

2022 ARCADIA □

Edited by Michael Bucknall, Vincent Du, Jacob Egol, Ganon Evans, Jim Fan, Henry Goff, Eric Gunter, Kevin Jiang, Hasna Karim, Caroline Mao, Grant Peet (head), Payton Schubel, Jonathan Shauf, Ashish Subramanian, Kevin Thomas, and Justin Zhang

Written by Josh Abel, Diego Almaraz, Rasheeq Azad, Daniel Cronin, Michael Eng, Ian He, Evan Knox, Ryan Rosenberg, Maya Spencer, Brandon Weiss, Annabelle Yang, Ivvone Zhou, and the editors

Packet 4: Nicki Minaj could, theoretically, be a cryptid

Just think harder that Nicki Minaj is a cryptid, manifest it

Tossups

1. In a novel titled for this place, a parrot named Laverdure squawks, “Talk, talk, that’s all you can do,” to bar patrons. A scene that inspired a poem named for this place caused its author to claim that if he’d been a painter, he’d found a new school of only arrangements in color. Barbara Wright translated the opening of a novel titled for this place as “how·can·ay·stink·so·tho.” A strike at this place thwarts the plans of a ten-year-old staying with her uncle, a ballerina named Gabriel. That Oulipo novel by (*) Raymond Queneau (“kuh-NO”) is titled for “Zazie in” this place. An “English haiku” set in this place evokes a “wet black bough” after describing “the apparition of these faces in the crowd.” For 10 points, name this transit system, a “station” of which titles an Imagist couplet by Ezra Pound.

ANSWER: the Paris Metro [accept *Zazie in the Metro*; accept “In a Station of the Metro”; prompt on Paris; prompt on Station] (The essay is Ezra Pound’s “On ‘In a Station of the Metro.’”)

<HG, European Literature>

2. For the BCS Hamiltonian, the conservation of this quantity is broken by the “*c*-dagger, *c*-dagger, *c*, *c*” term. The expected values of this quantity for bosonic and fermionic energy states differ in whether their denominators add or subtract one to an exponential term. In second quantization, Fock states are eigenstates of this quantity’s operator, which is the product of the annihilation and creation operators. In the (*) canonical ensemble, volume, temperature, and this quantity are held constant. This quantity’s conjugate variable is the chemical potential, which is the energy change when this dimensionless quantity increases by one. For 10 points, name this quantity that, for a mole of gas, is equal to Avogadro’s constant.

ANSWER: particle number [or number of particles; accept occupancy number or occupation number; accept number of atoms or number of molecules; accept number of bosons or number of quanta; prompt on number or N]

<VD, Physics>

3. Francis Fukuyama argued that a decrease in this metric resulted from a decrease in social capital caused by the promotion of the welfare state. William Riker and Peter Ordeshook found that, to increase this metric, the personal gratification one gains must outweigh time and financial costs. That conclusion follows from the Downsian Closeness Hypothesis, which supposes that this metric will increase if the likelihood of (*) decisive contribution for an individual increases. The existence of a compulsory system in Australia results in levels of this metric consistently over 90%, while in the United States, this metric is typically lower in midterm years. For 10 points, name this metric, the ratio of the number of actual participants in an election to the number of eligible participants.

ANSWER: voter turnout rate [or descriptions like the number of votes cast or the number of voters; accept participation rate or participation in elections until “participants” is read; prompt on voting; prompt on political participation]

<KJ, Social Science>

4. Protestors attempting to overthrow this leader rallied behind the quote “we win or we die” sourced from an early 20th-century resistance hero. This leader frequently quoted Omar Mukhtar in his speeches, such as a lengthy one in front of the UN General Assembly during which his official translator collapsed from exhaustion. To avenge an attack that supposedly killed his daughter Hana, this leader accepted responsibility for a hijacked (*) Pan Am flight that crashed over Scotland. With Syria and Egypt, this leader joined the failed Federation of Arab Republics and espoused the state philosophy of *jamāhīriyyah*. This leader exiled King Idris in 1969 and rejected both communism and capitalism in *The Green Book*. For 10 points, name this longtime dictator of Libya.

ANSWER: Muammar Gaddafi [or Muammar al-Qaddafi] ([The Lockerbie Bombing of Pan Am Flight 103 was allegedly in response to the 1986 American bombing of Libya.](#))

<GP, World History>

5. After a stint with Lionel Hampton, this musician formed a short-lived trio with Tal Farlow and Red Norvo. This man became the only musician fired by one bandleader after he pulled an ax off the wall, only to later record *Money Jungle* with him and Max Roach. An F-to-A-flat glissando opens a song by this musician from which Columbia Records removed lyrics like “Oh, Lord, don’t let ‘em shoot us.” As this musician was dying from ALS, Joni Mitchell added lyrics to his (*) tribute to a musician nicknamed “Prez.” With “Haitian Fight Song,” this musician re-released that song on an album titled for five repeats of his last name. This musician’s “Fables of Faubus” appears on an album with a “Theme for Lester Young” named for a piece of headwear. For 10 points, name this jazz bassist who included “Goodbye Pork Pie Hat” on the album [his last name] *Ah Um*.

ANSWER: Charles Mingus [or Charles Mingus, Jr.; accept Mingus Mingus Mingus Mingus Mingus; accept Mingus Ah Um] ([The bandleader is Duke Ellington.](#))

<BW, Auditory Arts>

6. A character created by this author expounds the maxim “old men should act like old men” to juxtapose tradition and modernism. A girl in a novel by this author is saved from a flood at her sewing school by a photographer who later dies of gangrene. In a novel by this author, a husband looks for an illustration of women in a harem while reading through an English translation of the *Arabian Nights* after he meets his father-in-law’s mistress (*) O-hisa at a bunraku performance. This author described a vindictive merchant who receives two thousand yen in order to keep quiet about the miscarriage of his former lover, a doll-maker, in a novel titled for falling snow. Another novel by this author describes the waning marriage of Misako and Kaname. For 10 points, name this author of *Some Prefer Nettles* and *The Makioka Sisters*.

ANSWER: Jun’ichirō Tanizaki

<GP, World Literature>

7. It’s not corn flakes, but Christina Tosi toasted this food and used it as a base for a butterscotch-like sundae topping at Milk Bar. Black cod is marinated for two to three days with this food and seasonings in Nobu’s signature dish. A biscuit recipe made with buttermilk and this food in *Dessert Person* is eaten with a side of butter and this food; Momofuku popularized that compound butter with this food. Along with *shio* and *shōyu*, this non-pork product is the third common seasoning for (*) ramen broth. This food is produced by adding *kōji* to a salted mash and fermenting a second time. The red variety of this food is stronger and more savory than the yellow or white varieties. For 10 points, a Japanese soup with tofu, seaweed, and scallions has a base made from what fermented soybean paste?

ANSWER: miso [accept white miso or shiromiso; accept red miso or akamiso; accept yellow miso or awasemiso; accept miso soup or misoshiru]

<RR, Other Academic>

8. Criticism of this policy arose from a “witch hunt” after the Hickam Incident and from the murder of Barry Winchell. Zoe Dunning challenged the “propensity to engage” standard in this policy that led to pitfalls called

“rebuttable presumptions.” C. Dixon Osborn’s book *Mission Possible* describes how the SDLN discredited this policy after it targeted thirty-two Arabic linguists during the Iraq War. Charles Markos coined the name for this policy, which was first implemented under Les Aspin. Training guides titled (*) “Dignity and Respect” explained this policy as promoting “high moral standards” and “unit cohesion.” The Joint Chiefs of Staff oversaw the repeal of this policy in 2010 after it had discharged over 13,000 people since 1994. For 10 points, name this Clinton-era policy regarding gay or bisexual members of the U.S. military.

ANSWER: Don’t Ask Don’t Tell [or D.A.D.T]

<GE, American History>

9. Objects must be named by a “stable” one of these things before its type members can be used in Scala. The link-state and distance-vector protocols implement different algorithms to compute these things. In all caps, these things name a Unix environment variable that lists locations a shell will look for programs in.

Kosaraju’s algorithm identifies components in which one of these things exists between every pair of elements. The (*) A-star heuristic modifies an algorithm for computing these things that maintains a priority queue of unvisited vertices. In tree-like filesystems, files are identified by one of these things delimited by slashes. Dijkstra’s (“DIKE-struh’s”) algorithm finds the shortest one of these things. For 10 points, what sequences of edges describe how to get from one vertex to another in a graph?

ANSWER: paths [accept routes; accept directed path; accept file paths; accept shortest paths; accept path-dependent types] (The environment variable is \$PATH.)

<RA, Other Science: Computer Science>

10. Note to moderator: read the answerline carefully.

Description acceptable. One paper by Neil Burgess suggests that the egocentric and allocentric models of this type of information work in parallel to support behavior. A pool of opaque water is used to assess learning of this kind of information in one task developed by Richard Morris. A paper about this information’s effects on brain structure by Eleanor Maguire et al. compared controls with individuals who had passed a test called (*) “The Knowledge.” Ento-rhinal grid cells are one way that the brain encodes this type of information, which, along with cells discovered by John O’Keefe, were the basis for the 2014 Nobel Prize in Medicine. In Baddeley’s model of working memory, visual information and this type of information name a “sketch pad” component. For 10 points, remembering what type of information might help a mouse make it through a maze?

ANSWER: spatial information [accept spatial memory; accept spatial learning; accept location; accept navigation; accept place; accept mental maps; accept visuospatial sketch pad; accept word forms of answers like space or ability to navigate; accept place cells; accept descriptions of knowing where streets are or where objects are or where a creature is; prompt on VSSP]

<EK, Social Science>

11. One thinker divided this concept into “intensive” and “extensive” forms while discussing how it “in itself” forms the basis of ideas, or multiplicities. This is the second title concept of a collection that includes an essay that criticizes Emmanuel Levinas for arguing that only face-to-face interaction can be ethical. This concept is likened to a mathematical derivative in a Gilles Deleuze book titled for this concept “And (*) Repetition.” A phonetically identical misspelling of this term denotes the unstable nature of the meaning in a text and was coined by Jacques Derrida, who published a book titled for “Writing and” this term. This condition does [emphasize] *not* hold true in a situation where objects are indiscernible according to Leibniz’s Law. For 10 points, name this condition that is the opposite of identity.

ANSWER: difference [accept descriptions of two things being different; accept discernibility or being discernible until “indiscernible” is read; reject “distinguishability” or “distinguishable”] (The book in the first line is *Difference and Repetition*, and the book in the second line is “Violence and Metaphysics” from the collection *Writing and Difference*.)

<HG, Philosophy>

12. This figure appears chained to a cell's bars in an overdoor fresco from the Room of Heliodorus. A shovel appears under a worker pushing this figure on his back in a painting that hangs across from its artist's *Conversion of Saint Paul* in the Cerasi ("chay-RAH-zee") Chapel. Copies of the Arch of Constantine flank an open plaza in a fresco in which this figure appears kneeling. This figure squats next to an ocean amidst barren trees in a fresco from the (*) Brancacci Chapel. Christ extends a gift to this figure in the central scene of a Perugino fresco in the Sistine Chapel. Masaccio's *The Tribute Money* depicts a story about this figure. For 10 points, name this figure commonly depicted in Renaissance art in blue and yellow robes holding the keys to the Holy See.
ANSWER: Saint Peter [or Simon; or Simeon; or Simon Peter]
<GE, Visual Arts>

13. Background noise produced by these entities can be accounted for in single-beam source modulation setups by measuring signal when a circular chopper blocks the source. Each element's unique profile of absorbance versus the height of this entity can be used to determine the optimal height of these entities in one technique. Sample holders may nebulize the analyte before treating it with one of these entities in atomic (*) absorption spectroscopy. In gas chromatography, eluted analytes can be detected by ionizing them with one of these things. The primary zone of these entities provides the most energy for breaking bonds before elemental analysis. When sodium is inserted into one of these things, it creates a yellow-orange color. For 10 points, name this phenomenon that can be generated by combusting a fuel source.
ANSWER: flames [accept fire; prompt on heat; prompt on temperature; prompt on plasma; prompt on slotted burner or total consumption burner or Bunsen burner by asking, "What entity does that create?"]
<JZ, Chemistry>

14. After this organization burned down the house of Nicolaus Copernicus, he organized a defense of Allenstein. Nicholas von Renys was cast as a scapegoat for the failures of this organization because he founded the disloyal Lizard League. Frederick II ("the second") authorized the transfer of territory to this organization in the Golden Bull of Rimini. This organization signed the Peace of Thorn after a defeat to (*) Jogaila ("yo-GAI-luh") and Vytautas the Great. Members of this organization drowned en masse due to their heavy armor when confronting Alexander Nevsky at the Battle on the Ice. Grand Master Hermann von Salza led this organization in absorbing the Livonian Order. For 10 points, name this Germanic militant order that expanded its territory through the Northern Crusades.
ANSWER: Teutonic Order [or Teutonic Knights; prompt on Livonian Order until read by asking, "The Livonian Order was a branch of what organization?"] (The Lizard League was blamed for defeat at the Battle of Grunwald, the unnamed battle in the fourth sentence.)
<GP, European History>

15. One of these two characters compares her feelings for the other to "the eternal rocks beneath: a source of little visible delight, but necessary." One of these two characters remarks of the other, "Whatever our souls are made of, his and mine are the same." The narrator disregards notions of "unquiet slumbers...in that quiet earth" for these two characters after it is suggested that their ghosts have been seen walking together. A sexton is bribed to (*) disinter one of these characters by the other, who wishes for them to be buried in a joint coffin. One of these two characters refuses to marry the other because it would "degrade" her, but declares her love for him to Nelly Dean despite her choice to marry Edgar Linton, the heir to Thrushcross Grange. For 10 points, name these two embittered lovers in Emily Brontë's novel *Wuthering Heights*.
ANSWER: Heathcliff AND Catherine Earnshaw [accept Cathy or Earnshaw in place of "Catherine"]
<HG, British Literature>

16. A 2010 Met production of this opera starring Roberto Alagna and Elīna Garanča features the recurring visual motif of a red and black sash. Tenors often ignore the *pianissimo* marking at the top of a *rallentando* ascending B-flat minor scale in an Act II aria from this opera. Two characters sing “*C’est toi! C’est moi!*” at the end of this opera before another character throws a ring back at him. A brawl in this opera is interrupted by the arrival of (*) Micaëla (“mee-ka-EH-la”), who tells a character that his mother is ill. This opera’s lead tenor details keeping a “withered and dry” flower while imprisoned in this opera’s “Flower Song.” A crowd cheers on Escamillo (“es-ka-MEE-yoh”) while Don José (“don joh-ZAY”) murders this opera’s title character during a reprise of the “Toreador Song.” For 10 points, name this opera whose title character sings a “Habanera,” by Georges Bizet.

ANSWER: Carmen (question co-written by IZ)

<JA, Other Arts: Auditory>

17. During this event, a sobbing character is reminded of “what the angel Raphael said to the boy Tobias.” A girl cries, “I cannot, I cannot,” upon being asked to appear at this event by a man who claims that “God’s icy wind will blow,” foreshadowing the apparent blowing of a cold wind during this event. A group at this event begins to repeat another character’s lines after their leader sees an invisible yellow bird in the rafters. Due to her new pregnancy, a woman is (*) reprieved from this event, despite being found with a “poppet” stuck with a needle. The protagonist insists that “a man will not cast away his good name” after revealing his adultery during this event in an attempt to discredit Abigail Williams. For 10 points, identify this event that results in John Proctor’s conviction in an allegorical Arthur Miller play.

ANSWER: the witch trial in *The Crucible* [or the trial in *The Crucible*; or the trial of Martha Corey; accept the trial of John Proctor or the Salem witch trials]

<HG, American Literature>

18. In a speech, this man claimed that men tolerate the praising of other’s deeds so long as they believe they can do similar ones, but if those deeds become magnified, then they will turn envious. This leader opened a speech by suggesting that the brave deeds of men should not be eulogized out of fear that their reputation would be imperiled by a speaker’s lack of eloquence. Courage is equated with freedom and freedom with happiness in a speech made by this (*) “squill-headed” politician who declared that “the whole earth is the tomb of famous men.” This politician who coined the phrase “equal justice for all” also praised the administration “in the hands of the many and not of the few” of a city dubbed “the school of Hellas.” For 10 points, Thucydides (“thoo-SID-did-ees”) recorded the “Funeral Oration” of what politician who led Athens during the Peloponnesian War?

ANSWER: Pericles [or Perikles]

<GE, Other History: Ancient>

19. A molecule misleadingly named for inhibiting this process actually promotes it in antiphospholipid syndrome. A “flush” of a drug that opposes this process is used after a saline rinse in intravenous devices like catheters. Certain *CYP2C9* and *VKORC1* genotypes require lower initial doses of a drug that opposes this process, whose (*) low molecular weight varieties are easier to metabolize. Tests of this process include aPTT and PT. Tissue factor is involved in this process’s extrinsic pathway, whose effects are amplified by the Factor VIII- (“eight”) mediated intrinsic pathway. Coumarin and warfarin inhibit this process, which ultimately converges into a cascade involving thrombin’s cleavage of fibrinogen to fibrin. For 10 points, hemophilia is a defect in what process by which blood gels to prevent blood loss?

ANSWER: blood coagulation [or blood clotting; accept word forms like coagulate or clot]

<EG, Biology>

20. According to the Sultan-tepe Tablets, seven wax figures of these creatures were burned in a ritual dedicated to the god Ninkilim. In one hymn, Inanna’s arrows are compared to the destructive teeth of these creatures. Phidias constructed a statue of Apollo Parnopios because the god drove these creatures from

Attica. Those who lack God's seal will be tormented by crowned, human-headed versions of these creatures led by Abaddon. Near Eastern texts metaphorically refer to these creatures to emphasize (*) multitudes of objects or people as well as devastation. These creatures were consumed by the "voice of one crying out in the wilderness" as he wandered around baptizing people. Everything that remained after the hail was consumed by these insects during the Eighth Plague. For 10 points, John the Baptist subsisted on wild honey and what agricultural pests?

ANSWER: locusts [prompt on grasshoppers; prompt on insects or vermin until "insects" is read]

<KT, Beliefs>

Bonuses

1. Princeton historian Arno Mayer has classified the First and Second World Wars as one lengthy period, calling it the second edition of this conflict. For 10 points each:

[10m] Name this conflict whose resolution gave rise to the idea of states having unfettered sovereignty over their territory.

ANSWER: **Thirty Years' War**

[10e] Mayer cast a peace conference in this city during the "Thirty Years' Crisis" as the struggle between "old" and "new" diplomacy, with the latter being characterized by Woodrow Wilson's Fourteen Points. That peace conference in this city produced the Treaty of Versailles.

ANSWER: **Paris**

[10h] Mayer's view of the Holocaust as the culmination of the "Thirty Years' Crisis" places him outside the bounds of two historiographical viewpoints that seek to determine whether or not the Final Solution was a premeditated decision from Hitler himself. Name either.

ANSWER: **functionalism** OR **intentionalism** [accept word forms like **functionalist** OR **intentionalist**]

<GP, European History>

2. In line with his philosophy of using local materials, Burkinaabe architect Francis Kéré used this material for schools in his hometown of Gando. For 10 points each:

[10e] Name this material widely used in Sudano-Sahelian architecture as well as in *sukhala* and *tata-somba* houses. The Great Mosque of Djenné is made from bricks of this material from the banks of the Niger River.

ANSWER: **mud** [accept **adobe** or **mudbrick**; prompt on **soil** or **dirt** or **silt** or **loam** or **clay** by asking, "What do you get by mixing that with water?"]

[10m] In his buildings in Gando, Kéré uses raised roofs and underground pipes for this purpose. The Eastgate Centre in Harare takes inspiration from termite mounds to achieve this purpose.

ANSWER: passive **ventilation** [or natural **ventilation**; accept passive **cooling** or natural **cooling**; accept air **circulation**; accept **air conditioning**; accept descriptions of **cooling** a building]

[10h] Kéré was inspired by maypoles to incorporate this design feature into Munich's TUM Tower. Johnny Örbäck ("ER-beck") encouraged the construction of the first skyscraper with this design feature after seeing an artist's marble sculpture.

ANSWER: **twisting** [accept **torsion**; accept a **helix** shape; accept **turning**; accept **Turning Torso**]

<AS, Other Arts: Visual>

3. A June 2022 paper in the *New England Journal of Medicine* reported that treatment of 18 rectal cancer patients with dostarlimab, a drug of this class, led to an incredible remission rate of 100%. For 10 points each:

[10h] Name this class of monoclonal antibody drugs whose name is derived from the functions of their target proteins, which include PD-1, PD-L1, or CTLA-4.

ANSWER: immune **checkpoint inhibitors**

[10e] PD-1 checkpoint inhibitors are especially useful for treating cancers deficient in mismatch repair, which display microsatellite instability in the sequence of this double helical molecule that comprises the genome.

ANSWER: **DNA** [or **deoxyribonucleic acid**]

[10m] More traditional chemotherapies like doxorubicin and thalidomide target cancer cells' DNA directly via this mechanism. Ethidium bromide's ability to do this with DNA makes it useful for visualizing DNA in gels.

ANSWER: DNA **intercalation** [accept word forms like **intercalating**]

<IZ, Biology>

4. This country's dramatic work *El Güegüense* ("gwuh-GWEN-say"), one of the oldest indigenous works of theater in the Americas, centers on the title old man of Nahua folklore and his subversion of Spanish authority. For 10 points each:

[10m] Name this country whose upper classes are satirized by a "bourgeois king" in a story from the collection *Azul...*, by the founder of *modernismo*.

ANSWER: Nicaragua [or Republic of Nicaragua or República de Nicaragua] (Darío never saw a performance of *El Güegüense* himself, but he did note that "*El Güegüense* speaks for the people" of Nicaragua in an interview.)

[10h] The tradition of performing *El Güegüense* has declined due to controversy over its use to satirize these people. In a novel titled for one of these people, General Canales is framed for the Zany's murder of Colonel Sonriente.

ANSWER: presidents [accept *El Señor Presidente* or *Mister President*; accept presidents of Nicaragua or presidentes de Nicaragua or presidents of Guatemala or presidentes de Guatemala; prompt on politicians or políticos; prompt on dictators or dictadores] (*El Señor Presidente* is by Miguel Ángel Asturias.)

[10e] *El Güegüense* is often noted for its stylistic similarities to this people's play *Rabinal Achí*. Miguel Ángel ("AHN-hale") Asturias's novel *Men of Maize* takes its title from the *Popol Vuh*, the foundational narrative of these people.

ANSWER: Mayans [accept K'iche']

<AS, World Literature>

5. Following their accidental unearthing, the Senate allegedly burned seven or eleven "sacred books" containing the teachings of this nymph. For 10 points each:

[10h] Name this prophetic water nymph who may be conflated with the Etruscan Vegoia. This nymph's nightly consultations with her lover, Numa Pompilius, contributed to the king's wise policies.

ANSWER: Egeria

[10e] With the advice of Egeria, Numa managed to outwit this Roman god when negotiating a sacrifice of onions, hair, and fish rather than human heads in exchange for protection against lightning strikes.

ANSWER: Jupiter

[10m] Egeria told Numa that Jupiter dropped the first of twelve of these objects called the *ancilia* to ensure the salvation of Rome. The Sabines used these objects to crush the traitorous Tarpeia to death.

ANSWER: shields [or bucklers]

<MB, Beliefs>

6. Lars Calmfors and John Driffill theorized that as the magnitude of this activity increases, unemployment increases to a point and then decreases, forming a U-shaped relationship. For 10 points each:

[10e] Name this activity through which trade unions may negotiate increased wages and more stringent health and safety regulations for the workers whom they represent.

ANSWER: collective bargaining

[10m] According to the World Bank, the decreased welfare from collective bargaining represented by this quantity is roughly comparable to it for a monopoly. Arnold Harberger calculated this quantity based on demand curves by returning tax revenues to consumers.

ANSWER: deadweight loss

[10h] This economist defined deadweight loss as the fraction of society's resources that can be abandoned without any loss in aggregate utility. In a 1970 paper, this economist found that every economy has a finite set of equilibria.

ANSWER: Gérard Debreu

<KJ, Social Science>

7. The ratio of the probability of forward to backward trajectories is related to the production of this quantity by the Crooks fluctuation theorem. For 10 points each:

[10e] Name this quantity that is treated as a random variable in stochastic thermodynamics, whose change must be greater than or equal to zero for a closed system according to the second law of thermodynamics.

ANSWER: **entropy** [accept **S**]

[10h] The Crooks fluctuation theorem implies this other nonequilibrium relation, which bounds the free energy difference between two states by the average work done over all possible trajectories between them.

ANSWER: **Jarzynski** equality

[10m] Nonequilibrium thermodynamic relations are tested experimentally by manipulating an RNA hairpin loop with one of these devices. These devices use lasers to create a 3D potential well, which can trap cells and biological macromolecules.

ANSWER: **optical tweezers** [prompt on **tweezers**]

<VD, Physics>

8. A five-day-long rendition of *The Wedding of Meho Smailagić* (“SMY-luh-gich”) by a poet of this ethnicity, Avdo Međedović (“MED-jed-oh-vich”), was used as evidence that Homer could write poems as long as the *Iliad*. For 10 points each:

[10m] Name this ethnicity. Two Irish scholars investigate the links between this ethnicity’s oral epics and Homer in *The File on H.*, a novel by an author of this ethnicity named Ismail Kadare.

ANSWER: **Albanians** [or **Shqiptarët**]

[10e] Philologists like Friedrich August Wolf pushed the discredited theory that Homer’s *Iliad* was orally composed in pieces and then compiled, like this Finnish epic about Väinämöinen compiled by Elias Lönnrot.

ANSWER: **Kalevala**

[10h] After listening to Avdo Međedović, these two scholars proposed that memorizing and transmitting oral epics was done by repeating certain key phrases, known as their hypothesis or as oral-formulaic composition. Name both.

ANSWER: Milman **Parry** AND Albert **Lord** [accept **Parry-Lord** hypothesis or **Parry-Lord** theory]

<AS, European Literature>

9. Reena Esmail invokes *Raag Malhar* to honor Meerabai in a piece based on this country’s music. For 10 points each:

[10e] Name this country whose Hindustani music inspired Esmail’s *Vishwas* for *bharatanāṭyam* (“buh-ruh-tuh-NAHT-yum”) dancer and orchestra.

ANSWER: **India** [or **Bharat**]

[10m] Esmail uses a different raga for each movement of her work-in-progress *Darshan*, a violin piece in this genre. J.S. Bach included a D-minor chaconne in his second of three solo violin pieces in this genre, which he paired with three sonatas.

ANSWER: **partita** [accept J.S. Bach’s Six Sonatas and **Partitas**, BWV 1001-1006]

[10h] Esmail arranged *Dadra in Raga Bhairavi* for this ensemble, which commissioned her arrangement of *Amrit* for its project “Fity for the Future.” David Harrington founded this ensemble after listening to a piece comprised of “Thirteen Images from the Dark Land.”

ANSWER: **Kronos Quartet** (The unnamed piece is *Black Angels*.)

<JE, Auditory Arts>

10. When this explorer wasn’t eating Galápagos penguins or flamingos in Cabo Verde, he was busy coining words such as “chopsticks,” “barbecue,” “cashew,” “kumquat,” “tortilla,” and “soy sauce.” For 10 points each:

[10h] Name this first Englishman to explore Australia, although his racist depictions of indigenous Australians greatly influenced the British colonization of Australia and the ensuing genocide.

ANSWER: William **Dampier**

[10m] Dampier’s writings also coined the name of this fruit. Joseph Banks sent William Bligh on an ill-fated 1787 mission to transport this plant from Tahiti to the West Indies.

ANSWER: **breadfruit**

[10e] Dampier also published the first English-language recipe for guacamole based on his time in this Central American country. Theodore Roosevelt supported the construction of a waterway in this modern-day country.

ANSWER: **Panama** [or Republic of **Panama** or República de **Panamá**; accept **Panama** Canal or Canal de **Panamá**]

<AS, Other History: British>

11. In a play set during this decade, Ralph Berger determines to stay in the Bronx, rather than run away, after his grandfather makes him the beneficiary of his life insurance. For 10 points each:

[10m] Name this decade, the setting of the play *Awake and Sing!* and a play in which several vignettes intercut scenes of Harry Fatt trying to convince a group of taxi drivers to keep working.

ANSWER: **1930s**

[10e] Clifford Odets's pro-labor Great Depression plays inspired early plays by this author, such as *Fugitive Kind*. This author's later plays depict Depression-affected Southern belles like Amanda Wingfield and Blanche Dubois.

ANSWER: Tennessee **Williams** [or Thomas Lanier **Williams** III]

[10h] The alcoholic farmer Dodge blames the Great Depression for the downturn in his corn yield in this 1979 play. At the end of this play, Dodge's wife Halie disinters the baby that she had conceived with their son Tilden.

ANSWER: **Buried Child** (by Sam Shepard)

<HG, American Literature>

12. During the second of these events, George Wythe outlined the Model Treaty as a template for future international commercial ventures such as free ports and a contraband list. For 10 points each:

[10e] Name these legislative assemblies, the second of which in Philadelphia included the signing of the Declaration of Independence.

ANSWER: **Continental Congresses** [accept the Second **Continental Congress**]

[10m] The actual Model Treaty was first written in this man's diary. This man was warned, "Do not put such unlimited power into the hands of the husbands," by a "Miss Adorable" with whom he exchanged over 1,000 letters.

ANSWER: John **Adams**

[10h] The Model Treaty was the basis for this trade compact with France that ended the Quasi-War and re-established economic relations that led to the Louisiana Purchase three years later.

ANSWER: **Convention of 1800** [or the Treaty of **Mortefontaine**]

<JF, American History>

13. The world's largest one of these neighborhoods in Flushing, Queens rapidly grew as a Little Taipei that drew Mandarin speakers from the traditionally more Cantonese speaking examples of these places. For 10 points each:

[10e] Name these places. Some of the oldest of these neighborhoods in the world are in West Coast cities like San Francisco and Vancouver due to early waves of Taishanese immigrants.

ANSWER: **Chinatowns** [or **Tánggrénjiē** or **Huábù** or **Zhōngguóchéng**; accept **Tòhngvǎhngāai** or **Wǎhfauh** or **Jūnggwoksíhng**; accept **Hohng-ngih-ngàih** or **Vahfèu** or **Zuunggōksiahng**]

[10m] Flushing Chinatown is one of many of these islands of high concentrations of an ethnic group in Queens. These two-word areas preserve rarer immigrant languages like Vlashki, Garifuna, and Masalit in New York City.

ANSWER: **ethnic enclaves**

[10h] One of Queens's most famous ethnic enclaves is of this ethnic group in Richmond Hill. Members of this group may syncretize obeah into Phagwa ("**PAH-gwuh**") celebrations and eat dishes like doubles and pholourie ("**puh-LO-ree**").

ANSWER: **Indo-Caribbeans** [accept equivalents like **Indian** diaspora in the **Caribbean**; accept subgroups like **Indo-Trinidadians** or **Indo-Guyanese** or **Indo-Surinamese**; prompt on partial answers like East **Indians** or **Trinidadians** or **Guyanese** or **Surinamese** or **Caribbeans** or **West Indians**]

<BW, Geography>

14. Interwoven kamacite and taenite mineral bands form Widmanstätten patterns in meteorites that are mostly made of these two metals. For 10 points each:

[10e] Name these two elements. During Earth's planetary differentiation, a dense alloy of these two metals sunk below rocky silicate-rich melts to form Earth's inner and outer core.

ANSWER: **iron** AND **nickel** [or **Fe** AND **Ni**]

[10h] On a smaller scale, magmas differentiate as denser minerals formed from this two-word process deposit out of a magma chamber. In mafic magmas, the discontinuous branch of Bowen's reaction series describes how this two-word process forms olivines and then pyroxenes.

ANSWER: **fractional crystallization** [or **crystal fractionation**; prompt on **crystallization**]

[10m] This process is a key source of heat for partial melting during planetary differentiation. Most of the Earth's non-residual internal heat is sourced from this process.

ANSWER: **radioactive decay** [accept word forms like **radioactivity**; accept **radiogenic** heat; prompt on **decay**]

<VD, Other Sciences: Earth Sciences>

15. In a Talmudic tale, a maiden makes a covenant of marriage with the man who saved her in front of Heaven, a mole, and one of these locations. For 10 points each:

[10h] Name these locations, one of which near Sychar was frequented by the five-times widowed Photine, who asked a man if he was greater than that location's namesake. The Foundation Stone sits above one of these locations in Jerusalem.

ANSWER: **wells** [accept Jacob's **well**; accept **well** of Sychar] (The tale is "The Mole and the Well.")

[10m] God opens this woman's eyes to reveal a well after she had placed her dying son underneath a bush. This Egyptian princess was given as a maidservant to a mistress whose barrenness this woman later disparages.

ANSWER: **Hagar**

[10e] This son of Isaac and brother of Esau meets his second wife, Rachel, while she is drawing water from a well. This patriarch was given the name Israel after he wrestled with an angel of God.

ANSWER: **Jacob** [or **Ya'akov**]

<EK, Beliefs>

16. This substance can act as a source of an electrophile that Grignard ("GRIN-yard") reagents can attack to form carboxylic acids. For 10 points each:

[10e] Name this cold substance that can bring an acetone solution down to negative 78 degrees Celsius. This substance sublimates into a greenhouse gas.

ANSWER: **dry ice** [accept **frozen CO₂**, **frozen carbon dioxide**, or **solid CO₂**; prompt on **CO₂** or **carbon dioxide** by asking, "In what form?"]

[10m] A dry ice-acetone mixture is commonly used in rotary evaporators, which contain a "trap" for this phenomenon of rapid bubbling that occurs when vacuum formation or heating is applied too quickly.

ANSWER: **bumping**

[10h] Water is incredibly tedious to remove on a rotovap. Instead of increasing temperature and reducing pressure, these devices employ rapid cooling below the triple point and feature a secondary adsorption phase.

ANSWER: **lyophilizers** [accept **freeze dryers**]

<ME, Chemistry>

17. A painting depicting one of these events inspired Mary Beth Edelson to replace men with cut-out photographs of *Some Living American Women Artists*. For 10 points each:

[10m] Name these events that form the setting of a triangular installation with circular, vulva-like artworks at spots reserved for prominent women like Artemisia Gentileschi and Mary Wollstonecraft.

ANSWER: supper [or a dinner party; accept *The Dinner Party*; accept *The Last Supper*; prompt on meals; prompt on party or parties]

[10e] This artist replaces Jesus Christ in Edelson's collage. The last place setting in Judy Chicago's *Dinner Party* represents this artist who created many paintings of flowers and cow skulls in New Mexico.

ANSWER: Georgia O'Keeffe [or Georgia Totto O'Keeffe]

[10h] This Venezuelan-American Pop artist created a sculptural *Self-Portrait Looking at The Last Supper* and depicted fifteen figures made of carved wood and adorned in found consumer goods in her sculpture *The Party*.

ANSWER: Marisol [or Marisol Escobar]

<CM, Visual Arts>

18. One of David Lewis's only ethical works argues that punishment can be legitimate despite this concept using a thought experiment using snipers named Tweedle Dee and Tweedle Dum. For 10 points each:

[10m] Name this two-word concept discussed in a Thomas Nagel article, which can arise when we succeed or fail at bad actions purely by chance.

ANSWER: moral luck (The name of Lewis's essay is *The Punishment that Leaves Something to Chance*.)

[10h] Though not addressed by name in Lewis's article, the "control principle" is central to this philosopher's introduction to moral luck in a 1981 essay. This philosopher also wrote *Ethics and the Limits of Philosophy*.

ANSWER: Bernard Williams [or Sir Bernard Arthur Owen Williams]

[10e] Lewis's essay rejects the view that punishment is justified through its ability to deter crime, an argument associated with this school of thought founded by John Stuart Mill.

ANSWER: utilitarianism

<MB, Philosophy>

19. The definition of masculinity in postwar British literature was represented by men with this job such as Tom Beeson, the love interest in Martyn Goff's novel *The Plaster Fabric*. For 10 points each:

[10m] Name this profession of a character whose friendship with Evans has been read as a sign of repressed homosexuality. That man with this former job takes a walk in the park with his wife Lucrezia.

ANSWER: soldier [accept guard] (The unnamed character is Septimus Smith from *Mrs. Dalloway*.)

[10e] *The Plaster Fabric* is characterized by a repressed nature of sexual writing that was typical in Britain until a 1960 obscenity trial failed to uphold the censorship of this D. H. Lawrence novel.

ANSWER: Lady Chatterley's Lover

[10h] Another repressed 1950s British homosexual is Toby Gashe, who confesses to kissing Michael in this author's novel *The Bell*. In a novel by this author, Charles Arrowby obsesses over Mary Hartley Fitch while living at a coastal cottage.

ANSWER: Iris Murdoch (The second novel is *The Sea, The Sea*.)

<GP, British Literature>

20. A national reforestation project has brought together opposing sides from this conflict to repair ecological damage done during it. For 10 points each:

[10h] Name this conflict sparked by the 1993 assassination of Melchior Ndadaye ("un-dah-DAH-yay") and ended by the election of Pierre Nkurunziza ("ung-koo-roon-ZEE-zah"). Ndadaye's successor, Cyprien Ntaryamira ("un-tar-yah-MEE-rah"), was killed in the same plane crash that killed Juvénal Habyarimana.

ANSWER: Burundian Civil War [or Ingwano mu Burundi or Intambara mu Burundi or Guerre civile burundaise]

[10e] Wangari Maathai's Green Belt Movement promoted the planting of "trees of peace" in this country to empower rural women and protest against the regime of Daniel arap Moi, who led from Nairobi.

ANSWER: Kenya [or Republic of Kenya or Jamhuri ya Kenya]

[10m] Deforestation in Uganda caused by this warlord has prompted tree planting movements. A viral 2012 documentary attempted to aid in capturing this leader of the Lord's Resistance Army.

ANSWER: Joseph **Kony** [accept **Kony** 2012]

<AS, World History>