

2024 ACF Nationals

Packet T, Finals Play-in Packet by Georgia Tech A, McGill A, Northwestern A, Truman State A, Washington A

## TOSSUPS

1. In this US state, the séance practitioner George P. Colby founded a Spiritualist camp that has become the world's so-called "Psychic Capital." Unopened beer cans are emptied overnight by this state's version of the devil's chair. Magnetism and telekinesis may be how a sad Latvian immigrant to this state single-handedly assembled massive carved stones into the "Rock Gate." This state hosts a museum where disrespectful visitors are cursed by a doll in a sailor suit named Robert. Footage by Dave Shealy, as well as a back porch photo of an orangutan hunched amongst palm fronds, are cited as evidence for this state's foul-smelling skunk ape. A 1513 trip to this state was allegedly inspired by Arawak legends about the island of Bimini. For 10 points, name this state visited by Ponce de León in his quest for the Fountain of Youth.

ANSWER: **Florida** [or **FL**]

<Mythology>

2. A woman from this empire was deported during Imerina's failed 1857 coup after her second world tour. A company funded by this empire failed to expel Denmark from the Nicobar Islands and lost its ivory post at Delagoa Bay in 1781. Bornu's Kanuri prince Angelo Soliman joined the court of this empire, whose silver bullion coins became the standard currency in Hausaland ("HOW-suh-land"), Zanzibar, and Ethiopia. The Miskito Coast's Treaty of Managua ("muh-NAH-gwuh") was arbitrated by a ruler of this empire who names the islands discovered on the 1873 North Pole expedition. Brazil's independence was championed by a noblewoman of this empire who married Pedro I. This empire's SMS *Novara* brought Carlota's husband from Trieste ("tree-EST") to replace the exiled Benito Juárez ("HWAH-ress"). For 10 points, France installed a Mexican puppet monarchy led by what empire's archduke Maximilian?

ANSWER: **Austria** [or **Austrian** Empire or Kaisertum **Österreich**; accept **Habsburg** Empire, **Habsburgerreich**, **Danubian** Monarchy, or **Donaumonarchie**; accept **Austria-Hungary**, **Dual Monarchy**, **Austro-Hungarian** Monarchy, **Österreichisch**-Ungarische Monarchie, or **Osztrák**-Magyar Monarchia; prompt on **Holy Roman** Empire, **HRE**, or **Heiliges Römisches Reich**; reject "Hungary" or "Magyarország"] (Clues include Ida Pfeiffer, the Maria Theresa thaler, the Imperial Asiatic Company of Trieste and Antwerp, Franz Josef Land, and Archduchess Maria Leopoldina.)

<European History>

3. In a play by this author, a man shouts that "the Empire of the Fascisti will join the Empire of the Caesars... in ruins" as he is taken away. While playing the Russian folk song "Kak Stranna" on the piano, a man in that play by this author recognizes a woman with whom he had spent a night in Omaha; that woman states that the play's title game "never means anything, and never ends." A bad performance of a play by this author causes a fight between Frank and April Wheeler at the start of Richard Yates's *Revolutionary Road*. In a play by this author, Harry Van and Irene stay in an Alpine hotel before it is bombed. This Algonquin Round Table playwright wrote about Alan Squier, who makes Gabby his insurance beneficiary before asking Duke Mantee to shoot him at the Black Mesa Bar-B-Q. For 10 points, name this author of *Idiot's Delight* and *The Petrified Forest*.

ANSWER: Robert E. **Sherwood** [or Robert Emmet **Sherwood**]

<American Literature>

4. A book titled for this idea imagines German professors who are content with “words instead of thoughts” disguising their disgraced old friend, the Cosmological Proof, as the “Absolute.” A treatise titled for this idea introduced the concept of “metalogical truths.” Cognition that follows this idea can’t understand eternal justice, exemplify genius, or participate in aesthetic contemplation per a book that calls it the “ultimate expression” of the *principium individuationis*. An 1813 doctoral thesis divides this idea into laws of becoming, knowing, being, and willing. This idea and the principle of noncontradiction are presented as the two laws of reasoning in *Monadology*. For 10 points, Arthur Schopenhauer wrote of the “fourfold root” of what principle articulated by Gottfried Leibniz, which holds that every fact must have an explanation?

ANSWER: principle of **sufficient reason** [or **PSR**; or principle of **sufficient ground**; or Satz vom **zureichenden Grund**; or *principium rationis sufficientis*; accept *On the Fourfold Root of the Principle of Sufficient Reason* or *Über die vierfache Wurzel des Satzes vom zureichenden Grunde*; prompt on **ground** or **Grunde**; prompt on **reason** until read]

<Philosophy>

5. Age is plotted against spectra of this substance in units of percent TLP after quantifying the types of it found in the light fraction of flotation analysis. Lennart von Post pioneered the use of this substance to study paleoecology. This substance’s durable aperture number, exine (“EX-een”) sculpturing, and shape make it taxonomically diagnostic, even outside arid regions that preserve macrofossils in packrat middens. After extracting this substance from ice cores, analysis of its composition established the Last Glacial Maximum’s Bølling–Allerød interstadial. The so-called “Younger” and “Older” periods surrounding the interstadial are distinguished by the abundance of this substance from the genus *Dryas*. Vegetative cells in this substance grow its namesake tubes that penetrate megasporangia. For 10 points, name these gametophytes (“guh-MEET-oh-fytes”) released by plants.

ANSWER: **pollen** [accept **pollen** grains or **pollen** cores; accept **pollen** tubes; accept **spores** or **microspores** or **sporopollenin**; accept **palynology** or **palynomorphs**; prompt on **plant** matter, **botanical** remains, **flowers**, **organic** matter, or equivalents; prompt on **gametophytes** until read; prompt on **microfossils**; reject “gametes”] (TLP stands for total land pollen.)

<Other Science>

6. A “Mad Philosopher” compared this ethnic group to rain-sown wheat for an egalitarian social code targeted by the Murderous Outrages Acts. Peaceful “Servants of God” of this ethnicity wore red shirts to end *badal* feuds between segmentary *khels* descended from the sons of Qays (“kyce”). Rampur’s Rohilla diaspora of these acephalous people became weaponsmiths after they were termed a “martial race.” The “Faqir of Ipi” demanded a state for these people in the Bannu Resolution after the North-West Frontier’s Waziristan campaigns. These people’s rural Ghilzai tribe lost power after a 1747 *loya jirga* assembly. These people dominated the Khalq faction of the PDPA, which opposed urban Tājīks like Babrak Karmal of Parcham after the 1978 Saur (“sour”) Revolution. They were divided by the Durand line. For 10 points, what ethnic group’s Durrānī tribe ruled Afghanistan?

ANSWER: **Pashtuns** [or **Pakhtuns** or **Pathans** or **Pastūns**; accept **Bārakzai**, **Bettani**, **Karlānī**, **Karrani**, **Khattak**, **qalang**, **nang**, **Sarbanī**, **Abdālī**, or **Yūsufzai**; accept **Durrānī** until read; accept **Ghilzai**, **Ghilji**, **Khilji**, or **Xelji** until “Ghilzai” is read; accept **Pashto**, **Pukkhto**, **Pashtunwali**, **Pashtuniyat**, **Pakhtunwali**, **Pashtunization**, **Pashtunistan**, **Pakhtūnistān**, **Pathānistān**, or Khyber **Pashtūnkhwā**; prompt on **Afghans**] (Clues include Abdul Ghani Khan, his father Abdul Ghaffar Khan, the Khudai Khidmatgar movement, and Mirzali Khan.)

<World History>

7. A process with this name affects both a disk in a namesake engine with a Z-shape shaft, and a disk housed in a cylinder attached to a water pipe in a namesake type of household positive displacement flow meter. Centrifuge tubes are sometimes placed in laboratory mixers named for a process with this name, which combine the effects of rocking and shaking. James Bradley showed the effect of a process with this name on Earth, which has a period of about 18.6 years. A process with this name changes a circle into an undulating or looping curve when a top is spun. In a process with this name, the second Euler (“OY-ler”) angle varies periodically and there is essentially an oscillation about an initial state of pure precession. For 10 points, rotating bodies can exhibit a “wobbling” motion with what name?

ANSWER: **nutation** [or word forms of **nutating** or **nutates**; accept **nutating** mixer or **nutating** shaker or **nutators**; accept **nutating** disk flowmeter; accept **nutating** disk engine; prompt on **wobbling** or **wobble** until “wobbling” is read; reject “mutation”]

<Physics>

8. In *Forty-One False Starts*, Janet Malcolm describes a portrait by this photographer of a woman in a Bedouin-like scarf near Lake Ediza and muses on this photographer’s “grandly eclectic taste in P. H.” This photographer spent two weeks photographing a toilet from below so that it resembled the *Victory of Samothrace* (“SAM-oh-thrace”) for the photo *Excusado* (“ex-koo-SAH-doh”). This photographer’s *Daybooks* describe a trip to Mexico with Tina Modotti. The Oceano (“oh-say-ANN-oh”) dunes were frequented by this photographer and his muse Charis (“carris”) Wilson, who hides her face and holds her crossed legs in a nude portrait taken in Santa Monica. This co-founder of f/64 (“F-stop sixty-four”) captured the stark white opening of the title shell head-on and against a dark background in his photo *Nautilus*. For 10 points, name this American photographer of abstract and erotic still lifes such as *Pepper No. 30*.

ANSWER: Edward **Weston** [or Edward Henry **Weston**]

<Other Fine Arts>

9. After hearing a voice say “let me in,” a girl in this novel opens a window to release the soul of a friend whose death was foreshadowed by the breaking of three apple peels. In this novel, the neuro-hypnotist Geraldo Pond and Dr. Jerome DuPont are among the personas of a palm-reading peddler. The *Lady of the Lake* ferry that two fugitives take to Lewiston in this novel shares its name with one of the quilt patterns that title its sections. In this novel, an alienist suspects that *Oliver Twist* influenced Mrs. Moodie’s claim that eyes haunted a woman after she used a flower-printed kerchief to strangle Nancy Montgomery. In this novel, Simon Jordan interviews James McDermott’s alleged accomplice in the Kinnear (“kuh-NEER”) murders. For 10 points, name this novel by Margaret Atwood that fictionalizes an 1843 murder case involving the title Irish servant.

ANSWER: **Alias Grace**

<World Literature>

10. Executive Order 12898 promotes a framework named for this adjective and created a mapping tool named for it and “Screen.” Laura Pulido argues that a concept named for this adjective results from a higher “spatial scale” than intentional decisions. That concept partly named for this adjective was popularized by a 1987 United Church of Christ study and is exemplified by unequal distribution of “LULUs,” like ones protested in Warren County, North Carolina in 1982. Robert Bullard is called the “father” of a movement partly named for this adjective for his book *Dumping in Dixie*, which describes the disproportionate effects of sites like “Cancer Alley” on African Americans. For 10 points, give this adjective that precedes “justice” in the name of a movement opposed to a namesake type of racism in which marginalized groups are more vulnerable to pollution.

ANSWER: **environmental** [accept **environmental** racism; accept **environmental** justice or **environmental** equity] (The first line refers to EJScreen. “LULU” stands for “Locally Undesirable Land Use”)

<Social Science>

11. A “Twilight Cave” in this present-day country spans 50,000 years from the Middle Stone Age’s Endingi industry to the later Eburran and Pastoral Neolithic, when herders built this country’s Kalokol pillars and Lothagam cemetery. G. W. B. Huntingford falsely attributed this country’s Sirikwa holes to a Hamitic “Azanian civilization.” The oldest known butchered bone may be a tibia in this country’s national museums, which oversaw digs at Olorgesailie (“oh-LOR-guh-SIGH-lee”) and Koobi Fora. Archival photos showed natives of this country excavating the ruins of Gedi and Portuguese Fort Jesus (“zhay-ZOOSE”). The holotype of *Homo ergaster* is from this country, whose namesake hominin species occupied Lomekwi, a site that furnished older stone tools than its southern neighbor’s Oldowan industry. For 10 points, name this country where Kamoya Kimeu and Richard Leakey found Turkana Boy.  
ANSWER: **Kenya** [or Republic of **Kenya** or Jamhuri ya **Kenya**; accept **Kenyanthropus**; accept National Museums of **Kenya**; prompt on **NMK** by asking “what does that stand for?”] (The first line refers to Enkapune Ya Muto. The Horniman Museums displayed the photos in the exhibition “Ode to the Ancestors: Kenyan Archeology.”)  
<Other History>

12. Hindered phenols provide effective stabilization against the effects of this molecule, which transforms hindered amines into derivatives of TEMPO. The products of degradation by this molecule can be quantified using the area of peaks in FTIR (“F-T-I-R”) and are consumed in Norrish reactions. Commercialization of ATRP and RAFT is limited by their intolerance to this molecule, which is removed by freeze-pump-thaw in the lab. Rather than causing cracking, this molecule weakens materials by lowering the temperature needed for thermal degradation. Diffusion of this gas controls the chain reaction that causes photodegradation. Buried plastics can resist discoloration due to the absence of this gas, which attacks end-on to form peroxy groups. For 10 points, name this reactive gas that makes up 21 percent of the atmosphere.  
ANSWER: **oxygen** gas [or **O<sub>2</sub>**; prompt on **air**; reject “ozone”] (The second clue refers to the carbonyl index.)  
<Chemistry>

13. On viewing this poem’s original manuscript, Charles Lamb was shocked to see it had been revised rather than being “a full-grown beauty” from the start. This poem may reference Vergil’s sixth eclogue (“ECK-log”) when its speaker describes how a god touched his “trembling ears.” This poem lists “the shaggy top of Mona” and Deva’s “wizard stream” as places where the nymphs were absent when the “remorseless deep” closed. This poem asks if it is not better “to sport with Amaryllis in the shade” before Phoebus (“FEE-bus”) replies that “Fame is no plant that grows on mortal soil.” In this poem, “two massy keys” are carried by the “Pilot of the Galilean lake,” who warns of a “two-handed engine at the door.” Most of this poem is spoken by an “uncouth swain” who says, “Look homeward Angel.” For 10 points, name this pastoral elegy for the drowned Edward King by John Milton.  
ANSWER: “**Lycidas**” (“LISS-ih-duss”)  
<British Literature>

14. In an opera by this composer, Interlude 1 is an unaccompanied bass clarinet solo filled with glissandi evoking *Rhapsody in Blue*, as words are projected overhead. In the original Munich production of this composer’s first opera, the lead performer wears a costume with a giant head mask, and stands in a hole in the stage for most of the time. This composer copied the opening of the *Coriolan* Overture in a piece written for Beethoven’s 250th birthday. This composer of *Subito con forza* studied under György Ligeti (“g’YORG LIG-uh-tee”) in Germany, where she is now based. This composer and David Henry Hwang co-wrote the libretto to her first opera, whose eight scenes and two interludes include “Advice from a Caterpillar” and “The Trial or Who Stole the Tarts?” For 10 points, name this composer of the 2007 opera *Alice in Wonderland*, who hails from South Korea.  
ANSWER: Unsuk (“un-sook”) **Chin** [or **Chin** Unsuk]  
<Classical Music>

15. Many women died in a 2023 fire at one of these places called Támara. Indianapolis students collected oral history at one of these places run by the Kolbe Foundation. The SNAI will expand these places under National Democratic Action's Phoenix Plan, which debuted after a president from CREO ("cray-oh") dissolved parliament via "mutual death." Drauzio Varella treated AIDS at one of these places where the PCC adopted the yin-yang symbol after the 1992 Carandiru massacre. The population of these places tripled under the "Bukele model." Daniel Noboa declared a state of emergency after Fito, the head of Los Choneros, fled one of these places in Ecuador. Kenya planned to intervene after a man known as "Barbecue" freed 4,000 residents of these places in Haiti. For 10 points, what overcrowded facilities accepted American deportees from the Maras, Bloods, and Crips?

ANSWER: **prisons** [or **jails**, **penitentiary**, **penitentiaries**, **detention** centers, sites of **incarceration**, **prison** systems, **correctional** facilities, **cárceles**, **prisões**, or equivalents of any; accept specific prisons such as Belize Central **Prison**; prompt on **reform** centers or **rehabilitation** centers; prompt on **security** or **seguridad**] (PCC stands for Primeiro Comando da Capital. "Barbecue" is Jimmy Chérizier.)

<Current Events>

16. Niko Munz helped rediscover a painting of this woman in storage at Hampton Court that was lost after Charles I's execution. The Burghley House version of a painting of this woman features a landscape background and a *Venus Pudica* pose, unlike a more famous counterpart. A painting of this woman borrowed her pose from a Roman sarcophagus of Orestes and eschewed the lush garden in Annibale Carracci's version, according to Mary Garrard. The Schloss Weissenstein houses a vulnerable outdoor depiction of this woman, which was the artist's first painting, was attributed to the artist's father Orazio, and was painted two years before Agostino Tassi's rape conviction. A 1610 painting shows this woman recoiling with her arms up while seated on a stone balustrade. For 10 points, a 17-year-old Artemisia Gentileschi painted what biblical woman's harassment by "Elders"?

ANSWER: **Susanna** [or **Shoshanna** or **Šošanna**; accept **Susanna** and the Elders]

<Painting & Sculpture>

17. Fractones in the neural stem cell niche are believed to be examples of these structures due to their expression of HSPGs like perlecan and nidogen. Mutations preventing the formation of alpha 345 ("3-4-5") trimers can produce defects in these structures, including one named for Descemet. Autoantibodies ("auto-antibodies") against these structures appear as linear IgG ("I-G-G") deposits in immunofluorescence staining. Narrow slits between podocytes limit access to one of these structures in the GFC. These structures are targeted by Goodpasture syndrome, which produces antibodies against their dense network of laminin and collagen IV. Hemidesmosomes link the stratum basale ("STRAT-um buh-SAL-ee") to one of these structures at the dermoepidermal ("dermo-epidermal") junction. For 10 points, name this component of the extracellular matrix that joins connective tissue with the bottom of epithelial cells.

ANSWER: **basement membranes** [or **base membranes**; accept **basal laminae**; prompt on **membranes** or **lamina** or dermoepidermal **junction** zone; prompt on **extracellular matrix** or **intracellular matrix** or **ECM** until "extracellular" is read]

<Biology>

18. This person coined the term "maximum feasible misunderstanding" to caution against socioeconomic reform with insufficient data collection and, with Nathan Glazer, co-authored *Beyond the Melting Pot*. This person recommended against an "official style" in the first "guiding principles" for federal architecture. This person's speech against a UN resolution branding Zionism as racism buoyed his 1977 Senate defeat of incumbent James L. Buckley. Since this politician pushed to modernize Penn Station in the 1990s, Amtrak commuters now arrive at his namesake train hall. This politician's use of the phrase "tangle of pathology" angered Civil Rights leaders and informed Lyndon B. Johnson's War on Poverty. For 10 points, what future New York senator produced a controversial report on the decline of the Black family?

ANSWER: Daniel Patrick **Moynihan** [accept **Moynihan** Report; accept **Moynihan** Train Hall]

<American History>

19. This author constantly changes clothes while spending a month in the title “Salt Water House” with Fleur Jaeggy (“YEG-ee”) in the last story in *I am the Brother of XX*. This author depicted the wife of the abusive psychiatrist Leo Jordan in a fragmentary novel in which she bashes her head against the Great Pyramid of Giza and in the story “The Barking.” The only finished entry in this author’s *Death Styles* trilogy excerpts the score of *Pierrot Lunaire* (“peer-OH loo-NAIR”) and ends with the words “It was murder” after the unnamed narrator disappears from the apartment she shared with Ivan and the title poet. This partner of Max Frisch scored a posthumous bestseller with her previously unknown correspondence with Paul Celan (“SELL-ann”), who quit a post-war literary circle after she won its namesake prize. For 10 points, name this Austrian member of Group 47 who wrote *Malina*. ANSWER: Ingeborg **Bachmann** (“ING-uh-borg BACK-man”) (The fragmentary novel is *The Book of Franza*.) <European Literature>

20. A scene from this text inspired the Dabotap monument at Bulguksa Temple. This text inspired the lay thaumaturgic practice of *taimitsu*. The Taego Order preserved a ceremony re-enacting this text called the Yeongsanjae (“yung-sahn-jay”). This text often followed one named for “Innumerable Meanings” in a “threefold” version. In this text, the figure “Never-Disparaging” shouts to mobs chasing him that they will reach enlightenment. As in the *Vimalakīrti Sutra*, when Śāriputra insists that women cannot reach Buddhahood in this text, a “Dragon Girl” promptly turns into a man and does so. A “jeweled stupa” bursts from the ground in a scene from this text, whose name is repeated in the *Namu Myōhō Renge Kyō* mantra. For 10 points, name this central text of Tiantāi (“tee-EN-tye”) and Nichiren Buddhism, in which the Buddha expounds “skillful means” and the “One Vehicle” on Vulture Peak.

ANSWER: **Lotus Sutra** [or *Saddharma Pundarīka Sūtram*, *Miàofǎ Liánhuá jīng*, *Zhèngfǎhuá jīng*, **Hokke-kyo**, **Beophwa** Geong, True **Dharma Exalted Sutra**, **Dharma Flower Sutra**, or *Discourse on the White Lotus of the True Doctrine*; accept **Myōhō Renge Kyo** or **Myobeop Yeonhwa Gong** until “*Myōhō*” is read] <Religion>

## BONUSES

1. Kansas created an “advocacy network” to reward engagement with this field, while Idaho administers its section on the US Naturalization Exam in high schools. For 10 points each:

[10e] Name this field sometimes taught with participatory “action.” It encompasses the rights and duties of citizens and knowledge of government procedures.

ANSWER: **civics** [or **civics** education or **civic** education or **civic** literacy; accept **civic** action, “action **civics**,” **civic** engagement, or **civic** participation; accept **Civic** Advocacy Network]

[10m] A civics test may ask you to contrast authorization and these annual bills that allow agencies to use Treasury funds. Continuing resolutions may extend these budget bills.

ANSWER: **appropriation**s bills [or word forms of **appropriate**d; accept regular **appropriation**s bills or supplemental **appropriation**s bills or continuing **appropriation**s bills; accept House Committee on **Appropriations** or Senate Committee on **Appropriations**]

[10h] On civics exams, territory inhabitants can name nonvoting members with this title instead of a representative. Puerto Rico’s resident commissioner is equivalent to this title, which is a treaty right of the Choctaw and Cherokee.

ANSWER: **delegate** [accept **delegate** at-large or treaty **delegate**] (The US Naturalization Exam also allows territory inhabitants to simply state that they have no voting representatives in Congress.)

<Other Academic>

2. Parthia’s senate exiled one of the six Arsacid rulers with this name, who included a “king of kings” who vassalized Seleucid realms like Gordyene (“gor-dee-EN-ay”), Sophene (“so-FEN-ay”) and Adiabene (“ah-DEE-ah-BEN-ay”). For 10 points each:

[10e] Give this name of a king of Pontus who promoted Perseus as an icon of Greco-Persian unity and tried to gain immunity to poison.

ANSWER: **Mithridates** [or **Mithradates** or **Mihrdāt** or **Mihrdād**; accept **Mithridates** VI or **Mithridates** the Great or **Mithradates** VI Eupator; accept **Mithridates** II or **Mihrdāt** II or **Mihrdād** II] (It is uncertain which king was banished, though it was likely Mithridates III.)

[10h] Tigranes the Great’s son-in-law Mithridates ruled this realm around Lake Urmia. Azerbaijan is named for this kingdom, whose Zoroastrians retained *de facto* autonomy from Seleucid rule.

ANSWER: **Atropatene** [or Media **Atropatene**; or **Ātrpātakāna**; accept **Atropates** or **Atrápēs**; prompt on **Media** or **Māda** or **Mād**]

[10m] Artabanus II of Atropatene and Mithradates II of Commagene may have dropped this Greek word from their titularies to signal loyalty to Parthia and Rome. Tigranes adopted this epithet after Mithridates I of Parthia, who took it to appease his Macedonian subjects.

ANSWER: **Philhellene** [prompt on translations such as “lover of **Greeks**”] (Mithridates II took the title “Philoromaios” instead.)

<Other History>

3. Jean Cocteau's ("cock-TOH's") *Les Mariés de la Tour Eiffel* inspired a collaboration by *les nouveaux jeunes* ("lay noo-voh ZHUNN") in this genre, in which Germaine Tailleferre ("zhair-MEN tye-FAIR") wrote music for plays like *Madame Quinze* ("cans"). For 10 points each:

[10e] Give this term for music written to accompany a nonmusical performance, such as the adaptation of *The Merchant of Venice* that birthed Gabriel Fauré's suite *Shylock*.

ANSWER: **incidental** music [or musique de **scène**; prompt on **programmatic** music; prompt on **score**]

[10m] Fauré's incidental music for this play includes a "Fileuse" movement followed by his own *Sicilienne* ("see-seel-YEN"). This play was adapted into a 1902 opera often analyzed as a reaction to Wagner.

ANSWER: ***Pelléas et Mélisande*** ("PELL-lay-ahss ay may-lee-ZOND") [or ***Pelléas and Mélisande***] (by Maurice Maeterlinck)

[10h] This teacher of Tailleferre orchestrated Fauré's incidental music for *Pelléas et Mélisande* ("PELL-lay-ahss ay may-lee-ZOND"). *The Jungle Book* inspired a cycle of symphonic poems by this Alsatian ("al-SAY-shun") composer, who wrote a series of polytonal piano pieces after Pierre Loti titled *Les Heures persanes* ("lay ZURR pair-SAHN").

ANSWER: Charles **Koechlin** ("keck-LAN") [or Charles-Louis-Eugène **Koechlin**]

<Classical Music>

4. The James Webb Space Telescope is in a periodic "halo" type of these trajectories around a libration point. For 10 points each:

[10e] Satellites use station-keeping to remain in fixed examples of what trajectories, which may be "geosynchronous"?

ANSWER: **orbits** [or **orbital** trajectories; accept Keplerian **orbits**, geosynchronous **orbits**, Lagrange point **orbits**, libration point **orbits**, or halo **orbits**]

[10m] WMAP ("W-map") uses a non-periodic libration point orbit named for this French scientist. The shape of those orbits is related to the complex self-intersecting curves named for this scientist, which are traced by harmonographs using pendulums moving sinusoidally in two directions.

ANSWER: Jules Antoine **Lissajous** ("LISS-ah-zhoo") [accept **Lissajous** orbits or **Lissajous** curves]

[10h] The *Hiten* ("hee-TEN") probe, which visited two Earth–Moon libration points, was the subject of the first example of this low-energy "capture" method, in which objects slowly "fall into" orbit without an insertion burn after launch.

ANSWER: **ballistic** capture [or **ballistic** transfer; accept **Interplanetary Transport Network** or **ITN**]

<Physics>

5. In this poem, the River Wye defends "memorable Bards" like Geoffrey of Monmouth from fools "that all Antiquitie defame," while the River Dee criticizes Caesar's "envious pen." For 10 points each:

[10h] Name this topographical epic poem published with maps anthropomorphizing the towns and rivers of England and Wales. In "The Aleph," Borges remarks that this "bulky" work is still less boring than Daneri's poetry.

ANSWER: ***Poly-Olbion***

[10m] Michael Drayton, the poet of *Poly-Olbion*, praised the River Anker in *Idea*, a work in this form. A work in this form begins with a poem in which a Muse tells the speaker to "look in thy heart, and write."

ANSWER: **sonnet sequence** [prompt on **sonnet** or **sequence**] (The unnamed sequence is Philip Sidney's *Astrophil and Stella*.)

[10e] The title of *Poly-Olbion* puns on the name "Albion," which this poet used for his mythology's primordial man. This poet wrote *The Marriage of Heaven and Hell* and "Jerusalem."

ANSWER: William **Blake**

<British Literature>



6. After being pushed out of Kirtland, some men formed a paramilitary group in Missouri named for this figure that waged an 1838 war against Governor Lilburn Boggs and settled in Nauvoo. For 10 points each:

[10m] Name this biblical figure whose vision of a stone cut out of a mountain inspired Brigham Young to lead a migration effort to establish a “kingdom of God” in the Great Basin.

ANSWER: **Daniel** [accept Book of **Daniel**; accept **Danites**]

[10e] The Danites pushed dissenters out of Missouri after Sidney Rigdon gave a fiery sermon named for this resource. Young’s Mormon pioneers settled near a large lake named for this resource.

ANSWER: **salt** [or **NaCl** or **sodium chloride**; accept Great **Salt** Lake; accept **Salt** Sermon]

[10h] The Mormon Trail was devised by Young and this “mountain man” who acquired the Rocky Mountain Fur Company from Jedediah Smith and blazed an alternative to the Bozeman Trail.

ANSWER: Jim **Bridger** [or James Felix **Bridger**]

<American History>

7. Freeman Dyson proposed trying to prove this statement by classifying all the quasicrystals in one dimension. For 10 points each:

[10e] One of the Millennium Prize problems is what still-unproven “hypothesis” about the roots of the zeta function?

ANSWER: **Riemann** hypothesis

[10m] Other physics-based approaches to proving the Riemann hypothesis include constructing a suitable Hamiltonian with this property of all observable operators. This property implies that the relevant eigenvalues are real.

ANSWER: **self-adjoint** [accept **self-adjoint** operators or **Hermitian** operators]

[10h] A 2021 paper in *npj Quantum Information* described an experimental determination of the small nontrivial zeros of the Riemann zeta function using an ion trap; its theoretical basis was this theory, which concerns solutions to “ $y$ -dot equals  $f$ -of- $t$  times  $y$ ,” where  $f$  is periodic.

ANSWER: **Floquet** (“floh-KAY”) theory

<Other Science>

8. This man is fictionalized as Claude de Maubris in *Vanity of Duluoz* (“doo-LOOZE”), while *The Town and the City* replaces him with Kenneth Wood, from whose window Waldo Meister jumps to his death. For 10 points each:

[10h] Name this Columbia student who stabbed and killed David Kammerer, an older man who was infatuated with him, in Manhattan’s Riverside Park. The incident is central to the film *Kill Your Darlings*.

ANSWER: Lucien **Carr**

[10e] William S. Burroughs and this Beat author wrote about Kammerer’s killing in their novel *And the Hippos Were Boiled in Their Tanks*. He portrayed Carr as Damion in a novel about Sal Paradise.

ANSWER: Jack **Kerouac** [or Jean-Louis Lebris de **K  rouac**] (The second novel is *On the Road*.)

[10m] Burroughs shot his wife Joan Vollmer during a drunken William Tell stunt in this city, whose “Blues” title a Kerouac poem in 242 “choruses” with Buddhist influences.

ANSWER: **Mexico City** [or Ciudad de **M  xico**, CDMX, M  xico **D.E.**, **Distrito Federal**, **Federal District**, **Mexihco** Hueyaltepetl, U noj kaajil **M  xico**, or ‘**Monda**; accept *Mexico City Blues*]

<American Literature>

9. Roll's critique of this model objects to its reliance on a market portfolio made of all assets in the world, which is unobservable in practice. For 10 points each:

[10m] Name this financial model expanded by the Fama–French model. It compares asset returns with an expected value calculated from the expected return of the portfolio, the risk-free rate of return, and beta.

ANSWER: **Capital Asset Pricing** Model [or **CAPM** (“CAP-M”)]

[10e] Another critique of CAPM (“CAP-M”) is that it fails to model these financial instruments, which give the holder the right to buy or sell an asset at a pre-specified strike price.

ANSWER: **options**

[10h] Gibbons, this economist, and Shanken name a test of portfolio efficiency for CAPM and related models. He co-created the BOPM (“BOP-M”) with Cox and Rubinstein and a model of interest rate evolution with Cox and Ingersoll.

ANSWER: Stephen A. **Ross** [or Stephen Alan **Ross**; or Steve **Ross**; accept Cox–Ingersoll–**Ross** model] (BOPM stands for “Binary Options Pricing Model.”)

<Social Science>

10. This field was supposedly used to place a *pulsa dinura* curse on Yitzhak Rabin (“yeets-HOCK rah-BEEN”) just before his assassination. For 10 points each:

[10h] Name this practice of Jewish miracle-working and faith-healing carried out by *Ba’alei Shem* (“bah-ah-LAY SHEM”). The Ba’al Shem Tov (“BAH-all SHEM tove”) reduced its stature in favor of a “contemplative” analog.

ANSWER: **practical Kabbalah** [or **linguistic Kabbalah**; or **Kabbalah Ma’asit**; accept making **segulot**; prompt on **Kabbalah**, **mysticism**, **magic**, **theurgy**, **thaumaturgy**, or making **amulets**]

[10m] Both practical and contemplative Kabbalah influenced the approach to magic in the traditions named for this figure, who originated the maxim “as above, so below” in the *Emerald Tablet* that he supposedly authored.

ANSWER: **Hermes Trismegistus** (“triz-MEG-istus”) [or **Mercurius Ter Maximus**; accept **Mercury** or **Mercurius** in place of “Hermes”; accept **Thrice-Greatest** in place of “Trismegistus”; prompt on **Thoth**, **Idris**, **Hermes**, **Mercury**, **Mercurius**, or **Enoch**]

[10e] Practical Kabbalah’s magic was based on these things, as seen in Judah Loew’s (“layv’s”) use of one to activate his golem. Islamic mystics posited a secret hundredth and “greatest” of them beyond the usual 99, like “al-Rahīm.”

ANSWER: **names** of **God** [or **shem** or **’ism Allah** or al-**asmā’ Allāh** al-ḥusnā; accept **Allāh**, **Yahweh**, **YHWH**, the **Lord**, or equivalents in place of “God”; prompt on **names** alone by asking “of whom?”] (*Ba’al Shem* literally means “master of the names.”)

<Religion>

11. Strawberry farms threaten one of these landforms at Doñana (“doh-NYAH-nah”) National Park in Huelva (“WELL-vah”), which hosts a commercialized Romani pilgrimage called the Romería de El Rocío. For 10 points each:

[10e] Name this type of landform where the Roma were stereotyped for eating swans, one of over 300 birds in Europe’s largest Ramsar wetland. They form when sediment accumulates in an estuary.

ANSWER: **deltas** [or river **deltas**; accept Danube **Delta** or **Delta** Dunării or **De’ta** Dunayu; accept Guadalquivir **Delta** or **Delta** del Guadalquivir; prompt on **marshes** or **marismas**; prompt on river **mouths**]

[10h] The ghostly *lou drapé* (“lo drah-PAY”) haunts the Rhône’s (“rohn’s”) Camargue (“kah-MARG”) delta around this Black saint’s pilgrimage center of Saintes-Maries-de-la-Mer (“sent mah-REE duh lah MAIR”). This Romani patron saint served the three Marys.

ANSWER: Saint **Sarah** [or **Sarah** the Black or **Sara**-la-Kâli or **Sara** e Kali; prompt on **Kâli**]

[10m] A rare digitate (“digit-ate”) delta forms around Atyrau (“ah-tih-RAO”) in this former Soviet republic. Sinti Romani and Volga Germans settled this country’s so-called “planet of 100 languages” during a 1950s scheme to grow grain in Aktobe (“ock-toh-bay”).

ANSWER: **Kazakhstan** [or Republic of **Kazakhstan** or **Oazaqstan** Respublikasy; accept **Kazakh** Soviet Socialist Republic or **Oazaq** Keñestik Sôcialistik Respwblïkası or **Kazakhskaya** Sovetskaya Sotsialisticheskaya Respublika] (The delta is formed by the Ural River entering the Caspian Sea. The Virgin Lands campaign created state farms in Northern Kazakhstan.)

<Geography>

12. The first hit Broadway show, *The Black Crook*, adapted English dances in these shoes that mimicked the rhythm of cotton looms with steps like “pick the shuttle.” For 10 points each:

[10e] Name these wooden peasant shoes whose Appalachian folk dances influenced tap after they became a staple of circuses.

ANSWER: **clogs** [or **sabots**; or **klompen**; accept **clog** dance or **clog** dancing or **clogging**]

[10h] Matthew Bourne’s *Town & Country* referenced a clog dance from this ballet, which also evokes its rustic setting with maypole and Morris dancing. Jean Dauberval (“doh-bair-VAL”) created this oldest major ballet in the repertoire in 1789.

ANSWER: *La fille mal gardée* (“la fee mal gar-DAY”) [or *The Wayward Daughter*, *The Ill-Guarded Girl*, *The Poorly Guarded Girl*, *The Unchaperoned Daughter*, or similar translations; accept *The Ballet of Straw*, *Le ballet de la paille*, *The Ballet of the Straw*, (or *There is Only One Step from Bad to Good*), or *Le ballet de la paille*, (ou *Il n’est qu’un pas du mal au bien*)]

[10m] Stanley Holden danced in clogs in this sort of *travesti* role as the Widow Simone in Frederick Ashton’s *La fille mal gardée*. Australia’s Edna Everage is a spin-off of these comic matrons played by men in British pantomime.

ANSWER: **dames** [or pantomime **dame**s or panto **dame**s; accept **Dame** Edna Everage]

<Other Fine Arts>

13. After destroying an existing temple to Apollo, this monk established Monte Cassino Abbey, which accumulated a vast array of translated scientific manuscripts while led by the future Pope Victor III. For 10 points each:

[10e] Name this monk from Nursia whose followers in autonomous monasteries typically wore black habits.

ANSWER: Saint **Benedict** of Nursia [accept **Benedictines**, Order of Saint **Benedict**, or Ordo Sancti **Benedicti**]

[10h] Texts from Monte Cassino used this Latin script that resembled Roman cursive with its fluid, closely-spaced letters. Writing in this Southern Italian script declined relative to late Caroline and Gothic scripts after the Norman conquests.

ANSWER: **Beneventan** script [or scrittura **beneventana**; or word forms like script of **Benevento**; accept **Lombardic** script, **Langobardic** script, scrittura **langobarda**, scrittura **longobardisca**, or word forms]

[10m] In the 15th century, humanists working at Monte Cassino discovered Frontinus's 1st-century treatise on these structures. A form of Roman concrete with pottery shards prevented erosion in these structures.

ANSWER: **aqueducts** [accept **Aqua** Anio Novus or **Aqua** Claudia; accept *De aquaeductu* or *De Aquis* or *De Aqueductibus Urbis Romae*; prompt on **bridges**, **pons**, **pontis**, **ponte**, **ponti**, or **ponts**]

<European History>

14. This woman at “eighty / rivals the twenty-year-old she” as she addresses her lover in a poem by the “Lioness of Iran.” For 10 points each:

[10e] Name this woman who is called “ancient” in a *ghazal* (“guzzle”) by Simin Behbahani (“beh-ba-ha-NEE”).

Nuruddin Farah's *From a Crooked Rib* is titled for a Quranic verse about this woman's birth.

ANSWER: **Eve** [or **Hawa**; accept “Ancient **Eve**”]

[10h] This poet cast herself as Eve in “Triumph of the Garden.” The posthumous book *Let Us Believe in the Dawn of the Cold Season* collects poems by this Iranian modernist, who depicted life in a leper colony in her essay film *The House is Black*.

ANSWER: Forugh **Farrokhzad** (“fo-ROOG fa-roke-ZAHD”)

[10m] Farrokhzad asked “what's the tale of her dark eyes?” in a poem about the grave of one of this poem's two title characters. In this poem by Nizāmī, a madman dies at his cousin's grave after going mad with love for her.

ANSWER: **Layla and Majnun** [or **Leyli and Majnun** or **Leyli o Majnun**]

<World Literature>

15. Qualitative determination of this property's intensity is used to find concentration in a major application of spectrophotometry. For 10 points each:

[10e] Name this property that changes as permanganate (“per-MAN-guh-nate”) is exposed to sulfuric acid.

ANSWER: **color** [accept **colorimetric** analysis]

[10m] Assays with permanganate and sulfuric acid are titrated with this compound to form water and carbon dioxide. This smallest dicarboxylic (“dye-car-bock-SILL-ick”) acid is the “Oh!” in a common mnemonic.

ANSWER: **oxalic acid** [or **oxalate**; accept **ethanedioic acid**] (A variant of the mnemonic is “Oh my, such good apples.”)

[10h] Permanganate, sulfuric acid, and silver nitrate are reagents in Hummers's method for synthesizing this compound. This compound yields defect-ridden flakes when reduced in water, and it expands into a high-capacitance material when microwaved.

ANSWER: **graphite oxide** [or **GO**, **graphitic oxide**, **graphitic acid**, or **graphene oxide**; reject “graphite” or “graphene”]

<Chemistry>

16. Trần Đức Thảo's magnum opus attempts to resolve this field's shortcomings with dialectical materialism. For 10 points each:

[10e] Name this field whose "asubjective" form was developed by Czech philosopher Jan Patočka ("PAH-totch-kuh"). Maurice Merleau-Ponty's ("mer-LO pawn-TEE's") "existential Marxism" influenced his approach to this study of subjective conscious experiences.

ANSWER: **phenomenology** [or word forms of **phenomenological**; accept asubjective **phenomenology**]

[10h] Karel Kosík called his Marxist phenomenology a "dialectics" of this property, which Marxian dialectics aims to "ascend" to. This property is "misplaced" in Alfred Whitehead's name for the fallacy of reification.

ANSWER: **concreteness** [or word forms of **concreta**; accept fallacy of misplaced **concreteness**]

[10m] Jan Patočka's views on the *mysterium tremendum* are analyzed in this author's *The Gift of Death*. This author analyzed the "phenomenological conjuring trick" in Marx's *Capital* in a book that coined the word "hauntology."

ANSWER: Jacques **Derrida** [or Jackie Élie **Derrida**] (The book is *Specters of Marx*.)

<Philosophy>

17. Paganism "unofficially" survived among these people according to a 1910 book that disavows the "slough ("slao") of philology." For 10 points each:

[10e] Name these people whose "psychology" is studied in Ezra Pound's *The Spirit of Romance*. Short prose pieces called *razos* and *vidas* accompanied the works of these Occitan poets, like Arnaut Daniel ("ar-NOWD dah-nee-ELL").

ANSWER: **troubadours** [accept **trobairitz**; reject "trouvères"]

[10h] Pound claims this troubadour genre as "one of the roots of modern drama." Macabru's "The other day, by a hedge" is in this genre, which depicted the encounter between a knight and a "low-born" woman.

ANSWER: **pastorela** [or **pastourelle**]

[10m] Pound used this type of troubadour stanza to title a section of "Hugh Selwyn Mauberley" that begins "go, dumb-born book." Sestinas end with these stanzas, whose Old French name refers to their role in sending the poem out into the world.

ANSWER: **envois** [accept **tornada** or **tornate**]

<European Literature>

18. İznik ("IZZ-neek") pottery built upon this earlier material by adding lead oxide and soda and decorating the surface with cobalt blue. For 10 points each:

[10h] Name this popular Persian pottery style of the 12th and 13th centuries. A mixture of quartz, clay, and ground glass allowed this material to mimic the thin and translucent quality of Chinese porcelain.

ANSWER: **fritware** [or **stone-paste**; accept **mina'i** ware; prompt on **ware**]

[10e] Fritware's polychrome decoration was done on top of this material. Tin oxide can be added to whiten this layer of glassy coating for ceramics.

ANSWER: **glazes** [or word forms of **glazing**]

[10m] Partly due to the superstition that it could detect poison, this kind of Chinese pottery was popular in the Islamic world. In Korea, the Goryeo ("GOR-yuh") dynasty produced prized examples of this green pottery.

ANSWER: **celadon** [or **qingci**; or **siladun**; prompt on **greenware** or **cheongja**]

<Painting & Sculpture>

19. Sanger (“SANG-er”) published this phage’s genome one year after MS2’s, making it the first DNA genome to be sequenced. For 10 points each:

[10h] Name this phage that was first to be assembled from synthetic DNA and first with a synthetic genome.

Illumina’s use of this virus as a positive control has resulted in the contamination of thousands of genomes.

ANSWER: **phiX** (“fye-X”) [or **phi-X-174**; accept **PhiX** control]

[10m] The genomes of many viruses are “compressed” because of genes with this property, which was first observed in phiX. Sequences with this property generally prefer one reading frame if they aren’t entirely out-of-phase.

ANSWER: **overlap** [or **overlapping** genes; accept **overlapping** reading frames or **overprinting**; prompt on shared reading frames or multiple reading frames]

[10e] Many examples of overlapping genes in vertebrates are in the genome of this organelle, where they encode proteins involved in oxidative phosphorylation.

ANSWER: **mitochondrion** [or **mitochondria**; accept **mitochondrial** DNA or **mtDNA**]

<Biology>

20. A *New York Times* retrospective on this year featured Malick Sidibé’s (“see-dee-BAY’s”) photos of Bamako nightlife and Wayétu Moore’s wistful essay “Monrovia Was the Place.” For 10 points each:

[10m] Name this “Year of Africa” when 17 countries became independent. Niger (“nee-ZHAIR”) and Upper Volta left the French Community in this year, when Force Publique (“pew-BLEEK”) mutinies and Katanga’s secession precipitated the “Congo crisis.”

ANSWER: **1960** [accept “Reflections on **1960**, the Year of Africa”; prompt on ’60]

[10h] Patrice Lumumba’s 1960 government included this Central African author of *My Country, Africa*. She led the Feminine Movement for African Solidarity and campaigned for Guinean independence with Ahmed Sékou Touré (“too-RAY”).

ANSWER: Andrée **Blouin** (“bloo-ANN”) [or Andrée Madeleine **Blouin**]

[10e] Blouin (“bloo-ANN”) reconciled this city’s rival leaders Jacques Opangault (“oh-pan-GOH”) and Fulbert Youlou, whom unions overthrew in 1963’s “Trois Glorieuses” (“twah glor-YOOZ”) in this capital of the ROC.

ANSWER: **Brazzaville** [or **Ntamo**, or **Mavula**; or **M’fa**; accept Congo-**Brazzaville**]

<World History>