

**Pre-ICT and Nationals Open/Minnesota Open 2019 (PIANO/MO): “What about bad subject matter? Or a bad title drop, even? That could kill a tournament pretty good.”**

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**Packet 13 Tossups**

1. **Goods used in this process are imported by Steve Wong’s Fukutomi Company, which has recently shifted operations to Southeast Asia. China’s first female billionaire, Zhāng Yīn [jahng yeen], got her start importing goods for use in this process, which supplies her company Nine Dragons. The “National Sword” policy implemented at the end of 2017 drastically reduced Chinese importation of goods used in this process. Since a series of massive fines were introduced for not using this process, (\*) Switzerland has had one of the world’s highest rates of it. Recently, many municipalities have tried to cut down on contamination in this process by getting rid of its “single-stream” form. This process is often encouraged as a third option after reduction and reuse. For 10 points, name this process of turning waste like aluminum and plastic into usable raw material.**

ANSWER: **recycling** [accept more specific answers like **plastic recycling** or **single-stream recycling**] <JR>

2. **This movement was shown to be inextricably linked with early women’s rights movements like Seneca Falls in a book by Ann Braude. The influence of this movement was exploited by early photographers like William H. Mumler. The development of this movement was spurred by the “rappings” of the Fox Sisters. This movement was the subject of a *History* by its supporter Sir Arthur Conan Doyle, and members of it frequently participated in (\*) “table-turning.” At the end of his career, Harry Houdini spent most of his time exposing members of this movement. After the death of a son, Mary Todd Lincoln intensified her belief in this movement. The ouija board developed out of practices from—for 10 points—what religious movement that emphasizes communication with the ghosts of the dead?**

ANSWER: **spiritualism** [accept **spiritism**; prompt on seances or mediums by asking “What movement were they part of?”] <JR>

3. **A substituent’s impact on this general property for a molecule is plotted against its impact on hydrophobicity on a Craig plot. For hydrocarbons, this property is frequently measured in solutions of cesium cyclohexamide or in the gas phase using ion cyclotron resonance. Active methylene compounds have a high value for this property at the methylene. The sigma parameter in the first-ever linear free energy relationship describes how a substituent impacts this property of a molecule like nitroaniline. This property is unusually high for (\*) cyclopentadiene because its corresponding anion is aromatic. This property, which is described by the Hammett equation, increases when adjacent electronegative atoms are added in the inductive effect. This property has an exact inverse trend with  $pK_a$ . For 10 point, name this propensity of a molecule to give up a proton.**

ANSWER: **acidity** [or word forms like “**acidic**”; or **acid dissociation constant**; or  **$K_a$** ; or negative **proton affinity**; accept  **$pK_a$**  until “cyclopentadiene” is read; prompt on reactivity; do not accept or prompt on  $pH$ , which is not a property of a molecule] <AS>

4. In a painting from this city, a white-veiled Briseis tilts her head and looks at the viewer, while a messenger with his back to the viewer is stared at by a furious seated Achilles. A painting from this city of a woman holding her writing pad and pensively sucking on her pen while looking at the viewer has been nicknamed “Sappho.” Studies of murals in this city gave rise to the designations of “First” through “Fourth” style in painting. This is the largest city for which the (\*) Secret Museum in Naples was created. A number of bright-red frescoes depicting initiations into the cult of Bacchus were painted just outside this city in the Villa of the Mysteries. The *Alexander Mosaic* was partially preserved in this city’s House of the Faun. Many depictions of Priapus and erotic graffiti were found at—for 10 points—what Roman city whose art was preserved by the eruption of Mount Vesuvius?

ANSWER: Pompeii <JR>

5. The title character of a play set in this state sees his “scar in the window of the phone booth” before shooting Pernell for calling him “champ.” This state, which is the setting of a play about an ex-convict who sells stolen refrigerators, is also the setting of a play in which a bartender warns that “you could wake up tomorrow and all your jobs are in Mexico.” Lynn Nottage’s play *Sweat* is set in this state, as is a play in which a man sings about a “good old dog” named (\*) Blue and boasts about his fight with Death to Bono. It’s the setting of a play in which the victims of a boxcar fire are said to have become the Ghosts of the Yellow Dog by Doaker. *King Hedley II* is set in this state, as is a play in which Boy Willie is accused of killing Sutter by Berniece, who insists on keeping the title instrument. *The Piano Lesson* and *Fences* are set in—for 10 points—what state, the setting of a 10-play cycle by August Wilson?

ANSWER: Pennsylvania (The Wilson cycle is the Pittsburgh Cycle.) <WJ>

6. Lande’s theorem states that the rate of phenotypic evolution equals the G-matrix times a selection gradient times the natural log of the rate of change of *this* quantity. In the Wright–Fisher model, the rate of decay of heterozygosity depends only on this parameter, and the probability of coalescence of two alleles over a generation is one divided by twice this parameter. The probability of fixation of a new neutral allele is (\*) inversely related to this parameter. Watterson’s estimator is four times the mutation rate times this quantity, making it an estimate of total genetic diversity. The idealized “effective” version of this parameter is typically smaller than its true value. Genetic drift becomes more important as this parameter shrinks, as in the founder effect; relatedly, the Hardy-Weinberg model assumes it is infinite. For 10 points, name this parameter symbolized “capital *N*.”

ANSWER: effective population size [prompt on partial answer; prompt on  $N$  or  $N_e$  [N-sub-E] until mentioned] <SK>

7. Francis X. Clooney has dedicated his scholarly career to advancing a “comparative” version of this discipline. An “analytic” variety of this field was advocated in a collection edited by Michael Rea and Oliver Crisp. Elizabeth Johnson is a feminist scholar in this field, which was controversially rejected by Mary Daly. Charles Hartshorne applied Alfred North Whitehead’s metaphysical system to this field to create its (\*) “Process” variety. Hamartiology and pneumatology are subfields of this discipline, which historically featured debates over issues like lapsarianism and cessationism. Thinkers in this field, such as Paul Tillich, often produce extensive so-called “Systematic” elaborations of their theory. Thomas Aquinas’s magnum opus is meant to be a *Summa* of—for 10 points—what field named for the “study of God”?

ANSWER: (Christian) theology [accept word forms; accept *theologica* or *theologiae*; accept more specific answers like analytic theology; do not accept or prompt on “religious studies,” “philosophy of religion,” etc.] <JM>

8. A poet from this country asked “Have you forgotten your nobility, which is to sing / The Ancestors the Princes and the Gods, who are neither flowers nor dew drops?” in a poem that sends a “bluff brotherly greeting.” A poem from this country tells the title woman “your solemn contralto voice is the spiritual song of the Beloved” after comparing her to a “Carved tom-tom, taut tom-tom, muttering under the Conqueror’s fingers.” A poet from this country wrote collections like (\*) *Ethiopics* and *Shadow Songs*, which includes the poem “Black Woman.” In a novel from this country, the doctor Modou marries Binetou and abandons his first wife Ramatoulaye. This country, the setting of *So Long a Letter*, was also home to the poet who established the *Négritude* movement. For 10 points, name this home of Mariama Bâ and Léopold Senghor.

ANSWER: Republic of Senegal [or République du Sénégal] (The first poem is Senghor’s “Letter to a Poet.”)  
<MW>

9. Iowa was an early leader in promoting some of these organizations, which Claudia Goldin and Larry Katz attribute to higher levels of social capital and community stability in that state. Caroline Hoxby used a Tiebout-style model to measure how competition among these organizations affects their productivity. Moshe Adler has criticized researchers like Raj Chetty for using “valued-added models” in measuring the effectiveness of these organizations. Parag Pathak won the 2018 Clark Medal for his work studying (\*) allocation mechanisms for them in cities like New Orleans, which uses the OneApp lottery system. The “Death and Life” of these organizations was analyzed in a 2010 book by Diane Ravitch. Workers at these places won a 5 percent pay increase from the West Virginia legislature after wildcat strikes in February 2018. For 10 points, name these places where kids go to learn.

ANSWER: public schools [or public high schools; accept (public) secondary schools; accept school systems] <SB>

10. A leftist group in this country briefly became wildly popular for kidnapping the telecom magnate Ulises Pereyra and for “armed propaganda” like giving stolen casino winnings to the casino’s employees. The “Pact of the Naval Club” in this country ended its “civilian-military dictatorship,” which cracked down on Raul Sendic’s guerrillas after they killed the alleged torture instructor Dan Mitrione. This country once ruled by Juan Maria Bordaberry calls its founding fathers the (\*) “33 Immortals.” Tabare Vazquez and a man called “the world’s humblest head of state” led a leftist coalition that upended the Blanco–Colorado rivalry dominating this country’s politics. This country became the world’s second to legalize recreational marijuana under Jose Mujica, an ex-Tupamaro. For 10 points, name this country that often served as a tax haven for the rich of its southern neighbor across the Rio de la Plata.

ANSWER: Oriental Republic of Uruguay [or República Oriental del Uruguay] <JG>

11. In the 1970s, this singer contributed to the Massenet revival by taking on the title role of *Esclarmonde*. Earlier, this singer had helped kick-start the Handel revival by playing the title role in the first complete recording of *Alcina* [ahl-CHEE-nah]. This singer often collaborated with Marilyn Horne in signature roles like *Semiramide* [say-mee-RAH-mee-day]. Often compared to the similar voice of her near-exact contemporary, Beverly Sills, this singer rose to fame after a 1961 recording and Met début as the title role in (\*) *Lucia di Lammermoor*. For most of her career, this singer would only sing under the baton of her husband, Richard Bonyng. After singing with Maria Callas in *Norma*, this soprano helped revive Bel Canto coloratura roles, and gained the nickname “La Stupenda” for her precision. Nellie Melba was a countrywoman of—for 10 points—what Australian soprano?

ANSWER: Dame Joan (Alston) Sutherland <JR>

12. This author used a word meaning “doglike,” whose translations as “whore” or “bitch that I was” were criticized in an introduction defending the more neutral verb “hounding.” An recent blank-verse translation of one of this author’s poems preserves the exact number of lines in the original and includes the exhortation to “Find the beginning” and “tell the old story for our modern times.” This author was called eminently “rapid,” “direct” in expression, “plain” in ideas, and “noble” in a set of (\*) lectures *On Translating [Him]* by Matthew Arnold. The word “complicated” was used by Emily Wilson to translate a word by this author that’s sometimes translated as “of twists and turns.” A pair of works by this author were introduced and annotated by Bernard Knox for Robert Fagles’s translation. For 10 points, name this blind poet who “wrote” the *Odyssey*.  
ANSWER: Homer [or Homeros] <JR>

13. Kantorovich used the method of majorants to prove this algorithm’s convergence criteria. So-called “quasi-” approaches to this algorithm save computation time by linearly perturbing inverse Jacobians. Traditionally, this algorithm determines the starting trajectory in the shooting method. This algorithm reproduces a Julia set in the complex plane when the input order is at least three. Edmond Halley invented the second-order analog of this algorithm, which is the (\*) first-order Householder method. This technique, which is only exact for quadratic equations, converges faster than bisection or the secant method. Derived from Euler’s method, it iteratively sets the next guess to be the previous guess, minus “ $f$ -of- $x$  over  $f$ -prime-of- $x$ .” For 10 points, name this simple root-finding method named for Joseph Raphson and the Englishman who invented calculus.  
ANSWER: Newton-Raphson method [or Newton’s method] <AS>

14. A hero killed one of these beings after antagonizing it by eating a cartload of food sent as an offering. One of these beings awoke only when a thousand elephants walked over him, after a goddess magically tongue-tied him to ask for “a bed for sleeping” instead of a god’s throne. A half-human son of one of these beings killed thousands of enemies as he died by growing to massive size and falling on them. One of these beings named (\*) Hidimbi gave birth to the hero Ghatotkacha, and one named Vibhishana aided an attack on these beings’ kingdom. One of them was the only being to wield the supreme weapons of all three Trimurti, and earned the name “Indrajit” for his martial prowess. Another of these beings lured a woman from a protective circle by turning into a golden deer so their king could kidnap her. For 10 points, name these often man-eating beings that live in Lanka under their king, Ravana.  
ANSWER: Rakshasas [accept Nri-chakshas or Kravyads; accept Asuras or demons] <JG>

15. In one book, this thinker praised Bernardin de St. Pierre’s *Paul et Virginie* for its truthful depiction of the tropics as part of an obsessive catalogue of literary depictions of nature. In Lord Byron’s *Don Juan*, a stanza that ends “Lady Daphne! Let me measure you” mocks this man for measuring the sky’s “intensity of blue” with his cyanometer. This man converted from Neptunism to Plutonism after visiting the Dolomites with his friend Leopold von Buch, whose “elevation crater” theory of orogeny he supported. This man illustrated the unity of (\*) nature with a map of flora across altitudes called the *Naturgemälde*, which Andrea Wulf discusses in her biography *The Invention of Nature*. During this thinker’s five-year expedition to Latin America, he and Aimé Bonpland nearly summited Chimborazo. For 10 points, name this Prussian naturalist who wrote *Cosmos* and names a current west of South America.

ANSWER: (Friedrich Wilhelm Heinrich) Alexander von Humboldt [do not accept or prompt on “Wilhelm von Humboldt”] <SK>

16. A useful ratio of energy scales in this system exactly equals one-over one plus root-2. Berlin and Kac showed that a spherical or Gaussian form of this system can be solved by making its energy levels continuous. Bond percolation is modeled using this system. Bruria Kaufman used spinors to solve this system despite its periodic boundary condition by using transfer matrices. This system's energy is just a simple hyperbolic tangent term in the case of no (\*) external field. This system is used to model the beta-brass alloy, a lattice gas, and even a spin glass if frustrated atoms are incorporated. This system's two-dimensional case is actually analytically solvable, but as Onsager pointed out, it does have a continuous phase transition. For 10 points, name this simple model of ferromagnetism in which points are represented by interacting up or down spins.  
ANSWER: **Ising** model [or 1D **Ising** model; or 2D **Ising** model] <AS>

17. A piece in this genre mocks a “prince of spite” named Hugo with another text about Nebuchadnezzar's statue. Pieces in this genre that adopted the notational innovations of Franco of Cologne were collected in the Montpellier Codex. Composers of these pieces originated the use of melodic segments called *colors* with repeated rhythmic patterns called *taleas*. All of Philippe de Vitry's surviving works are in this genre. Pieces in this genre, which derived from *clausulae* of Notre Dame organum, were always (\*) polytextual, and often polylingual in the 13th and 14th centuries, when they typically used “isorhythm.” These pieces were replaced in England by “anthems” in the 16th century, when these pieces could be contrasted with secular works like madrigals. For 10 points, give this highly ambiguous term used for a shortish piece of sacred polyphonic choral music.  
ANSWER: **motets** [accept more specific answers like **isorhythmic motets**] <JR>

18. Richard Kearney [CAR-nee] has written about a “carnal” form of this discipline as part of a project he characterizes as a “diacritical” form of this discipline. One of John Caputo's early works interprets Derrida as originating the title *Radical* form of this discipline. A revival of this method was refined in letters exchanged with Count Yorck. A 1960 book in this discipline criticizes the Enlightenment's “prejudice against prejudice.” A form of this method based on “faith” is contrasted with a type exemplified by Freud, Marx, and Nietzsche, who were called “masters of (\*) suspicion” in a book on *[This method] and the Human Sciences* by Paul Ricœur. A phenomenological variety of this method was advocated to replace traditional ontology in *Being and Time*. The reciprocal contributions of wholes and parts to understanding is this method's namesake “circle.” For 10 points, give this term for the theory of interpretation.  
ANSWER: (philosophical) **hermeneutics** <JM>

19. *Description acceptable.* An 1867 book titled for this thing distinguishes between its “efficient” and “dignified” elements. Modern standard definitions of this thing are based on an 1885 book by A.V. Dicey. It's not a financial institution, but early *Economist* editor Walter Bagehot [BAA-jut] titled his first major monograph for this thing. This thing is savagely attacked in the first section of Thomas Paine's *Common Sense*, and its very (\*) existence is called into question in *Rights of Man*. Edmund Burke's *Reflections* contrasts the “natural” accretion of this thing with the “paltry blurred shreds” then being written in France. The Parliament Acts of 1911 and 1949, the 1689 Bill of Rights, and the Magna Carta are often taken to be part of—for 10 points—what “uncodified” collection of laws that govern the parliamentary monarchy of Queen Elizabeth's country?  
ANSWER: **Constitution** of the **United Kingdom** [accept any answer including the word **Constitution** and referring to the **U.K.**, Great **Britain**, or **England**; accept *The English Constitution*] <JR>

20. In an essay, this author joked that Shakespeare should have replaced Hamlet's grave-digger scene with a discussion of palace iconography between Rosencrantz and Guildenstern. That essay by this author described how he used the "rules of probability" to blend "ancient" and "modern" romance. One of this author's characters accuses another of being a necromancer due to the similarity between a black-feather-covered object and an object missing from his grandfather's tomb. This author's wounding by highwayman James MacLaine inspired his friend Thomas (\*) Gray to write "Elegy Written in A Country Churchyard." A villa this author built at Twickenham helped to inspire his novel about Isabella's attempts to escape marriage to the father of her dead fiancé, who is crushed to death by an enormous helmet. Strawberry Hill was designed by—for 10 points—what Gothic author of *The Castle of Otranto*?

ANSWER: Horace Walpole <DS> (The essay is the preface to the second edition of *The Castle of Otranto*.)

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**Packet 13 Bonuses**

1. Cyclophosphamide and cisplatin are often classified in a group of cancer therapies named for effecting this type of chemical transformation on DNA. For 10 points each:

[10] Name this general class of chemical reactions catalyzed by a broad class of chemotherapeutics that act at nitrogen-7 on guanine residues. M·G·M·T repairs damage caused by a spontaneous reaction of this type at O-6.

ANSWER: **alkylation** [or **alkylating** agents; or **methylation**; or **methylation**; or other word forms; or attachment of an **alkyl** or **methyl** group]

[10] Addition of a methyl group to this nucleobase just produces thymine. A fluorinated derivative of this base, which normally replaces thymine in RNA, is used in chemotherapy to block thymidine synthesis.

ANSWER: **uracil** [or 5-fluorouracil]

[10] 5-fluorouracil is a common example of this class of drugs, which stoichiometrically inhibit enzymes by irreversibly forming covalent adducts at the active site. Aspirin is another example.

ANSWER: **suicide** inhibitors <AS>

2. A 1911 imperial decree by the Meiji Emperor claimed that, of these *two* factions, the legitimate one was the one in Yoshino, even though he and generations of his family descended from the one in Kyoto that he decreed to have been illegitimate usurpers. For 10 points each:

[10] Identify these *two* factions of the Japanese imperial family that struggled for legitimacy in the 14th century.

ANSWER: **Northern Court** [or **hokuchō**]

**Southern Court** [or **nanchō**] [accept in either order; accept **Nanboku-chō** period or **Nanboku-chō** jidai]

[10] The Northern Court-Southern Court dispute played out during the Ashikaga government of *this* type, in which the emperor was largely powerless and a central warlord served by regional *daimyo* had real power.

ANSWER: **shogunate** [or **bakufu**; or **tent** government]

[10] The first and most notable Southern Court emperor was *this* one, who overthrew the Kamakura Shogunate and ushered in a brief era of imperial power called the Kenmu Restoration.

ANSWER: **Go-Daigo** [or **Takaharu**] <MJ>

3. This artist created *Six Prayers* to memorialize the Jewish victims of the Holocaust. For 10 points each:

[10] Name this artist who, in 1949, became the first textile designer to have a solo exhibition at the MoMA. This author of *On Designing* and *On Weaving* was featured in a massive 2018 retrospective by the Tate Modern.

ANSWER: **Anni Albers** [prompt on just **Albers**]

[10] Albers dedicated *On Weaving* to “my great teachers, the weavers of ancient [this country].” In this modern country ponchos and *chullo* hats are traditionally made of alpaca fibers.

ANSWER: Republic of **Peru** [or República del **Perú**]

[10] Before writing *On Weaving*, Albers taught at *this* experimental college, which her husband Josef ran for a decade. Merce Cunningham founded his dance company this school, which was located in North Carolina.

ANSWER: **Black Mountain** College <JR>

4. In *Allegories of Reading*, Paul de Man calls Nietzsche and this man “Archie De-Bunkers” who are unafraid to ask, “What’s the difference?”. For 10 points each:

[10] Name this French post-structuralist who attacked the logocentric “metaphysics of presence” using his trademark method of deconstruction in books like *Of Grammatology*.

ANSWER: Jacques **Derrida** [or Jackie Élie **Derrida**]

[10] Derrida entered into an unlikely debate with *this* philosopher after he accused Derrida’s essay “Signature Event Context” of misrepresenting J.L. Austin’s theories. Derrida replied to this author with the mocking book *Limited Inc.*

ANSWER: John (Rogers) **Searle**

[10] This Harvard sociologist attempted to explain the tenor and cause of Derrida’s reception in America in the essay “How to Become a Dominant French Philosopher.” This pioneer of boundary-work employed that methodology in *The Dignity of Working-Men*.

ANSWER: Michèle **Lamont** <JM/DG>

5. Elizabeth Scott’s design for this company’s main theater made her the first female architect to win the competition for a major public project in Britain. For 10 points each:

[10] Name this company that operates three theaters in Stratford-upon-Avon. Its most recent season included a production of *Tartuffe* set in Birmingham’s Pakistani community and a female-led version of *Timon of Athens*.

ANSWER: The **Royal Shakespeare Company** [or **RSC**; prompt on partial answer]

[10] Perhaps the most important director of the RSC was *this* man, who held the role from 1968 to 1986. This director also incorporated a revolving stage into the original Broadway and West End versions of *Les Misérables*.

ANSWER: Trevor **Nunn**

[10] Trevor Nunn returned to the RSC for a 2007 staging of *this* Shakespeare play starring Ian McKellen. Cornwall yells “Out vile jelly!” while gouging out Gloucester’s eyes in this play, whose title character goes insane and shouts “Blow winds, and crack your cheeks!” to a raging storm.

ANSWER: **King Lear** <DS>

6. The Burgers vector is parallel to the line of this type of dislocation. For 10 points each:

[10] Name this type of crystal dislocation formed perpendicular to the direction of stress. It causes atoms to wrap around the line like a helix, and is named for a transformation equivalent to a rotation followed by a translation.

ANSWER: **screw** dislocation [or **screw** defect]

[10] Screw and edge dislocations strengthen materials by decreasing this characteristic length scale, which leads to a corresponding increase in the number of points that pin the dislocations. Yield stress goes linearly with one over the square root of this length scale.

ANSWER: **grain size** [prompt on *d*; prompt on partial answer]

[10] Screw dislocations form from this type of stress, which is parallel, not normal, to the surface that it’s acting on. The modulus for this type of stress is symbolized by a capital *G*.

ANSWER: **shear** stress



7. A work of Callimachus probably inspired the writing of this kind of myth by Roman poets. For 10 points each:  
[10] Name these myths that seek to explain the origins of practices, monuments, and phenomena by referring to events from the mythical past. An example of these myths is Ovid's report that the suicides of Pyramus and Thisbe changed the color of mulberry fruits.

ANSWER: **aetiologies** [accept **aetiology**; prompt on "origin stories"]

[10] Book 5 of Ovid's *Metamorphoses* includes an aetiology in which Ceres's search for Proserpina with torches explains the use of torches in *these* Greek rituals. Initiates into these rituals consumed the psychoactive drug *kykeon*.

ANSWER: **Eleusinian Mysteries** [prompt on partial answer]

[10] In Book I, Ovid's description of the misdeeds of Lycaon aetiologizes *this* animal's savagery. An aetiological myth in the *Fasti* explains the Lupercalia's origin by relating how this animal suckled Romulus and Remus.

ANSWER: **wolf** [accept **he-wolf** or **she-wolf**] <MK>

8. This author's most famous work was thought to be a novel by Lydia Maria Child until the work of Jean Fagan Yellin starting in the 1970s. For 10 points each:

[10] Name this author best known for an autobiographical book in which the protagonist hides in an attic where she can't sit or stand for seven years to avoid Dr. Flint.

ANSWER: Harriet Ann **Jacobs** (The book is *Incidents in the Life of a Slave Girl*.)

[10] This Harvard professor included Harriet Jacobs's narrative in his "Schomburg Library of Nineteenth-Century Black Women Writers." This man used parentheses to enclose the final "g" of the title concept throughout his book *The Signifying Monkey*.

ANSWER: Henry Louis **Gates**

[10] While living in Rochester, Jacobs worked above the offices of *this* man's newspaper *The North Star*. This man's slave narratives include *My Bondage and My Freedom*.

ANSWER: Frederick **Douglass** [or Frederick Augustus Washington **Bailey**] <JR>

9. This singer supposedly moved her prime minister to tears with a 1962 performance of the patriotic song "Aye Mere Watan Ke Logo." For 10 points each:

[10] Name this singer with over a thousand film credits. She won a Filmfare Special Award for the 1992 song "Didi Tera Devar Deewana."

ANSWER: Lata **Mangeshkar**

[10] Filmfare Awards are given to films from *this* popular film industry of India. This Hindi-language industry stereotypically features elaborately choreographed song-and-dance numbers.

ANSWER: **Bollywood**

[10] Mangeshkar is one of *these* singers, who do not appear on-screen but instead pre-record the songs, which the actors then lip-sync. These singers can be contrasted with ghost singers, who dub their parts in after the fact.

ANSWER: **playback** singers <JR>

10. This man's first foreign minister earned the English nickname "Prince of Cadland" because he was a cad. For 10 points each:

[10] Name this ruler. After the death of Felix of Schwarzenberg, Alexander Bach became the leading policymaker of his reign.

ANSWER: Emperor **Franz Joseph** I [do not accept or prompt on partial answer]

[10] Franz Joseph took the throne after Ferdinand I's abdication in *this* year. Schwarzenberg encouraged Ferdinand to step down in an attempt to placate Hungarian revolutionaries.

ANSWER: **1848**

[10] Unlike most of the laws passed by the short-lived 1848 revolutionary parliament, Schwarzenberg and Franz Joseph continued to implement *this* reform across the empire. It began in the German-speaking parts of the empire in 1781.

ANSWER: **emancipation** of the **serfs** [or **emancipation** of the **peasants**; prompt on partial answer; accept any answer describing **freeing** the **serfs** or **peasants**] <SB>

11. A 1939 paper by Dollard, Dobb, Miller, Mowrer, and Sears first presented this hypothesis, which was revised to require the need for activating "cues" by Leonard Berkowitz. For 10 points each:

[10] Name this theory in psychology, which posits that a feeling of being blocked from achieving some goal often precedes violent behavior.

ANSWER: **frustration-aggression** hypothesis [or **Frustration and Aggression**; accept any answer indicating a relation between **frustration** and **aggression**; prompt on **frustration**; do not accept or prompt on synonyms]

[10] This author of *Aggression: A Social Learning Analysis* found that children imitate gestures and phrases they've seen adults use when given a chance to whack a bobo doll.

ANSWER: Albert **Bandura**

[10] A recent hypothesis links aggression to a so-called "warrior gene" coding for *this* enzyme, which breaks down excess dopamine and serotonin. Iproniazid is in an early class of antidepressants that are "inhibitors" of this enzyme.

ANSWER: **monoamine oxidase** A [or **MAO-A**; accept **MAOA** gene; accept **monoamine oxidase** inhibitors; accept **MAOIs**] <MJ>

12. In the *dramatis personae* of one of this author's plays, Badua is identified as the title character's mother, who "complains at the beginning and cries at the end." For 10 points each:

[10] Name this author who critiqued male responsibility for the slave trade in *Anowa*. She addressed cultural contradictions between Africa and its diaspora in the play *The Dilemma of a Ghost*.

ANSWER: (Christina) Ama Ata **Aidoo**

[10] In Aidoo's *Anowa*, an old woman and an old man together fill *this* dramatic role. In classical Greco-Roman tragedy, this role was filled by masked performers who offered the anonymous voice of traditional wisdom.

ANSWER: **chorus**

[10] This play by Wole Soyinka satirizes Aidoo's home country of Ghana. The title dictator of this play tries to modernize his country after ousting King Oba Danlola and demands to be presented with the first yams of the season.

ANSWER: **Kongi's Harvest** <MK>

13. One instance of this action occurred after the Battle of the Allia, and was warned of by squawking geese in the temple of Juno Moneta. For 10 points each:

[10] Name this military objective accomplished by Brennus in the 390s BC, which was later done by the Visigoth chief Alaric in 410 AD and by rowdy troops of Holy Roman Emperor Charles V in 1527.

ANSWER: **sack** of **Rome** [accept any answer indicating a direct attack on or damage to the city of **Rome**]

[10] Brennus was a leader of *these* non-Latin peoples. An eventual consul got the *agnomen* Torquatus by taking a twisty necklace after slaying one of these people in single combat.

ANSWER: **Gauls** [or **Galli**; accept Cisalpine **Gauls**; accept **Senones**; prompt on **Celts** or **Celtae**]

[10] Livy attributed *this* two-word Latin phrase to Brennus, who said it when hurling his sword onto scales to increase the required gold tribute Rome had to pay him. This became a proverbial expression of mercilessness toward defeated foes.

ANSWER: "**Vae victis**" ["why" "WICK"-teess] (roughly: "Woe to the vanquished") <MJ>

14. *Read slowly.* Consider a nondegenerate two-state system, where, relative to some zero-energy reference, State 1 has energy " $kT$ ," and State 2 has energy " $2$  times  $kT$ ," where " $kT$ " is Boltzmann's constant times temperature. For 10 points each:

[10] State 1 is described by what adjective, which refers to the lowest energy state of a system, and therefore, the most likely to be occupied?

ANSWER: **ground** state

[10] Solely in terms of fundamental mathematical constants, and relative to the same reference state, what is the value of the canonical partition function for this system? In decimal form, it's roughly 0.503.

ANSWER:  **$e$  to the negative-one, plus  $e$  to the negative-two** [or **one-over- $e$  plus one-over- $e$ -squared**; or  $\frac{1}{e} + \frac{1}{e^2}$ ; or  $e^{-1} + e^{-2}$ ]

[10] This quantity for the system is about  $0.687 kT$ , or negative  $kT$  times the log of the canonical partition function. This potential is directly linked to the canonical ensemble because its natural variables, temperature and volume, are held constant in the ensemble.

ANSWER: **Helmholtz** free energy [or  **$F$** ; or  **$A$** ; prompt on **free energy**] <AS>

15. Dumisami Muraire invented a system notating the keys of the *nyunga nyunga* form of this instrument from 1 to 15. For 10 points each:

[10] Name this instrument originating in sub-Saharan Africa, which comprises a set of metal tines attached to a resonating board. It is often played with both hands in "3-on-2" cross-rhythms, accompanied by a set of rattling gourds called the *hosho*.

ANSWER: **mbira** [or **thumb piano** or **kalimba** or **marimbula**]

[10] The *mbira* is one of the main instruments played by the Shona people from *this* country. Thomas Mapfumo popularized Chimurenga music as a form of resistance in this present-day country.

ANSWER: **Zimbabwe**

[10] Many of the traditional *mbira* tunings of the Shona, such as *Nyamaropa*, correspond to *these* scales from western music, which include the Mixolydian and the Dorian.

ANSWER: Greek **modes** <SK>

16. A.J. Greimas created a “square” used in this field that shows the relationships between “complementary” concepts like life and death and the “contradictory” ones they entail, like not-life and not-death. For 10 points each:  
[10] Name this academic field that analyzes signs. *A Theory of [this field]* was written by Umberto Eco.

ANSWER: **semiotics**

[10] A.J. Greimas was also an expert in the mythology of *this* country, his birthplace. A poet from this country was better-known for editing his home movies into the five-hour documentary *As I Was Moving Ahead Occasionally I Saw Brief Glimpses of Beauty*.

ANSWER: **Lithuania** (The poet/filmmaker is Jonas Mekas.)

[10] In this 2001 novel, cultural studies professor Chip Lambert joins a scheme to allegedly privatize the entirety of Lithuania. In it, Chip manages to survive a coup and get back to his family home in St. Jude on Christmas Day.

ANSWER: *The **Corrections*** <DS>

17. Joseph Cinque was one of the mutineers aboard this ship, which was rerouted to Long Island from its original destination of Havana, Cuba. For 10 points each:

[10] Name this schooner, a Spanish ship whose onboard slaves were ruled to be free in a landmark Supreme Court ruling after a rousing seven-hour defense by former president John Quincy Adams.

ANSWER: *La **Amistad***

[10] This super-Christian New York businessman bankrolled the *Amistad* defense. He and his brother Arthur co-founded the American Anti-Slavery Society with Theodore Weld, but resigned when it began admitting women.

ANSWER: Lewis **Tappan**

[10] Out of Christian zeal, Lewis Tappan also hired spies to help aggregate *this* type of data about consumers for the first time. His efforts lived on as the company now called Dun & Bradstreet.

ANSWER: **credit reporting** [or **credit score**; accept any answer indicating someone’s ability to repay **credit**] <MJ>

18. Sculptures of five leaders from this civilization stand in the middle of the Hieroglyphic Stairway at Copán. For 10 points each:

[10] Name this Mesoamerican civilization that also produced a huge number of reliefs at the Temple of the Inscriptions at Palenque.

ANSWER: **Mayans**

[10] Much surviving freestanding Mayan sculpture is in the form of *these* carved stone slabs or shafts. Many of these monuments were erected by Axum.

ANSWER: **stelae**

[10] Many of the best-known examples of Mayan art, like the Copán stelae and the frescoes at Bonampak, were created during *this* period of Mayan history.

ANSWER: **Late Classic** [prompt on partial answer] <JR>

19. A-valent examples of this part of speech have no arguments whatsoever. For 10 points each:

[10] Name this part of speech which, in some languages, features distinctions of aspect, such as perfective and imperfective. Some languages have a basic form of this part of speech called the infinitive.

ANSWER: **verbs**

[10] Verbs exhibit *this* feature based on the relationship between its arguments and the action in question. Deponent verbs are written with one form of this feature but mean the other.

ANSWER: grammatical **voice**

[10] Irregular verbs often have wildly varying stems in different tenses and moods due to *this* phenomenon, in which a word's inflected forms originally derive from another word. This phenomenon is exhibited in English by the comparatives "good/better" and "bad/worse."

ANSWER: **suppletion** [accept word forms like **suppletive**] <JM/MJ>

20. This protocol's requirement on handshakes and checksums makes it more reliable but also more time-sensitive than UDP. For 10 points each:

[10] Name this networking protocol which was originally combined with the Internet protocol, or IP, in the D-o-D model.

ANSWER: **Transmission Control Protocol** [or **TCP**]

[10] In the OSI reference model, TCP and UDP falls at this layer, which governs information transfer between two Internet hosts, and is intermediate in the hierarchy between the internet and application layers.

ANSWER: **transport** layer [or Layer **4**]

[10] The handshake in TCP is established when a client sends this signal to the server. A common approach in denial-of-service attacks involves flooding servers with these requests.

ANSWER: **SYN** message [or **synchronize**] <AS>