

FLopen 2020

Packet M: Probably a better idea than CLEAF

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Tossups

Note to moderator: read the answerline carefully.

1. **In one of these works, a priest abandons his plan to study in Rome after his thesis calling masturbation “the citadel of ecclesiastic chastity” is rejected. Because of his poor memory, the author of these works repeatedly uses the name Ezequiel Delfín in them. In several of these works, characters who are fifty years old are repeatedly described as being in the “prime of life.” Two cooks beat up the author of these works after hearing the bigoted passage “I’m an (*) Argentine, I kill children.” A Jehovah’s witness mechanic who was accused of rape tries to cut off his penis with a letter opener to prove his innocence in one of these works. The Bolivian author of these works produces them on a Remington typewriter stolen from the narrator, Mario. For 10 points, name these works broadcast on Radio Panamericana, written by Pedro Camacho in a novel by Mario Vargas Llosa.**

ANSWER: Pedro Camacho’s **soap operas** [accept **radio** shows or programs from *Aunt Julia and the Scriptwriter* until “Radio” is read; accept **radionovela** or **radioteatro**; accept radio **serials** or **radio plays**; accept **scripts** from *Aunt Julia and the Scriptwriter*; prompt on *Aunt Julia and the Scriptwriter* or *La tía Julia y el escribidor*; prompt on **novels** or **books** by Mario **Vargas Llosa** by asking “what specific kind of works within one of those novels do these clues refer to?”]

<Long Fiction, LL>

2. **Robert Tabor studied instances of this phenomenon in Cyprus in a book that analogizes its practitioners to fleas. Security, economic, and political “pillars” must be balanced in David Kilcullen’s model for addressing this phenomenon. Canadian socialist Yank Levy wrote one of the first instructional manuals focused on this phenomenon, while both Robert Thompson and David Galula wrote manuals on how to oppose it. A book titled for this activity likens practitioners of it to (*) fish swimming in a “sea” of ordinary people. A 1959 event inspired Jules Debray to elucidate a form of this phenomenon called *foco*. The term for this activity derives from Spanish civilizations resistance to Napoleon’s troops during the Peninsular Campaign. Mao Zedong and Che Guavara both wrote books on, for 10 points, what type of irregular combat that uses small groups to resist traditional armies?**

ANSWER: **guerrilla** warfare [accept **insurgency**; prompt on **warfare**; prompt on **combat**; prompt on **terrorism**; prompt on **revolution** by asking “by what specific means?”]

<Social Science: Other, TH>

3. William Fitzwilliam Owen led from Fort Clarence on this island, the headquarters of a certain 19th-century naval patrol. This is the largest island ceded by the Treaty of El Pardo. A leader based on this island had soldiers execute men in a soccer stadium while Mary Hopkin's "These Are the Days" played over loudspeakers. A group of freed slaves called Fernandinos created a settlement on this island, where later a successful coup was led by Theodoro (*) Obiang. The indigenous Bubi ethnic group was decimated by mass killings on this island carried out by a Fang leader who imported members of his own ethnic group from the mainland. Francisco Macías Nguema led from this island, which will lose a capital city once Ciudad de la Paz is complete. For 10 points, name this island off the West coast of Africa that contains Malabo, the capital of Equatorial Guinea.

ANSWER: Bioko [or Ētulá Ęria; accept Santa Isabel; accept Masie Nguema Biyogo Island; accept Fernando Pó] <World History, TH>

4. A historian of these objects, Charles Falco, consulted for Thomas Krens's controversial 1998 exhibit of 114 of them at the Guggenheim. The poet Frederick Seidel frequently writes about his penchant for expensive examples of these objects, which Michael Heizer used to create a land art piece titled *Circular Surface Planar Displacement* in Nevada. One of these objects juts into the foreground on the cover of Oliver Sacks' memoir (*) *On the Move*. In the 1960s, Danny Lyon documented a group centered around these objects from Chicago. A book titled for these objects contains interior monologue chapters titled "Chautauquas" and presents its author's Metaphysics of Quality. A club devoted to these objects provided security at the Altamont Free Concert. For 10 points, Robert Pirsig wrote a best-selling memoir titled for the "Zen" of maintaining what type of two-wheeled vehicle?

ANSWER: motorcycles [or Harleys; or Harley-Davidsons; or motorbikes; or cycles; or hogs; accept Zen and the Art of Motorcycle Maintenance; prompt on bikes; prompt on scooters] <Other Academic, MB>

5. This molecule is the only necessary cofactor for a group of enzymes with catalytic pentads that contain two halide-stabilizing residues, either Trp-Trp ("T-R-P-T-R-P") or Trp-Asn ("T-R-P-A-S-N"); those are halo-alkane dehalogenases. One of these molecules is thought to bind via a "carousel" rearrangement where it moves through the descriptively-named "narrow channel." In an alternate proposal, one of these molecules moves through the so-called "large channel" to form a complex's S3 state. Two of these molecules are used up in each turn of the (*) Kok cycle, which describes the storage states of a CaMn4O5 ("C-A-M-N-four-O-five") cuboidal cluster that catalyzes their oxidation. This molecule is completely oxidized by the OEC in photosystem II. For 10 points, the reactants of the overall photosynthesis reaction are carbon dioxide and what polar molecule?

ANSWER: water [or H2O; or dihydrogen monoxide] <Biology, JS>

6. Instances of this situation precede the *zebola*, a Congolese dance ritual likened to psychotherapy. The Ufufunyane ("oo-FU-fuhn-YA-nay") culture bound syndrome common among Zulu-speaking communities is attributed to either love potions or this type of occurrence. In West Africa, *boti* are believed to be responsible for this type of occurrence, while *zār* fulfill a similar role in Christian and Muslim communities in the Horn of Africa. Kimpa Vita's experience of an occurrence of this kind with St. (*) Anthony led to her establishment of the Antonianist movement in the Kingdom of Kongo. The convulsions associated with instances of this occurrence attributed to the god Shango are likened to the mounting of a horse. For 10 points, what sort of occurrences allow spirits to speak to humans through mediums, a situation that could be ended by an exorcism?

ANSWER: spirit possession [accept spirit trance states; accept a spirit or ghost entering a person or controlling them; accept zār until it is read] <Religion, TH>

7. Already satisfied with having restored their authority west of the river Halycus, this city-state abandoned Mamercus of Catane (“kah-TAH-nee”) after his loss near the river Abolus. At a battle near Entella, a thunderstorm turned the Crimisus river into a torrent, causing almost all of the members of this non-Theban city-state’s Sacred Band to drown. In an account of this city-state, Cleitarchus describes the “sardonic laughter” of sacrifices burned alive in bronze braziers to curry favor with Cronos. This city-state provided naval support at the Battle of Alalia because it had forged an alliance with Caere (“SEE-reh”) and other (*) Etruscan cities under Mago I. Tanit and Ba’al Hammon were worshipped in this city-state’s children-sacrificing tophets. Hanno the Navigator was a denizen of this city-state. For 10 points, name this Phoenician city-state in modern-day Tunisia.

ANSWER: Carthage [or Carthago; or Kart-hadasht]

<Ancient History, LM>

8. This author cites Saul Bellow’s line “To God, he jotted several lines” as his favorite from *Herzog* and recounts the sense of freedom present in his daily tea-drinking habit in a set of letters written to his wife from prison. This author posits that ideology transcends physical power in a “post-totalitarian” system, which can be challenged by his notion of “small-scale work.” An essay by this 20th-century author opens by describing a specter of (*) “dissent” haunting Eastern Europe. That essay by this author argues a sign reading “I am afraid and therefore unquestioningly obedient” would be accurate in the case of a greengrocer’s indifference towards a “Workers of the world, unite!” sign placed in a shop window. For 10 points, name this author of “The Power of the Powerless,” an Eastern Bloc dissident writer who was the first president of the Czech Republic.

ANSWER: Václav (“VAHT-slav”) Havel

<Other Literature, GP>

9. In an algorithm that computes this function with runtime “big-oh of x over the fourth power of $\log x$ ”, a parameter denoted a is set equal to this function of the fourth root of x so that all k th partial functions with k greater than two vanish. This function violates its usual bound infinitely often, but first does so at a huge number guaranteed to be less than 10-to-the-10-to-the-10-to-964. The Meissel–Lehmer algorithm computes this function that is often replaced with the second Chebyshev function. Ramanujan proved that this function of x minus this function of x over two is at least one in his generalization of (*) Bertrand’s postulate. This function is shown to be asymptotic to x over \ln of x by examining inputs to the Riemann zeta with real part equal to one. The output of the sieve of Eratosthenes is equivalent to evaluating, for 10 points, what function denoted π ?

ANSWER: prime counting function [prompt on π function until “ π ” is read] (The huge number is Skewes number)

<Other Science: Mathematics, LL>

10. Raphael’s *Madonna of Foligno* inspired this artist to paint a monarch offering a crown and scepter to the Virgin Mary. This artist retreated to Rome and vowed to never again paint for the Paris Salon after their *Martyrdom of Saint Symphorian* was received poorly. A portrait by this artist depicts a frowning man whom Édouard Manet derided as “the Buddha of the bourgeoisie” for that man’s support of the July Monarchy. An earlier work by this painter shows a (*) large black eagle beside the throne of a god whose beard is being stroked by a woman begging him to help Achilles. In another painting, this artist depicted a green-clad figure holding an oar and Raphael being led by Apelles towards the title figure, who is crowned by Nike. For 10 points, name this Neoclassical painter of the *Portrait of Monsieur Bertin*, *Jupiter and Thetis*, and *The Apotheosis of Homer*.

ANSWER: Jean-Auguste-Dominique Ingres (“ANN-gruh”) (The unnamed painting in the first clue is *The Vow of Louis XIII.*)

<Painting/Sculpture, SJ>

11. A shot in this show transitions from two characters embracing on a bed to them standing in front of a popcorn machine as the camera rotates through the floor of the bedroom. The song “All for Us” by Labrinth plays several times in this show, including in a scene where it is performed by a choir dressed in red hoodies. An animated section in this show is based on a character’s OneDirection fanfiction. (*) Rhinestones are often used in the eye makeup of one character in this show who, after being told to go home and change by the boy she is dating, tips over a pot of chili at his family's food stand. In this show, Jacob Elordi plays Nate, who catfishes and then blackmails Jules for having sex with his father. In 2020, the lead actress on the show became the youngest ever lead actress Emmy winner. The drug addict Rue appears in, for 10 points, what A24-produced HBO series about Gen Z teens starring Zendaya?

ANSWER: Euphoria

<Pop Culture, AD>

12. A biscuit-baking character in this play claims that the way to get through life is to hold love in one hand and laughter in the other. A Juba dance in this play is interrupted by a character entering and describing a vision of bones rising out of the water. In this play, the guitar-playing Jeremy is infatuated with both Mattie and Molly. In this play, the sheet metal salesman-cum-person finder (*) Selig locates Martha, the long lost mother of Zonia. This play opens with the conjure man Bynum performing voodoo rituals in the backyard of the central boarding house. It is revealed that Harold Loomis served on the title slave trader’s chain gang for seven years after hearing this play’s title song. For 10 points, name this play by August Wilson, the second chronologically of the Pittsburgh Cycle, taking place in the 1910s.

ANSWER: Joe Turner’s Come and Gone

<Drama, TH>

13. This thinker cited the “myth” of the break between medieval and modern times to explain how Fernand Braudel saw capitalism “upside-down.” This thinker asked “Who is the Wizard of Oz at the end of this road?” in a response to another thinker’s critical work *ReORIENT*, which denounced this thinker’s Eurocentrism; that other thinker is Andre Gunder Frank. Janet (*) Abu-Lughod’s work on the 13th century uses a framework first developed by this thinker, who wrote that global wars correspond to Kondratieff waves in *Unthinking Social Science*. This thinker rejected the use of the word “theory” to describe an analytical approach that posits the basis of the capitalist world-economy in the “long 16th century” of feudal Europe. For 10 points, name this thinker who divided the world-economy into a core, periphery, and semi-periphery in *The Modern World-System*.

ANSWER: Immanuel Wallerstein [or Immanuel Maurice Wallerstein]

<Social Science: Political, GP>

14. A French-born American player of this instrument reimagined Gil Scott-Heron’s final release in the 2020 album *We’re New Again* and recorded the 2018 album *Universal Beings*. Another player of this instrument collaborated with Vijay Iyer and Stephan Crump on the albums *Break Stuff*, *Accelerando*, and *Historicity*. Makaya McCraven and Marcus Gilmore both play this instrument, which plays a solo for the entirety of the track “For Big Sid” on an album titled [*this instrument*] *Unlimited*. That player of this instrument celebrated the centennial of the (*) Emancipation Proclamation with his album *We Insist: Freedom Now Suite*. Before the entry of the piano, this instrument plays by itself for the first four measures of Dave Brubeck’s “Take Five.” Max Roach and Joe Morello played, for 10 points, what instrument that plays along with a bass and piano in jazz trios?

ANSWER: drums [accept drum set or drum kit; accept percussion]

<Other Arts: Auditory, TH>

15. Joseph Fox's tetrazine ligation based on a variant of this reaction has a blazingly fast rate constant of about two thousand inverse molar seconds. A variant of this reaction forms pyridines ("PEER-ih-deenz") from enamines ("EN-uh-meenz") and 1,2,4-triazines ("one-two-four tri-AY-zeenz") in a synthesis elucidated by Dale Boger. Pi donation from the methoxy and trimethylsilyloxy groups of a reagent for this reaction increases its regioselectivity. The relative position of the reactants' frontier orbitals is swapped in the inverse electron demand variant of this reaction. Observations that so-called "meta" products of this reaction are disfavored led to the (*) ortho-para rule. In this reaction, products with the "outside" groups of one reactant on the same side of the ring as electron-withdrawing groups of the other reactant are favored by the endo rule. For 10 points, name this cycloaddition of a diene ("DYE-eeen") and a dienophile ("dye-EEN-oh-file").

ANSWER: Diels–Alder reaction [accept inverse electron-demand Diels–Alder reaction] (The reagent is Danishefsky's diene.)

<Chemistry, JS>

16. Action Directe referenced this group's advocacy for a revolutionary front in the metropole in a communiqué issued after AD assassinated René Audran. This group faced backlash from their supporters after murdering Edward Pimental, from whom they had stolen a US military ID card. This group was active at the same time as the Second of June Movement and Revolutionary Cells. After the GSG-9 subdued members of the PFLP who skyjacked (*) Lufthansa Flight 181 in support of this group, government officials conspicuously announced that leaders of this group collectively decided to commit suicide in Stammheim Prison. Members of this group kidnapped, and later executed, former SS member Hanns Martin Schleyer as part of the German Autumn. For 10 points, name this urban guerrilla group that operated throughout the 1970s and 1980s in West Germany.

ANSWER: RAF [or Red Army Faction; accept Baader–Meinhof group; accept Baader–Meinhof gang; accept Rote Armee Fraktion] (The Action Directe communiqué was also signed "kommando elisabeth van dyck," in reference to a fallen member of RAF.)

<Post-500 European History, GP>

17. A piece of light music from this country opens with a fortissimo run in the brass followed by the sound of a cork popping; that piece is the Champagne Galop, often played at New Years concerts. A rustic neoclassical composer from this country is best known for his string quartet number 4 and his symphony number 8, nicknamed "Sinfonia Boreale." After being impressed by his *Echoes of Ossian*, Felix Mendelssohn appointed a composer from this country as the director of the (*) Leipzig Gewandhaus Orchestra, in which position he wrote eight symphonies. Vagn Holmboe is from this country, as is the composer of the opera *Masquerade* and a 4th symphony featuring a notable "timpani duel." For 10 points, the Inextinguishable Symphony is from what Scandinavian country home to the composers Hans Christian Lumbye, Niels Gade, and Carl Nielsen?

ANSWER: Denmark [or Danmark; or Kingdom of Denmark; or Kongeriget Danmark]

<Classical Music, TH>

18. In this city, soil from sites across its country were used to build four corkscrew-shaped mounds honoring political leaders. A pile of bones that hang from a chain in a cathedral in this city legendarily derive from a fearsome dragon, but actually come from a whale or mammoth. The Lord's Ark Church, built to resemble Noah's Ark, can be found in this city's centrally-planned Nowa Huta district. This city's tradition of colorfully decorating models of local buildings to make (*) nativity scenes have been recognized by UNESCO's Intangible Cultural Heritage list. This city's Jordan ("YOR-dahn") Park is home to a statue honoring Wojtek ("VOY-tek") the Soldier Bear. This non-capital city's landmarks include Wawel ("VAH-vel") Castle and Jagiellonian ("yag-yeh-LOH-nee-an") University. For 10 points, name this second most populous city in Poland after Warsaw.

ANSWER: **Kraków**, Poland (The dragon is the Wawel Dragon.)
<Geography, TH>

19. Calculating the expectation value of an arbitrary function H of this model system at small temperatures is performed with an expansion whose first non-trivial term is π^2 over six times one over β^2 times H' . The component of the jellium model's Hamiltonian not containing background interactions is a perturbation of this model system. The Sommerfeld expansion is used to determine properties of this model system, including the fact that its heat capacity at constant volume is linear in (*) temperature. This model system displays a temperature-independent form of paramagnetism named for Pauli. Occupied states in this model system lie within a sphere of radius p_F in momentum space. Degeneracy pressure can occur in, for 10 points, what model system named for an Italian that consists of non-interacting spin-one-half particles?

ANSWER: **Fermi gas** [accept **electron gas**; accept **free electron** model; accept **Drude-Sommerfeld** model until "Sommerfeld" is read; accept **fermionic gas**; accept any answer prefixed by 3D, 2D, 1D, free, or degenerate, like **2D Fermi gas** or **degenerate electron gas**]
<Physics, JS>

20. A poem about this character describes trees "awkward as camels" and this character as "wondrously tunneling" while "his sensible daddy goes straight into town." This character claims he is "going to invent full-time" in a poem where every line of its first stanza begins "He said" and every line of its second starts with "I remember." Muriel Rukeyser and Anne Sexton wrote short poems about this character, who partially titles a poem in which "the whole pageantry of the year was awake tingling" while "a (*) farmer was ploughing his field." This causes a "splash" as "the dogs go on with their doggy life" in a poem opening "About suffering they were never wrong, / The old Masters." For 10 points, name this mythological figure who appears in paintings in W.H. Auden's "Musée des Beaux Arts" and William Carlos Williams' "Landscape with the Fall of [this figure]."

ANSWER: **Icarus** (The Anne Sexton poem is "To A Friend Whose Work Has Come To Triumph." The Muriel Rukeyser poem is "Waiting for Icarus.")
<Poetry, GP>

21. In 1967, Dr. Walter W. Sackett introduced a widely debated but ultimately unsuccessful bill advocating this cause to the Florida state legislature. Doris Portwood published a "practical" guide to this cause, which may have influenced a televised event centering on artist Jo Roman. Derek Humphry founded a Santa Monica-based society dedicated to this cause, which takes its name from an ancient Greek (*) substance. Activist Brittany Maynard advocated for this cause, which was the subject of the cases *Baxter v. Montana* and *Compassion v. Washington*, as well as Oregon Measure 16, passed in 1994. The work of Elisabeth Kubler-Ross influences thought on this cause, which was the subject of the Karen Ann Quinlan and Terri Schiavo cases. for 10 points, name this cause advocated by members of the Death with Dignity movement.

ANSWER: **right to die** [accept legalizing **euthanasia** or doctor assisted **suicide**; accept medical aid in **dying**; accept **Death with Dignity** until it is read]
<US History, TH>

22. It's not literary criticism or law, but Edwin Black has argued for the study of this discipline within ideological and cultural context and against the narrow scope of Chicago School theorists like Elder Olson. Polish thinker Chaïm Perelman wrote a book on the "new" practice of this discipline, which rejects the classical usage of *topoi* as roadmaps. I. A. Richards defined this discipline as "the study of (*) misunderstandings and their remedies" in his book on *The Philosophy of [this thing]*. The first line of a treatise on this discipline notes that it is a counterpart of the dialectic. Maxims are often used as the conclusion of enthymemes, a type of syllogism with an excluded premise used in this practice. Gorgias and Protagoras were ancient teachers of this skill. For 10 points, Aristotle states that logos, pathos, and ethos are the components of what art of speaking persuasively?

ANSWER: **rhetoric** [accept **rhetorical** theory or methods; accept **oratory** or **oration**; accept **argument**; accept public **speech**; prompt on criticism]

<Philosophy, TH>

Bonuses

1. Modern scholarship on the early historiographical writings of this dynasty has resulted in a shifting away from certain nomenclature for royal titles. For 10 points each:

[e] Name this Chinese dynasty whose Xuanzong Emperor faced the An Lushan Rebellion, which led many of its prominent families to change their names from An to avoid association with the rebels.

ANSWER: **Tang** dynasty

[m] Gaozu and Taizong are examples of these names, with the suffix “-zu” given to founders of dynasties and “-zong” given to emperors after the founder. These names are contrasted with era names and posthumous names.

ANSWER: **temple** names [accept **miao** hao, **mieu** hieu, or **myoho**]

[h] Historians note the Gaozu Emperor revived the Taishang Huang institution, which bestowed honorifics on nobles with this status. Dowager Empress Wu Zetian ironically held this status while regent to the Zhongzong Emperor.

ANSWER: being **retired** [accept word forms; accept **abdicated** since historians note that this was commonly done if abdication happened, but not always; reject “dead” or equivalents]

<World History, KN>

2. The simplest way to create states named for this physicist is to run a computational basis state through a Hadamard transform followed by a CNOT (“C-not”). For 10 points each:

[m] Name this physicist who first introduced four states made up of two qubits each that form an orthonormal basis. This physicist used those states to show that quantum mechanics violates the CHSH inequality.

ANSWER: John Stuart **Bell** [accept **Bell** states; accept **Bell** pairs; accept **Bell**'s theorem]

[h] In this protocol, a Bell state is left untouched or transformed with either a phase flip, a NOT (“not”), or a product of Pauli matrices. This protocol communicates two classical bits of information using one qubit.

ANSWER: **superdense coding**

[e] Quantum gates are all represented as unitary matrices, which are matrices whose inverse is equivalent to conjugating and performing this operation on them. This operation flips a matrix along its diagonal.

ANSWER: **transpose** [accept word forms like **transposing** or **transposition**]

<Physics, JS>

3. One of these locations on Boylston Street in Boston features a glass spiral staircase, while the one near the Burj Khalifa has windows made out of carbon fiber rods that open when temperature rises. For 10 points each:

[e] Name these typically sleek and minimalist retail locations that sell products such as the iPhone and the MacBook.

ANSWER: **Apple stores** [prompt on **electronics** stores; reject “Apple Park”]

[m] The Apple Park and many Apple stores were designed by an architectural firm named for this architect “plus Partners.” This architect also designed the Hearst Tower in Manhattan and the HSBC Tower in Hong Kong.

ANSWER: Norman **Foster** [or Norman Robert Foster, Baron **Foster** of Thames Bank]

[h] This former chief designer at Apple designed Apple Park along with Foster and Partners. He is credited with implementing the translucent plastic shell on the iMac G3 and the decision to move away from the skeuomorphic design for the interface of iOS 7.

ANSWER: Jony **Ive** [accept Sir Jonathan Paul **Ive**]

<Other Arts: Visual, LL>

4. Two widows have a rivalry that blossoms into a friendship in this city in Yewande Omotoso's novel *The Woman Next Door*. For 10 point each:

[h] Name this city that is also the setting of a Zoe Wicomb collection of interconnected short stories whose title states that "you can't get lost" in this city.

ANSWER: **Cape Town**, South Africa

[e] Wicomb emigrated from South Africa to this European country, the birthplace of the authors Bernardine Evaristo, Hilary Mantel, and Ian McEwan.

ANSWER: **United Kingdom** [accept **England** or **Scotland**; accept **Great Britain**]

[m] Cape Town is one of the settings of this novel in which David Lurie works at a dog pound after admitting that an affair with his student was an "enriching" experience.

ANSWER: **Disgrace** (by J. M. Coetzee)

<Long Fiction, TH>

5. In 2016, the Chief Rabbinate of Israel allowed these people to bathe in a mikveh without an attendant after a failure to follow 2013 directives. For 10 points each:

[e] Name these people who are now widely allowed to read from the Torah publicly. Biblical examples of these people include Rachel and Hannah.

ANSWER: Jewish **women** [accept **females**; accept **girls**]

[h] In many Orthodox traditions, Jewish women are required to wear this wig to conform to laws of *tzniut* and the Jewish requirement of head covering that males fulfill by wearing a kippah or yarmulke.

ANSWER: **sheitel** ("Shay-tul" or "SHY-tull") [or **pei'ah**; reject "tichel", "mitpachat", "shpitzel", or "Shtisel"; if pronunciation is unclear, ask the player to spell their answer]

[m] Unlike most Orthodox sects, Conservative and Reform sects of Judaism generally allow women to form part of this quorum of ten Jews over the age of 13 required for certain religious observations, such as public prayer.

ANSWER: **minyan** [or **minyanim**]

<Religion, WG>

6. One painting by this artist depicts a Black man in a black and white bandana and Timberland boots riding a horse. For 10 points each:

[m] Name this Nigerian-American artist who remade a Jacques-Louis David painting with his *Napoleon Leading the Army over the Alps*.

ANSWER: Kehinde **Wiley**

[e] In 2018, Kehinde Wiley painted a portrait of this man in front of a chrysanthemum-laden background for the National Portrait Gallery. In 2008, Shepard Fairey created a red and blue poster depicting this man with the word "Hope."

ANSWER: Barack **Obama** [or Barack Hussein **Obama** II]

[h] This artist painted a Mondrian-inspired portrait of Michelle Obama to accompany Wiley's portrait of her husband. This painter depicted a young Black girl with a spotted dress and gloves in *Miss Everything (Unsuppressed Deliverance)*.

ANSWER: Amy **Sherald**

<Painting/ Sculpture, WG>

7. The protagonist of this novel gives her so-called boyfriend “feed” rather than “food” while he watches movies and listens to music on a tablet in her bathtub all day. For 10 points each:

[h] Name this 2016 novel by Sayaka Murata, whose middle-aged protagonist works part-time at the title business for 18 years, in part because its employee manual tells her how to behave in everyday situations.

ANSWER: Convenience Store Woman [or Konbini ningen]

[e] A teenage convenience store employee decides on a whim to quit after his manager criticizes the attire of three bikini-clad girls in this author’s story “A&P.” He also wrote a series of novels about “Rabbit” Angstrom.

ANSWER: John Updike

[m] In this story, a young man counters, “hombre, there are bodegas open all night long” to an older man stating his reluctance to close his café early. After refusing a copita, the older man thinks to himself that the title location of this story was “a very different thing” than bars and bodegas.

ANSWER: “A Clean, Well-Lighted Place” (by Ernest Hemingway)

<Other Literature, AP>

8. Standard analysis of chemical vapor deposition divides the overall technique into two main processes and calculates the film growth rate by setting each process’s expression for this quantity equal to each other. For 10 points each:

[m] Name this quantity typically represented with an uppercase J. In the first of the main CVD processes, this quantity equals the mass-transport coefficient times the difference of the gas and surface concentrations.

ANSWER: diffusion flux [or diffusive flux]

[e] The two main CVD processes correspond to diffusion across the boundary layer and surface diffusion, between which this process occurs. In this process, gas molecules bind to a solid surface.

ANSWER: adsorption [reject “absorption”]

[h] The mass-transport coefficient in the first diffusion process equals the gas diffusion constant over this quantity. CVD calculations assume that this quantity is five times the square root of the following (read slowly): viscosity times position all over the product of mass density and free stream velocity.

ANSWER: boundary layer thickness [prompt on delta; prompt on thickness by asking “of what?”] (That is the Blasius solution.)

<Other Science: Engineering, JS>

9. In a work on the intellectual history of these institutions, Albert Hirschman documents the change from the 18th-century view that they were civilizing to the 19th-century view that they were destructive. For 10 points each:

[e] Name these forums of exchange central to economics. Michael Sandel’s book *What Money Can’t Buy* is subtitled for the “moral limits” of these institutions of exchange.

ANSWER: markets [accept market society, accept “Rival Interpretations of Market Society: Civilizing, Destructive, or Feeble?”; accept *What Money Can’t Buy: The Moral Limits of Markets*]

[h] The compatibility of markets with a thick conception of social justice is the central project of this political philosopher. His book *Free Market Fairness* presents a fusion of Rawls’s justice as fairness with the emphasis on spontaneous order espoused by Hayek.

ANSWER: John Tomasi

[m] A crucial argument of Tomasi’s book is that political philosophers must take into account the desires of citizens of liberal societies and not set aside feasibility concerns. The setting aside of feasibility concerns is crucial to this thought experiment famously espoused in *A Theory of Justice*.

ANSWER: original position [accept veil of ignorance]

<Philosophy, MJA>

10. This organization is the subject of a 2020 book by CUNY professor Johanna Fernández. For 10 points each:
[h] Name this organization that launched The People’s Program to treat heroin addicts in the South Bronx after occupying part of the Lincoln Hospital. This revolutionary nationalist organization was founded by José “Cha Cha” Jiménez (“hee-MEN-ez”).

ANSWER: **Young Lords** Organization [or **YLO**; accept **Young Lords** Party]

[e] The Young Lords were led by poor, working-class youth from the diaspora of this territory. The US took control of Guam, the Philippines, and this territory after the Spanish–American war.

ANSWER: **Puerto Rico** [or Commonwealth of **Puerto Rico**; or **PR**]

[m] In one of their first actions, the Young Lords stepped in when this service was not being provided to East Harlem. A year earlier, workers that provided this service held up signs reading “I AM A MAN” while on strike in protest of the deaths of Echol Cole and Robert Walker.

ANSWER: **sanitation** services [accept descriptions of solid **waste** collection, **garbage** collection, or **trash** pickup]
<US History, WG>

11. Notes played with this technique are notated with diamond shaped heads. For 10 points each:

[m] Name this string instrument technique that isolates overtones by touching but not completely depressing a string against the fretboard. On the guitar, the “natural” form of this technique can be played on the 4th, 5th, 7th, and 12th frets.

ANSWER: string **harmonics** [accept artificial **harmonics**; accept natural **harmonics**]

[e] The most common way of playing an artificial harmonic on the guitar involves touching the string this interval above the fretted note, which results in a note sounding two octaves above the fretted note. This is the interval between a C and an F.

ANSWER: perfect **fourth** [accept touch-**fourth** harmonic]

[h] This Catalan guitar virtuoso calls for liberal use of both natural and artificial harmonics in his piece *El testament d’Amelia*. This composer’s guitar arrangements of Isaac Albéniz’s (“EE-sock all-BAY-neese’s”) piano pieces were recorded by Andrés Segovia.

ANSWER: Miguel **Llobet** (“yoo-BET”) [or Miguel **Llobet** Solés]

<Classical Music, TH>

12. The explorer Zheng He credits “divine lanterns” sent by this goddess with calming typhoons, allowing for his safe voyages. For 10 points each:

[h] Name this “celestial queen” who was thought to roam the sea and protect fishermen and sailors. This goddess was the deified form of a Fujianese shamaness with a name meaning the “silent one.”

ANSWER: **Mazu** [accept **Lin Moniang**; accept **Tin Hau**]

[m] *Two answers required.* Another Chinese water deity, Zhenwudadi, is depicted standing on these two animals. The xuanwu is one of these animals intertwined with the other.

ANSWER: **turtle** [accept **tortoise**; accept **guī**] AND
snake [or **serpent**; accept **shé**]

[e] The water god Hebo rides on a turtle to traverse this river while in the form of a fish. The Yan Emperor defeated another figure to become the ruler of the tribes near this colorfully-named river.

ANSWER: **Yellow** river [or **Huang He**]

<Mythology, LL>

13. A character with this surname writes that “Death was not better than D minus, but definitely better than Life minus D” in a French exam paper described as a “passport to a casual Elysium.” For 10 points each:

[h] Give this surname. Unable to sleep, the narrator of that story connects the first letters of each word in several Shakespearean sonnets, a process that yields a message from two characters with this surname involving “icicles” and a parking “meter” when applied to that story’s final paragraph.

ANSWER: **Vane** [accept Sybil **Vane** or Cynthia **Vane**; accept “The **Vane Sisters**”]

[e] This author had to explain the acrostic hidden in “The Vane Sisters” to the editor of *The New Yorker* after they rejected it. Both that story and this author’s novel *Lolita* use the unreliable narrator trope.

ANSWER: Vladimir **Nabokov**

[m] In another Nabokov story, a Russian officer who adopts this profession after moving to Berlin realizes that a customer is a higher-up who once tortured him. The title character with this profession tries to arrange a meeting between Rosine and the Count in a play by Pierre Beaumarchais.

ANSWER: **barber** [or **hairstresser**; accept *The Barber of Seville*; prompt on servant] (The Nabokov story is “Razor.”)

<Short Fiction, AP>

14. SK Group and Hyundai Kia Automotive Group are among the beneficiaries of this country’s system of “guided capitalism.” For 10 points each:

[e] Name this country where 45 massive conglomerates known as chaebols hold more than 75 percent of the national market capital.

ANSWER: **South Korea** [or **Republic of Korea** or **ROK** or **Taehan-minguk** or **Hanguk**; prompt on Korea; reject “Democratic People’s Republic of Korea” or “DPRK”]

[h] Chaebols have historically obtained preferential loans from the South Korean government through bribery, such as the 45 billion dollars given to Park Geun-hye by this de facto leader of Samsung, who served less than one year of a five-year prison sentence.

ANSWER: **Lee** Jae-yong [or Jay Y. **Lee**]

[m] In 2018, this chaebol was fined for colluding with Samsung to raise electronics prices. This chaebol historically run by the Koo family names the family group of chaebols that also encompasses LS and GS.

ANSWER: **LG** Corporation [accept **Lucky-Goldstar**; accept **Leogki Geumseong**]

<Zeitgeist, ZK>

15. W. T. Stead’s *Pall Mall Gazette* ran the headline “TOO LATE!” to lament the death of this general. For 10 points each:

[m] Name this general who held out for nine months during the Siege of Khartoum, but was killed two days before a relief expedition led by Garnet Wolseley arrived.

ANSWER: Charles George “Chinese” **Gordon** [accept **Gordon** Pasha]

[e] Forces loyal to this self-proclaimed Islamic spiritual leader besieged Khartoum from 1884 to 1885 as part of a namesake war. British soldiers used the term “Fuzzy Wuzzies” to describe the Beja people loyal to this leader, who created a namesake state in Sudan.

ANSWER: **Muhammad Ahmad** bin Abd Allah [accept the **Mahdi**]

[h] The Desert Column sent to relieve the Siege of Khartoum was intercepted by Mahdist forces at this battle near some wells. Tory parliamentary candidate and British national hero Frederick Burnaby was speared in the throat in this battle.

ANSWER: Battle of **Abu Klea** [accept Battle of **Abu Tuleih**]

<Commonwealth/International History, GP>

16. A 1934 paper by Abba Lerner claims that a formula it proposes for measuring this concept in monopolies is actually an “index of divergence from an optimum.” For 10 points each:

[m] Name this term that describes the ability of a firm to influence the market price. It can be measured by the Lerner index.

ANSWER: **market power** [accept **monopoly power**]

[h] Regulators seeking antitrust action against firms usually apply this test before finding a firm’s market power. This test, named for two criteria for a price change, seeks to find the smallest relevant market where a monopolist could make a significant change in price. You may give the two criteria or the common abbreviation.

ANSWER: **SSNIP** test [accept **small but significant** and **non-transitory** increase in price; prompt on partial answer]

[e] A firm’s market power is partly determined by this value for its demand curve. Firms can exert more market power if this value dictates that quantity demanded will not change as much as prices when there is movement along the demand curve.

ANSWER: **elasticity** [accept **mean elasticity**; prompt on **slope** of the demand curve]

<Social Science: Economics, AD>

17. Because plant cells lack a well-defined organizing center of these structures, the formation of them occurs in several diffuse sites. For 10 points each:

[e] Name these structures that are the main component of the mitotic spindle.

ANSWER: **microtubules** [accept **MTs**]

[m] Plant cells lack centrosomes, but their mitotic spindles still possess this property. This property is fully established when microtubules’ plus ends are at the equator, while the minus ends are at the ends of the cell.

ANSWER: **bipolarity** [or **bipolar**; accept any answer indicating the spindle is **polarized**]

[h] This complex with 13-fold symmetry nucleates microtubules at centrosomes. GRIP (“grip”) motif proteins form part of this complex whose structure is similar to a lock-washer.

ANSWER: **gamma-tubulin ring** complex [accept **gammaTuRC**]

<Biology, JS>

18. Answer these questions about British kings possibly killed by crossbows, for 10 points each:

[e] This English king died from wounds sustained from a crossbow bolt after leading the failed Third Crusade against Saladin.

ANSWER: **Richard I** [or **Richard the Lionhearted**; or **Richard Cœur de Lion**; prompt on **Richard**]

[m] Geoffrey Gaimar reports that this king was killed in a crossbow attack. This monarch led a 1016 uprising against his father Æthelred the Unready and was succeeded by his rival Cnut the Great.

ANSWER: **Edmund Ironside** [accept **Edmund II**; prompt on **Edmund**]

[h] According to John of Fordun, the second Scottish king of this name was killed when he touched a booby-trapped statue that triggered the firing of several crossbows. The Pictish House of Alpin traces its lineage to a king of this name.

ANSWER: **Kenneth** [accept **Kenneth I**; accept **Kenneth II**; accept **Kenneth MacAlpin**]

<Post-500 European History, TH>

19. In a poem, this being performs the first cesarean section on a woman after her husband summons it by burning a special feather. For 10 points each:

[m] Name this mythical bird who raises the albino infant Zal after finding him on the slopes of a mountain. At the end of a different poem, 30 birds realize that this being's name punningly refers to themselves after looking into their reflection in a lake.

ANSWER: **Simurgh** [or **Simorgh**; or **Simorgh**; or **Simoury**; reject "Homa" or "Huma"] (The former text is Ferdowsi's *Shahnameh*; the name "Simurgh" can be literally translated as "30 birds.")

[h] The expedition of the birds to the abode of Simurgh in Farīd ud-Dīn 'Aṭṭār's ("fuh-REED ood-DEEN uh-TAHR's") poem *The Conference of the Birds* is led by this wisest bird, a surrogate for 'Aṭṭār who answers the birds' questions with parables. This bird introduces itself as King Solomon's messenger to Sheba.

ANSWER: **hoopoe** [or **hudhud**; or **hodhod**; or **popo**]

[e] *The Conference of the Birds* was written in this language, also used to write the *Spiritual Couplets* of Rumi.

ANSWER: **Persian** [or **Farsi**]

<Poetry, AP>

20. Answer the following about black swans in the literal sense, for 10 points each:

[e] Thought to be the first Europeans to have seen black swans, a party led by Dutch explorer Willem de Vlamingh gave their name to the Swan River, which runs through this country's city of Perth.

ANSWER: **Australia** [or Commonwealth of **Australia**]

[h] Dog attacks have recently threatened a famous colony of black swans in Dawlish, a town in this English county. This county and neighbors Cornwall contest a fierce debate over the order in which jam and cream are spread on cream tea scones.

ANSWER: **Devon** [or **Devonshire**; or **Dewnens**]

[m] In 2014, this city experienced a controversy when a black swan turned up in one of its *reien*, or canals. A now-deceased dog named Fidèle once looked out a hotel window near a bell tower with 366 steps in this city's Markt.

ANSWER: **Bruges** [or **Brugge**]

<Geography, AP>

21. Answer the following about films discussed in "Dangerous, Divine, and Marvellous," Andrew Tudor's essay on radical political films of the 1960s. For 10 points each:

[e] This director made a 1968 documentary about the protests of the Black Panthers to fund the release of Huey Newton. *Faces, Places* is another one of her documentaries, though she also made narrative films like *Vagabond* and *Cléo from 5 to 7*.

ANSWER: Agnès **Varda**

[h] The essay also discusses the work of the Brazilian Cinema Novo movement, particularly this film, which ends with a duel between the bandit Corisco and Antonio das Mortes in the *sertão*. This 1964 film was directed by Glauber Rocha.

ANSWER: **Black God, White Devil** [or **Deus e o Diabo na Terra do Sol**]

[m] In a scene from this film, an assassin flees in a leg cast after being stopped from clubbing a witness to death in a hospital by the presence of a journalist. This Costa-Gavras-directed film was inspired by Grigoris Lambrakis's murder.

ANSWER: **Z**

<Other Arts: Film, AD>

22. Welcome to the chemistry deli! Answer the following about metallocene sandwich compounds, for 10 points each.

[h] Diaconescu and Cummins synthesized an “inverted” form of this sandwich compound first synthesized by Mueller-Westerhoff and Streitwieser. Two cyclo-octate-triene dianions bind to the central element in this compound that, similar to nickelocene, is a green, volatile solid.

ANSWER: **uranocene**

[e] Covalent bonding in uranocene occurs between the ligand pi orbitals and these two sets of atomic orbitals of uranium. These two sets of atomic orbitals have angular momentum quantum number 2 and 3. Name both.

ANSWER: **d** [or **6d**] AND

f [or **5f**]

[m] Uranocene is mostly of academic interest, but zirconocene/MAO systems catalyze the polymerization of these functional groups. Ziegler–Natta catalysts are used to polymerize these functional groups.

ANSWER: **olefins** [or **alkenes**]

<Chemistry, JS>