing suicide.

ANSWER: **Gajah Mada**

[10] This modern-day country's history saw the Majapahit Empire rise from its incredibly populous island of Java, which is also where this country's Buddhist temple of Borobudur was built.

ANSWER: Republic of **Indonesia**

[10] Numerous visits to the Majapahit Empire by this man were chronicled by his biographer, a translator named Ma Huan. This Ming explorer supported the early opulence of his government via his many "treasure voyages" taken under the Yongle Emperor's reign.

ANSWER: **Zheng** He [accept **Ma** He]

<JH, Other History>

11. Answer the following about the geometry of triangles. For 10 points each:

[10] This point on the Euler ("oy-lurr") line is the intersection of the three altitudes of a triangle. The isogonal conjugate of this point is the circumcenter.

ANSWER: **orthocenter**

[10] In this type of triangle, the orthocenter is the vertex of the 90° angle. The Pythagorean theorem states that the hypotenuse squared of this type of triangle is equal to the sum of the square of the other two side lengths.

ANSWER: **right** triangle

[10] The circumcenter is where this line for each of the three sides intersect. A theorem named for this line says that if a point P lies on this line for the line segment AB, then P is equidistant from A and B.

ANSWER: **perpendicular bisector** [prompt on **bisector**]

<JF, Other Science Math>

12. Carl Sandburg wrote the text prologue to the best-selling book version of this art exhibition. For 10 points each:

[10] Name this groundbreaking 1955 photography exhibition curated by Edward Steichen at the Museum of Modern Art. Ansel Adams, Dorothea Lange, and Robert Capa were among the 273 photographers featured in this human subject-focused exhibition.

ANSWER: *The **Family of Man***

[10] Many of the photographers featured in *The Family of Man* also published their work in this Henry Luce owned photojournalism magazine, the sister magazine to TIME. Margaret Bourke-White, Alfred Eisenstaedt, and W. Eugene Smith all contributed to this magazine.

ANSWER: **Life** Magazine

[10] This French photographer also contributed to *Life* during the postwar era. His pioneering work in street photography made use of his theory of "the decisive moment."

ANSWER: Henri **Cartier-Bresson**

<TH, Photography>

13. The Calmecac was a school for Aztec sons of nobility dedicated to this deity. For 10 points each:

[10] Name this deity from Aztec mythology who is depicted as a feathered serpent.

ANSWER: **Quetzalcoatl**

[10] Quetzalcoatl is credited with bringing maize to the Aztecs. He managed to steal the maize in the form of, or with the help of, one of these animals.

ANSWER: **ant** [prompt on **insect**]

[10] Quetzalcoatl killed himself in shame after Tezcatlipoca showed him one of these objects. Perseus uses his shield as one of these objects to fight Medusa.

ANSWER: **mirror** [accept descriptive answers indicating a **reflective** surface]

<JH, Mythology>

14. Robert Solow and Trevor Swan developed the neoclassical model of this process, which relates capital accumulation, increases in population, and productivity changes to a rate symbolized Q. For 10 points each:

[10] Name this long-term expansion of a country's GNP over time.

ANSWER: economic **growth**

[10] Economic growth is often displayed by these graphs, a classic example of which shows levels of guns and butter that can be made. Points northeast of these graphs are unattainable, while points inside are inefficient.

ANSWER: **P**roduction **P**ossibility **F**rontiers [or **P**roduction **P**ossibility **C**urve]

[10] According to Solow's model of growth accounting, growth is equal to the percent change in labor plus the percent change in capital plus this value, which must be inferred as the "residual" after outputs and inputs have been accounted for.

ANSWER: **technological change** [or **TC**; accept answers indicating level of **technology**]

<TH, Economics>

15. The intricacies of this program have often been characterized with the "3 R's," referring to "relief," "recovery," and "reform." For 10 points each:

[10] Name this general series of reforms and regulations enacted by Franklin Delano Roosevelt between 1933 and 1936, that sought to address and repair the effects of the Great Depression.

ANSWER: the **New Deal** [do NOT accept or prompt on "Green New Deal"]

[10] David Lilienthal headed this New Deal agency through its efforts to modernize its namesake agrarian region via the production of about 30 dams in the eastern United States.

ANSWER: **T**ennessee **V**alley **A**uthority [accept **T.V.A.**]

[10] This man played a key role in FDR's "Brain Trust," where he served as one of the principal architects of the New Deal, primarily through his directing of the Works Progress Administration. He is not to be confused with Harold Ickes, who directed the similarly-named, but slightly different, Public Works Administration, or P.W.A.

ANSWER: Harry Lloyd **Hopkins**

<JH, American History>

16. In a critique of this movement, Barnett Newman claimed that works from it were too naturalistic for his taste, as their rectilinear forms are still derived from nature. For 10 points each:

[10] Name this movement, which included artists like Theodore van Doesburg and Georges Vantongerloo. Most early paintings in this movement used only primary colors along with the "non-color" black.

ANSWER: **De Stijl** [or **Neo-Plasticism**]

[10] This Dutch painter dedicated his essay "Neoplasticism" to "the man of the future." After moving to America in the 1940s he painted works like *Broadway Boogie-Woogie*.

ANSWER: Piet **Mondrian**

[10] The geometrical figures and interest in color theory practiced by the De Stijl painters influenced this German-American artist best known for his *Homage to the Square* series.

ANSWER: Josef **Albers**

<TH, Painting>

17. Answer these questions about the 2018 World Chess Championship, for 10 points each:

[10] This 28-year-old Norwegian held the World Champion title going into the match. At 2882, he has the highest peak ELO rating of all time, and has held the world's number 1 spot since 2010.

ANSWER: Magnus **Carlsen**

[10] This Miami-born American, the third highest rated player ever, played Carlsen in the finals, and was the first American to compete for the championship in 46 years. He formerly played for the Italian national team.

ANSWER: Fabiano **Caruana**

[10] The 2018 World Championship was the first where all 12 championship matches ended in this fashion. In 1984, there were famously 38 games of this type in the aborted championship.

ANSWER: **draws** [accept **ties**]

<BK, Other Academic>

18. Answer some questions about the syntax of the sentence "The team zeroed the linguistics bonus in front of everyone." For 10 points each:

[10] The last part of the sentence, "in front of everyone," is this type of phrase, in which its namesake part of speech is followed by a noun phrase. These phrases may indicate where an action occurs.

ANSWER: **prepositional** phrase

[10] In the sentence "The team zeroed the linguistics bonus in front of everyone," "the" is an article that acts in this functional category, which includes words that specify whether a following noun is definite or indefinite.

ANSWER: **determiners**

[10] The word "zeroed" in the sentence is this type of verb, because it has the direct object "the linguistics bonus." In the sentence "I heard the grammar bonus and slept," "heard" is this type of verb while "slept" is not.

ANSWER: **transitive** verb [do not accept or prompt on "intransitive verb"]

<TH, Linguistics>

19. Emmeline Pankhurst suspended the work of the Women's Social and Political Union during this conflict to focus efforts on recruiting women into the war effort. For 10 points each:

[10] Name this conflict, whose mass female participation led to Britain passing limited female suffrage in 1918 under the leadership of David Lloyd-George.

ANSWER: **World War I** [accept The **Great War**]

[10] Munitionettes who worked in British arms factories during the war often had their skin stained yellow after working with TNT, and were referred to by this animal-inspired nickname.

ANSWER: **canaries**

[10] Women like Edith Cavell served as combat nurses during the war. Cavell was executed in 1915 after helping British soldiers escape this occupied country, which was invaded by Germany along with Luxembourg in the Schlieffen Plan.

ANSWER: **Belgium**

<TH, European History>

20. By examining the Danish Cytogenetic Central Registry, Bojesen et al. concluded that only one-quarter of biological males with this syndrome are diagnosed. For 10 points each:

[10] Identify this syndrome that is a result of having one Y chromosome and extra copies of the X chromosome. Individuals with this disease have lower testosterone and reduced body hair compared to XY individuals.

ANSWER: **Klinefelter**'s syndrome

[10] Affected individuals of Klinefelter's syndrome often have this condition in which a person is unable to reproduce.

ANSWER: **infertility** [accept **infertile**; accept **sterile**; accept **sterility**]

[10] Skin fibroblast karyotyping or testicular biopsy is used to confirm this condition in patients with Klinefelter's syndrome, for whom the syndrome is less severe. An individual who developed from a single egg has cells with different genotypes in this condition.

ANSWER: **mosaicism** [accept **mosaic**]

<LL, Biology>

21. In the last line of the Robert Southwell ("subtle") poem "The Burning Babe," the narrator remembers that it is this day after seeing a vision of an infant on fire. For 10 points each:

[10] Name this holiday that is central to a Charles Dickens novella in which Ebenezer Scrooge is visited by ghosts that show him visions of the past, present, and future.

ANSWER: **Christmas** Day [or **Christmas** Eve]

[10] This Belgian detective investigates a murder on the estate of the sadistic Simeon Lee in a mystery novel named for *this character's* Christmas. He also appears in *Death on the Nile*.

ANSWER: **Hercule Poirot** [accept either underlined name; accept **Hercule Poirot's Christmas**]

[10] The devil steals the moon to punish a Ukrainian blacksmith in *The Night Before Christmas*, a novella by this author of the collection *Evenings on a Farm Near Dikanka*.

ANSWER: Nikolai **Gogol**

<TH, Mixed Lit>

22. Answer some questions about the Khanda symbol. For 10 points each:

[10] The Khanda symbol represents this monotheistic world religion originating in Punjab whose practitioners honor a group of gurus, the last of which is Adi Granth.

ANSWER: **Sikhism**

[10] The round portion of the Sikh symbol that intersects with the khanda double-edged sword represents this thrown weapon from India, popular with Sikh warriors of the Nihang.

ANSWER: **chakram** [or **cakram**; accept **chakkar**]

[10] The two single edged blades that flank the outside of the Khanda symbol are kirpans, ceremonial daggers that belong to a group of this many "K's" in Sikhism.

ANSWER: **five** [accept **Five K's**]

<TH, Religion>

23. This poem alludes to the Mid-Autumn Festival where families often gather, however, the speaker is prevented from returning home. For 10 points each,

[10] Name this poem that reads, “Moonlight before my bed, Perhaps frost on the ground, Lift my head and see the moon, Lower my head and I miss my home.”

ANSWER: “**Quiet Night Thought**” [or “**Quiet Night Thoughts**” accept **Jìng Yè Sī**; or **Chuáng Qián Míng Yuè Guāng**]

[10] “Quiet Night Thought” was written by this Tang poet famous for his pieces in the genres of *yuefu* and *lushi*, and for legendarily drowning reaching for a reflection of the moon in a river.

ANSWER: **Lǐ Bai** [or **Lǐ Po** or **Lǐ Bo**]

[10] Li Bai was a close associate of this other poet and they often wrote poems to or about each other. This poet wrote poems titled “Autumn Day in Kui Prefecture” and “The Song of the Wagons.”

ANSWER: **Dù Fu** [or **Tu Fu** or **Dù Gōngbù** or **Dù Shàolíng**]

<JF, Poetry>

24. This city’s 54-story apartment building Ponte City was formerly considered the world’s tallest urban slum complete with a five-story improvised garbage dump in its inner courtyard. For 10 points each:

[10] Name this large city that is not one of its country’s three capitals. The city has grown to encompass neighbouring Soweto.

ANSWER: **Johannesburg**

[10] Johannesburg is the largest city in this country, which completely surrounds the country of Lesotho.

ANSWER: **South Africa**

[10] Swaziland, another small country bordering South Africa, changed its name to this in 2018, in part so people would stop confusing it with Switzerland.

ANSWER: Kingdom of **Eswatini**

<TH, Geography>