

2021 ACF Winter

Packet G by Berkeley A, Cambridge A, Florida B, Northwestern B, UNC D

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Tossups

1. Grey Lock led this territory's Missiquoi in Dummer's War. This territory's military road linked the Fort at Number 4 to Mount Independence. In this territory, a rear guard fought F. A. Riedesel's ("ree-day-zell's") Brunswickers at the Battle of Hubbardton after it banned slavery as a "republic" that later negotiated a union with Frederick Haldimand. A flag with a large "76" is named for a city on this territory's western border, where a militia met at Catamount Tavern before it fought for John Stark and Seth Warner. The governor of the colony east of this territory, Benning Wentworth, angered New York by claiming it as the New Hampshire Grants. For 10 points, colonial troops at the Battle of Bennington allied with rangers from what landlocked, francophone New England territory led by Ethan Allen's Green Mountain Boys?

ANSWER: **Vermont** [or **VT**; accept **Vermont** Republic or République du **Vermont**; accept **New Hampshire Grants** or **Bennington** County before read; accept **Cumberland** County; prompt on **New England** before read]
<American History>

2. In "The Dream of Rhonabwy" ("roh-NAH-bwee") from the *Mabinogion*, soldiers attack these creatures owned by Owain while he plays chess with King Arthur. A deity known as the Badb ("byve") most often took the form of one of these creatures, such as when it extended a war by angering the bull Donn Cuailnge ("KOOL-nyuh"). A book by Yeoman Warder Christopher Skaife relates how a royal decree issued by Charles II that pertains to these creatures may have led to the construction of the Greenwich Observatory. Brân the Blessed's name translates to the name of these creatures, whose form was often taken by the Irish war goddess the Morrigan. Legend holds that Great Britain will fall when these creatures leave the Tower of London. For 10 points, name these black birds that are often seen as harbingers of doom.

ANSWER: **ravens** [accept **crows** or **corvids**; prompt on **birds** or **avians**] (Christopher Skaife's book is *The Ravenmaster*.)
<Mythology>

3. Thomas Talhelm has shown how variation in this activity across China has resulted in large differences in observed levels of cooperation. The intensification of this activity is crucial to avoid economic pressures in a theory developed by Ester Boserup. Distance to the market is a key variable that creates four concentric rings of different types of this activity according to von Thünen's model. François Quesnay posited that all wealth derives from this activity, laying the foundation for the Physiocratic school. The contrast between the supposedly arithmetic increase in the products of this activity and the geometric increase in population was first posited by Thomas Malthus. Land reform movements are aimed at helping people who engage in, for 10 points, what activity that involves threshing and harvesting?

ANSWER: **agriculture** [or **farming** or **food production**, accept rice **farming** or wheat **farming**, accept **dairy** or **ranching**]
<Social Science>

4. This structure's blood supply partly comes from the artery of Adamkiewicz ("uh-DAM-kuh-VITCH"). A fluid-filled cyst in this structure causes defects in a cape-like distribution in syringomyelia ("syringo-myelia"). The posterior of this structure contains the fasciculus ("fuh-SICK-yuh-luss") gracilis and fasciculus cuneatus ("kyu-nay-AH-tuss"). Hemisection of this structure causes "crossed" findings in Brown-Séquard syndrome. Many cells in this structure are inhibited by Renshaw cells that release glycine. This structure contains dorsal and ventral horns, the latter of which are destroyed by the poliovirus. The fluid around this structure and a more superior one is sampled in a lumbar puncture. Damage to this structure can cause quadriplegia or paraplegia. For 10 points, name this component of the central nervous system, a collection of nerves within the vertebrae.

ANSWER: **spinal cord** [do not accept or prompt on "spine" or "vertebrae"]

<Biology>

5. This character scolds a girl who goes to a "social" instead of an Anna Pavlova ballet. This character claims that "team spirit" is a phrase used to "cut across individualism, love, and personal loyalties." This character, who derides a poster of Stanley Baldwin, is the inspiration for Sister Helena's book *The Transfiguration of the Commonplace*. After encouraging another character to fight in the Spanish Civil War, this character clashes with Miss Mackay. This character pressures a girl to have an affair with the one-armed Catholic man Teddy Lloyd. Rose Stanley, who becomes "famous for sex," and Sandy Stranger are part of this character's "crème de la crème." For 10 points, name this pro-fascist schoolteacher who leads a namesake "set" of six girls in a Muriel Spark novel titled for her "Prime."

ANSWER: Miss Jean **Brodie** [or Miss **Jean** Brodie; accept the **Brodie** set]

<British Literature>

6. A symphony by this composer begins with the strings playing the *allegretto* quarter note melody five F sharps, three G's, three A's. That symphony by this composer invokes a vision of Don Juan in its slow movement, which was described as a "broken-hearted protest" by conductor Robert Kajanus ("kah-YAH-nus"). This composer's violin concerto opens with pianissimo violins playing pulsating eighth notes before the soloist enters playing a long G, short A, down to long D. This composer's seventh and final symphony consists of only one movement. Donald Tovey described the finale of this composer's D minor violin concerto as a "polonaise for polar bears." This composer drew on his country's mythology in tone poems like *The Swan of Tuonela*. For 10 points, name this composer of *Finlandia*.

ANSWER: Jean **Sibelius** [or Johan Julius Christian **Sibelius**]

<Classical Music>

7. A work by this painter, which was only reconstructed in 1952 after having been hidden behind an altar by Giorgio Vasari, uses a perspective technique that this painter learned from Brunelleschi for a barrel vault. This painter included his only self-portrait in the painting *The Raising of the Son of Theophilus*, one of several of his works in the Santa Maria del Carmine. On the wall of the Santa Maria Novella, this painter depicted the crucifixion above an entombed skeleton. A fresco series that is mainly by this painter includes a weeping Adam and Eve being expelled from Eden next to a work which depicts Christ directing Peter to retrieve a coin from a fish's mouth. For 10 points, name this Florentine artist of a famous *Holy Trinity*, whose works in the Brancacci Chapel include *The Tribute Money*.

ANSWER: **Masaccio** [or **Tommaso** di Ser Giovanni di Simone] (The first line refers to *The Holy Trinity*.)

<Painting/Sculpture>

8. When accounting for this statement, the number of microstates is given by a product of binomial coefficients g choose n , where g and n characterize the energy levels of the system. While this statement is not obeyed by the Hartree product, it can be obeyed by linear combinations such as the Slater determinant. This statement implies the existence of Fermi surfaces and the Fermi energy, which prevent the collapse of white dwarfs via electron degeneracy pressure. As a case of the spin-statistics theorem, this statement adds a minus sign to a multi-particle wavefunction under exchange. This statement applies only to half-integer spin fermions. For 10 points, name this principle that states that no two electrons may simultaneously occupy the same quantum state.

ANSWER: **Pauli** exclusion principle [or **exclusion** principle]

<Physics>

9. An author who worked in this country was dubbed “the red princess” and recorded chants like “DIA-LOGUE DIA-LOGUE DIA-LOGUE” in a piece titled for “The Night of” an area in its capital. A 17th-century writer from this country argued that the intellect has no gender and defended feminine pursuits in a “Reply” to another nun. An author from this country, who wrote about a certain subculture “and Other Extremes” in the first essay in a collection, wrote about an earlier author from here in the critical biography *The Traps of Faith*. An author from this country remarked that “Man is the only being who knows he is alone” in a book that discusses “The Sons of La Malinche.” For 10 points, *The Labyrinth of Solitude* by Octavio Paz describes what country’s Day of the Dead celebrations?

ANSWER: **Mexico** [or United **Mexican** States or Estados Unidos **Mexicanos**; do not accept or prompt on “Estados Unidos”] (The unnamed authors are Elena Poniatowska, who wrote *The night of Tlatelolco*, and Sor Juana Inés de la Cruz.)

<World Literature>

10. Robert W. Scribner collected this movement’s often-scatalogical visual propaganda in *For the Sake of Simple Folk*. In an essay on “City Women,” Natalie Zemon Davis argued that this movement led to a “desexualization of society” and appealed to Lyon’s widows. Michael G. Baylor edited essays by “radical” thinkers from this movement who opposed its “magisterial” arm, like Michael Gaismair, Michael Sattler, and Andreas Karlstadt. Elizabeth Eisenstein argued that this movement and the overlapping Scientific Revolution were driven by the vernacular printing press. This movement’s founder is analyzed as a “Young Man” in a psychobiography by Erik Erikson. For 10 points, what 16th-century movement began at the All Saints’ Church, where *Ninety-five Theses* were posted by Martin Luther?

ANSWER: Protestant **Reformation** [accept **Protestantism** or **Lutheranism** or **Anabaptism** or **Calvinism** or word forms; accept Magisterial **Reformation** or Radical **Reformation**; prompt on German **Peasants’ War** or Great **Peasants’ War** or Great **Peasants’ Revolt** or Deutscher **Bauernkrieg** by asking “what overarching cultural movement in the same region shaped the responses to that military conflict?”] (Erikson’s book was *Young Man Luther*.)

<European History>

11. In a 1999 film partially titled for one of these animals, Ryan’s drowning causes James to feel guilty as he grows up in Glasgow; that film was directed by Lynne Ramsay. The pre-Code film *Taxi!* is the source of an oft-misquoted line in which someone is called one of these animals by James Cagney’s character. A New York con man nicknamed for these animals is played by Dustin Hoffman in *Midnight Cowboy*. One of these animals walks across Colin Sullivan’s balcony in the closing shot of *The Departed*. These animals inundate Wisborg after they swarm out of six coffins owned by Count Orlok in a scene from *Nosferatu*. Sammy Davis Jr. and Frank Sinatra performed in a “Pack” named after, for 10 points, what rodents that characters in crime films often use to refer to informants?

ANSWER: **rats** [accept **Ratcatcher**; accept **Ratso** Rizzo; accept the **Rat** Pack; prompt on **rodents** before read]

<Other Arts>

12. Susan Gubar's biography of this biblical man discusses his homoerotic depictions in art. In one action, this man fulfills a prophecy of Jeremiah that may not refer to Jeremiah 18:19, as is often said, but rather a prophecy of Zechariah. This man's epithet may refer to using a dagger, coming from a town in Judea or Moab, or having red hair. In the Gospel of John, this man, who may have died in Akeldama, criticized Mary for anointing Jesus with fancy perfume because this man kept the money bag. This man's money was used to buy the original potter's field, also known as the Field of Blood. This man, who was succeeded in his main role by Matthias, kissed another man in the Garden of Gethsemane in order to get thirty pieces of silver. For 10 points, name this apostle who betrayed Jesus.

ANSWER: **Judas** Iscariot [or **Yehūdā** 'Īš-Qərīyyōt; prompt on **Iscariot** or **'Īš-Qərīyyōt**]

<Religion>

13. The documentary *Swinging into [this event]* shows the death of the Guyanese musician Ken "Snakehips" Johnson at the Café de Paris. This title event inspired *The Splendid and the Vile* by Erik Larson. Trinidad's "Coconut Bomber" aided the Auxiliary Fire Service in this event, which was countered by ARP wardens, decoy "starfish sites," and "Anderson" and "Morrison" structures. During the "Battle of the Beams," this campaign targeted a factory city that made Standard Motor and Jaguar cars. During this campaign, Home Intelligence monitored morale that was said to become national "spirit" after the *Daily Mail* published the iconic photo *St. Paul's Survives*. Blackouts deterred this campaign's Messerschmitt pilots. For 10 points, Operation Sea Lion was shelved for what *Luftwaffe* bombing raids in Britain?

ANSWER: the **Blitz** [accept **Battle of Britain** or **Battle of the Beams** before read; accept **Blitz** Spirit; accept Operation **Moonlight Sonata**; accept London **Blitz**; accept the **Second Great Fire of London** and prompt on Great **Fire** of London; prompt on German **air raids**; prompt on **Second World War** or **World War Two** or equivalents] (The "Coconut Bomber" was George Arthur Roberts. The car companies were based in Coventry.)

<Other History>

14. When this type of statement holds globally, the FDR equals the FWER. The distribution implied by this type of statement can be estimated via a permutation test. In two-sided scenarios, this type of statement corresponds to a single point in the parameter space. The odds of mischaracterizing this type of statement can be controlled via the Bonferroni correction, which shrinks the significance level alpha. The distribution implied by this type of statement is used to compute the tail probability that defines a p-value. Lecturers often emphasize that you can only ever "fail to reject" this type of statement, which is written "H sub zero." For 10 points, name this type of statistical hypothesis that states there is no relationship between a set of variables, contrasted with an alternative hypothesis.

ANSWER: **null** hypothesis [accept **H0** or **H sub zero** or **H-naught** before "H sub zero"; prompt on **hypothesis** or **H**]

<Other Science>

15. Bruce Duffy's novel *Disaster Was My God* fictionalizes this author's time working in a stone quarry in Cyprus. In 2011, John Ashbery translated a collection of prose poems by this author that begins with a poem describing a flood. A long poem by this author begins as the speaker tries to recall how "my life was a banquet where every heart revealed itself." Another poem by this author describes the "mysterious origins" of black, white, red, green, and blue things. This poet spent the final years of his life gun-running in Ethiopia after he gave up writing at age 20. A poem by this author is narrated by a vehicle "lighter than cork" and "swollen...with intoxicating torpor." For 10 points, name this French symbolist poet and lover of Paul Verlaine ("vair-LEN"), who wrote "The Drunken Boat" and *A Season in Hell*.

ANSWER: Arthur **Rimbaud** ("rem-BOH") [or Jean Nicolas Arthur **Rimbaud**]

<European Literature>

16. An aromatic molecule with this functional group is reacted with P4S10 to form Lawesson's reagent; that molecule is anisole. Another molecule with this functional group is halogenated to form isoflurane and sevoflurane. This functional group unusually forms the linkages in the membrane lipids of archaea. A copper catalyst is used to form aromatic examples of this functional group in the original version of a reaction named for Fritz Ullmann. This functional group is found in the solvent used to store Grignard reagents. Pyrans and furans are cyclic forms of this functional group, which can be synthesized by reacting an alkoxide with an alkyl halide in an SN2 reaction named for Williamson. For 10 points, name this functional group that consists of two alkyl chains bound to an oxygen atom, whose diethyl form was once used as an anesthetic.

ANSWER: **ethers** [accept diethyl **ether**; accept Williamson **ether** synthesis or Ullmann **ether** synthesis; accept **furans** or **pyran**s before read] (Grignard reagents are stored in tetrahydrofuran, or THF.)

<Chemistry>

17. In a story titled for one of these things, a son reads that the saddest feeling is “for a child to finally grow the desire to take care of his parents, only to realize that they were long gone” in a letter written by his deceased mother. A boy hides one of these things in a shoebox and takes it out on Qīngmíng (“ching-ming”) in that magical realist story by Ken Liu. A play titled for one of these things ends as a man muses “nowadays the world is lit by lightning” while his sister blows out a candle. In that “memory play” titled for one of these things, Amanda tries to marry off her daughter to the “gentleman caller” Jim O’Connor, who breaks an object from one of these title things that belongs to Laura Wingfield. For 10 points, a Tennessee Williams play is titled for a “glass” type of what collection?

ANSWER: **menagerie** [accept *The Glass Menagerie*; accept “The Paper **Menagerie**”; accept a **zoo** or equivalents; accept **animals** or specific kinds of animals such as **unicorn** or **tiger**; prompt on **origami** or **paper** or **glass**; prompt on glass **figurines** or **toys** or equivalents; prompt on **collections** or equivalents]

<American Literature>

18. A speaker who lists challenges for this activity declares “My advice is—give it up!” in Gerard Nolst Trenité’s poem “The Chaos,” which opens Arika Okrent’s book *Highly Irregular*. Programs that assist this activity are susceptible to the Cupertino effect. In 1990, former Portuguese colonies signed a treaty to regulate this activity, which Germany reformed in 1996 to standardize the Eszett (“ess-TSETT”). William Barfée uses his “magic foot” to triumph at this activity in a William Finn musical set in Putnam County. “Blue-backed” books taught this activity, whose simplification was the goal of a board supported by Teddy Roosevelt and Andrew Carnegie. Indian-American kids dominate a competitive form of this activity run by Scripps. For 10 points, what activity often requires an extra letter U in British English?

ANSWER: **spelling** [accept **orthography** or **punctuation**; accept **pronunciation** or equivalents; accept **spelling** bees or **spelling** reform or **spell** checkers or Simplified **Spelling** Board or Blue-backed **Speller**; accept *The 25th Annual Putnam County Spelling Bee*; prompt on **grammar** or **language** or **linguistics** or **speaking** English or **writing** or **reading** or similar answers; prompt on **bees**; prompt on autoc**correction**]

<CE/Geo/Other/Pop Culture>

19. A book by G.B. Kerferd about these people’s “Movement” discusses how Hegel characterized them as embracing “the Notion” and orienting the concerns of philosophy towards subjectivism. One of these people who wrote the text *Truth* claims to specialize in “the civic science” in a dialogue named for him. That person of this kind, who is credited with founding Western relativism, stated that man is “the measure of all things.” Gorgias and Protagoras were among these people who claimed to be able to bestow *arete*, or virtue. These people were frequently criticized by Socrates for “mak[ing] the weaker argument the stronger” through rhetoric. For 10 points, name these ancient Greek teachers who take their name from the Greek word for “wisdom.”

ANSWER: **Sophists** [or word forms like **Sophism** or **Sophistry**; accept **sophistes**; prompt on **philosophers** or **thinkers**; prompt on **teachers**] (G.B. Kerferd's book is *The Sophistic Movement*.)

<Philosophy>

20. In this modern-day country, editors of the Sin Po newspaper criticized the colonial practice of giving the title *kapitan* to the heads of ethnic communities. In this modern-day country, a *kongsi* federation of Chinese miners founded the Lánfāng Republic. In 1740, colonial administrators in this modern-day country used a reward of two ducats to incite a massacre of Chinese sugar-mill workers. In this modern-day country, Chinese people were vilified by the colonial Ethical Policy, which supplanted the earlier cultivation system. May 1998 anti-Chinese riots toppled the New Order government in this country, where Chinese Premier Zhōu Ēnlái attended the Bandung conference. For 10 points, name this country where Chinese people fought the Dutch colonial government in the Java War.

ANSWER: **Indonesia** [or the Republic of **Indonesia** or Republik **Indonesia**, prompt on Nányáng]

<World History>

21. A woman in this play sarcastically calls herself “Mrs. Doorkeeper or Madame Floorsweeper” after she shouts that she’d like to see all men “swimming in a sea of blood.” The author of this play misogynistically calls a character a “stunted form of a human being” and “man-hating half-woman” in its preface. A character in this play describes his desire to climb a pillar to steal the golden eggs on top. The Count never appears in this play, but his boots are onstage during most of it. At this play’s opening, the cook Kristin explains how the title character opted not to go to Midsummer celebrations. This play’s title character abandons a plan to elope to Lake Como after a valet decapitates her pet bird. For 10 points, name this play about Jean’s manipulation of the title young heiress by August Strindberg.

ANSWER: **Miss Julie** [or **Fröken Julie**]

<European Literature>

Bonuses

1. The narrator of a poem by this author calls Prince Charming “grace incarnate” and vows not to meet her old “black agate necklace” self until the “Day of Judgment.” For 10 points each:

[10m] Name this Russian author of “Poem Without a Hero,” who described families who die from famine and mass displacement in her poem *Requiem*.

ANSWER: Anna **Akhmatova** [or Anna Andreyevna **Gorenko**]

[10h] In *Requiem*’s opening section “Instead of a Preface,” a woman asks Akhmatova if she can do this specific action. After Akhmatova confirms she can do this action, she sees “something akin to a smile” on the woman’s face.

ANSWER: “can you **describe** this?” [or “*A eto vy **mozhet**e opisat?*”]; accept close translations of the phrase such as “Could you **describe** this?” or “Could one ever **describe** this?”]

[10e] Akhmatova was a staunch critic of this Soviet leader who censored her writing. This leader “forges decrees in a line like horseshoes” according to an “Epigram” by Osip Mandelstam.

ANSWER: Joseph **Stalin** [or Josef Vissarionovich **Stalin**; or Ioseb Besarionis dze **Jughashvili**; accept “**Stalin** Epigram”]; prompt on **Koba** or **Sose**]

<European Literature>

2. Nickel-62 has the highest value of this quantity per nucleon. For 10 points each:

[10m] Name this quantity that is proportional to the mass defect. This quantity is the energy it would take to completely disassemble a nucleus.

ANSWER: nuclear **binding** energy

[10e] When converting between mass defect and binding energy, the coefficient γ is equal to the square of this constant, a special case of the fact that energy is equal to mass times this constant squared.

ANSWER: **speed of light** [or c]

[10h] *Description acceptable*. In the semi-empirical mass formula, the only binding energy term with an empirical exponent is based on this property of the number of protons and neutrons, thus accounting for spin coupling.

ANSWER: **parity** [accept **pairing** term; accept answers that indicate **oddness** or **evenness**]

<Physics>

3. Many members of a royal family in this modern-day country were massacred at Debre Damo. For 10 points each:

[10m] Name this modern-day country where the Jewish queen Gudit took power in what is now the Tigray region. Mara Takla Haymanot overthrew the *negus* Dil Na'od to found the Zagwe dynasty centered in this modern-day country.

ANSWER: **Ethiopia** [or Federal Democratic Republic of **Ethiopia**; or **Ītyōpp̄yā**; or **Itiyoophiyaa**]

[10h] After he had a vision of Jesus, this Ethiopian ruler set out to build a “New Jerusalem.” A river named for the River Jordan runs through a complex of rock-cut churches in a town named for this ruler.

ANSWER: **Lalibela** [or **Gebre Meskel** or **Gäbrä Mäsqäl**]

[10e] Lalibela’s may have been motivated to create a “New Jerusalem” after this Ayyubid sultan captured Jerusalem in 1187. This Muslim ruler, who established relations with Lalibela, fought Richard the Lionheart.

ANSWER: **Saladin** [or **Salah ad-Din** or Al-Nasir **Salah al-Din** Yusuf ibn Ayyub, or **Selahedîne** Eyûbî]

<World History>

4. Amia Srinivasan coined the term “genealogical anxiety” for one’s worry that these things are undermined by their dependency on culture and history. For 10 points each:

[10e] Name these states of mind in which someone thinks that something is the case. Gettier cases challenge the view that knowledge is constituted by “justified true” examples of these states of mind.

ANSWER: **beliefs** [accept justified true **beliefs**]

[10m] This thinker’s book *Contingency, Irony, and Solidarity* discusses “ironists,” who perpetually doubt their “final vocabulary” of beliefs. This American philosopher also wrote *Philosophy and the Mirror of Nature*.

ANSWER: Richard **Rorty** [or Richard McKay **Rorty**]

[10h] This paradox deals with sentences like “It’s raining, but I do not believe it’s raining” that are absurd but nonetheless logically consistent. This paradox is named for the thinker who also formulated the paradox of analysis.

ANSWER: **Moore**’s paradox [or G.E. **Moore**’s paradox; or George Edward **Moore**’s paradox]

<Philosophy>

5. This photographer compared the majesty of his toilet bowl to the *Winged Victory of Samothrace* after he spent two weeks photographing the former for his work *Excusado*. For 10 points each:

[10h] Name this photographer, whose typically anti-pictorialist aesthetic is displayed in his photo of a shell whose cavity faces towards the viewer, titled *Nautilus*.

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

[10m] Weston’s anti-pictorialist views were typical of this group of photographers named for a shutter setting. Ansel Adams and Weston’s protege Willard van Dyke co-founded this group, whose members included Imogen Cunningham.

ANSWER: Group **f/64** (pronounced “f stop 64,” but accept pronunciations like “f 64”)

[10e] Members of Group *f/64*, like Weston, Adams, and Cunningham, were mainly based in this state, where Adams took photographs of Half-Dome in Yosemite National Park.

ANSWER: **California** [or **CA**]

<Other Arts>

6. A common type of COVID-19 test relies on a real-time version of this procedure, which is also used to measure HIV viral load. For 10 points each:

[10e] Name this procedure in which a segment of DNA is amplified using a pair of specific primers and a thermostable DNA polymerase.

ANSWER: **PCR** [or **polymerase chain reaction**; accept RT-**PCR** or real-time **polymerase chain reaction**]

[10m] The three steps of PCR are denaturation, annealing, and this final step, whose length is dependent on the size of the segment being amplified. In this step, the polymerase synthesizes new DNA.

ANSWER: **elongation** [or **extension**; or word forms]

[10h] Oh no, your PCR has two products! One way to fix that problem is a procedure with this name which involves annealing at a high temperature for the first cycle, then reducing the temperature gradually for subsequent cycles.

ANSWER: **touchdown** PCR [or **touchdown** polymerase chain reaction]

<Biology>

7. A poem titled for this hero was written during the “Alliterative Revival,” and its only surviving copy is found in the *Cotton Nero A.x* (“A 10”) manuscript. For 10 points each:

[10e] Name this Arthurian hero who beheads the Green Knight in a namesake 14th-century narrative poem.

ANSWER: Sir **Gawain** [accept *Sir Gawain and the Green Knight* or the **Gawain** Poet]

[10m] The Gawain Poet is often named for this other poem they likely wrote, also found in the *Cotton Nero A.x* manuscript. This poem’s narrator dreams of a maiden after he loses his daughter, who is named for the title object.

ANSWER: **Pearl** [or **Perle**; accept the **Pearl** Poet]

[10h] Stanzas in *Gawain* end with this five-line device, which is named for a pair of metrical schemes. The first is a short half-line of two syllables, which is then followed by a rhyming four-line stanza with a distinct rhythm.

ANSWER: **bob and wheel**

<British Literature>

8. The Vedas describe this god as having been the first man to die. For 10 points each:

[10m] Name this Hindu god of death who judges souls. He is often depicted alongside his four-eyed dogs.

ANSWER: **Yama** [or **Yamarāja** or **Yamadharmā** or **Yamāntaka**; accept **Pasi** or **Gsin-Rje**; prompt on **Dharma** or **Dharmarāja**]

[10h] In some forms of Hinduism and Buddhism, Yama is believed to be the ruler of this realm. This realm’s name is often translated as “hell,” although stays here are not eternal.

ANSWER: **Naraka** [or **Niraya** or **Neraka** or **Nga yei**; accept **Nārakīya**]

[10e] For many Buddhists, souls are sent to Naraka and ruled by Yama as a result of the accumulation of bad forms of this concept. This concept’s status determines one’s rebirth.

ANSWER: **karma** [or **kamma**; accept bad **karma**]

<Religion>

9. *The Tsar’s Happy Occasion* mentions the third-day ritual bath taken by these people, whom the Daniilovich (“dahn-yee-loh-veech-ee”) picked from appanage (“ah-pah-nahzh”) houses and the Lithuanian Gediminids more than boyar clans. For 10 points each:

[10e] Identify these people chosen during Byzantine and Russian “shows,” beauty contests that paused their terem seclusion. Ivan IV did penances in order to choose six to eight of these people, at least as many as Henry VIII.

ANSWER: **brides** [accept **wives** or **newlyweds** or **betrothed** or **zheny** or **empresses** or **tsarinas** or **tsaritsas** or **tsarevnas** or equivalents; accept **bride**-shows or smotr **nevest** or deichnoun oi **nýfes**; prompt on **women** or **girls** or **maidens** or **virgins** or similar]

[10m] John Phillip Reid’s *A Bride for the Tsar* discusses this ruler’s mother, the influential nun Marfa, who ran his 1624 bride-show. This tsar, who altered the royal wedding’s mini-pilgrimage sites, founded the Románov dynasty.

ANSWER: **Michael** I Románov [or **Mikhail** I Románov; or **Michael** of Russia; or **Mikhail** Fyodorovich Románov]

[10h] Michael I imprisoned the “witch” Marinka since Catholics ran counter to this Orthodox idea promulgated by Philotheus of Pskov. The 1589 document that set up the Moscow Patriarchate mentions this idea that was traced to 1453.

ANSWER: Moscow, **third Rome** [or Moscow is the **third Rome** or Moscow is the **last Rome** or Moskva — **Tretiy Rim** or Moscow is the **successor** of **Rome** or the Tsardom of Russia is the **third Rome** or Russkoye tsarstvo — **Tretiy Rim** or equivalents; accept Moscow is the the **successor** of **Constantinople**] (Many Polish Catholics entered Moscow during the Time of Troubles. Constantinople fell to the Ottomans in 1453.)

<European History>

10. Answer the following about chamber music written by Wolfgang Amadeus Mozart, for 10 points each.

[10h] The *Salzburg Symphonies* are three chamber compositions of this type, which are typically in six movements. A late E flat major piece of this type by Mozart is likely the first substantial composition for violin, viola, and cello.

ANSWER: **divertimento** [or **divertimenti**]

[10m] The Haffner family commissioned Mozart's 7th piece in this chamber genre. Mozart's other works in this genre include his 10th, which is often subtitled "Gran Partita," and *Eine kleine Nachtmusik*.

ANSWER: **serenade**

[10e] Mozart wrote 23 pieces in this genre of chamber music, including ones nicknamed "Dissonance" and "Spring." He fittingly dedicated both pieces, along with four others in the same genre, to Joseph Haydn, who is often called the "father" of this genre.

ANSWER: **string quartet** [prompt on **quartet**]

<Classical Music>

11. The controversy over Gerald Ford's pardon of Nixon was exacerbated by media attention on his gaffes. For 10 points each:

[10e] In an *SNL* sketch, Chevy Chase cemented Ford's clumsy persona by knocking over one of these plants that are decorated in the White House Blue Room and Rockefeller Center. Plantations in Oregon grow these holiday plants.

ANSWER: **Christmas trees** [accept **evergreen** trees; accept **conifers**; accept **pine** trees or **Pinus**; accept **fir** trees or **Abies**; accept **spruce** trees or **Picea**; prompt on **trees**]

[10m] Ford opined that there was "no Soviet domination" of Romania or this country in a debate after its June 1976 protests over Edward Gierek hiking food prices. Jimmy Carter's National Security Advisor was from this country.

ANSWER: **Poland** [or Republic of **Poland**; or Rzeczpospolita **Polska**; accept **Polish** People's Republic or **PRL** or **Polska** Rzeczpospolita Ludowa] (Carter's National Security Advisor was Zbigniew Brzezinski.)

[10h] Ford may have lost Texas's electoral votes since he struggled to eat this food at a 1976 campaign stop near the Alamo. The song "They're Red Hot" is about a unique type of this food made by Mississippi Delta migrant workers.

ANSWER: **tamales** [accept Delta **tamales**] (Ford tried to eat a tamal without removing the corn husk.)

<American History>

12. In 2021, a restoration of *Girl Reading a Letter at an Open Window* revealed a painting of this god on the wall that was covered up two centuries after it was painted. For 10 points each:

[10m] Name this god, also depicted on a tile near a foot warmer in the painting *The Milkmaid*. A statue showing this god with his finger to his lips is included in Fragonard's painting *The Swing*.

ANSWER: **Cupid** [accept **Eros**]

[10e] This Dutch Golden Age artist included paintings-within-paintings of Cupid in both *Girl Reading a Letter at an Open Window* and *The Milkmaid*.

ANSWER: Johannes **Vermeer** [or Jan **Vermeer**]

[10h] The painting of Cupid in *Girl Reading a Letter at an Open Window* is also shown in Vermeer's painting *Lady Standing at* [one of these instruments], which, like his painting *Lady Seated at* [one of them], is in London's National Gallery.

ANSWER: **virginal** [accept *Lady Standing at a* **Virginal** or *Lady Seated at a* **Virginal**; prompt on **harpsichord** or **keyboard**]

<Painting/Sculpture>

13. The name Ahmed is given to the biologically female eighth child of the Suleyman family after their first seven children were all girls in a novel from this country titled *The Sand Child*. For 10 points each:

[10h] Name this home country of Tahar ben Jelloun. Two children are killed in the 2012 novel *Chanson douce* by this country's author Leila Slimani, which is variously translated as *Lullaby* or *The Perfect Nanny*.

ANSWER: **Morocco** [or Kingdom of **Morocco**; or al-**Magrib** or **Maroc**]

[10m] As in *The Sand Child*, an abusive patriarch called Ahmad appears in works by this author. In a novel by this author, Ahmad punishes his wife Amina when she breaks her collarbone after leaving the house without permission.

ANSWER: Naguib **Mahfouz** [or Naguib **Mahfouz** Abdelaziz Ibrahim Ahmed Al-Basha]

[10e] Tahar ben Jelloun's sequel to *The Sand Child* is titled for a "Sacred" example of these time periods. Stories featuring Ali Baba are told to King Shahryar in a collection titled for 1001 Arabian examples of these time periods.

ANSWER: **nights** [accept *One Thousand and One **Nights*** or *Arabian **Nights*** or *Alf Laylah wa-**Laylah***; accept *The Sacred **Night*** or *La **nuît sacrée***]

<World Literature>

14. Molecular tweezers bind to target molecules by forming one of these complexes between their two "arms" and the substrate. For 10 points each:

[10h] Name these complexes that are prominent in supramolecular chemistry. These complexes feature one molecule that surrounds and binds to another without the presence of covalent bonds.

ANSWER: **host-guest** complexes [accept in either order]

[10m] This quantity can be calculated for host-guest reactions by measuring UV-vis ("viz") absorbance in the Benesi-Hildebrand method. The law of mass action gives this quantity in terms of species' molarities.

ANSWER: **equilibrium constant** [or **dissociation constant** or **association constant** or **mass action constant** or **formation constant** or **binding constant**; prompt on **K** or **Kd** or **Ka**]

[10e] The non-covalent bonds that hold host-guest complexes together include these bonds between an electronegative atom and the lightest element on the periodic table.

ANSWER: **hydrogen** bonds [or **H**-bonds; or word forms like **hydrogen** bonding]

<Chemistry>

15. In a book on the *Discovery of [this entity]*, the philologist Bruno Snell claims that the Greek lyric poets were the principal inventors of it and that the concept of it had not been accessible to Homer. For 10 points each:

[10h] Snell's theory predated the controversial bicameral hypothesis of this entity proposed by Julian Jaynes, which claims that its nature was fundamentally different until around 3,000 years ago.

ANSWER: the **mind** [accept bicameral **mentality**; accept *The Discovery of **Mind*** or *The Origin of Consciousness in the Breakdown of the Bicameral **Mind***]

[10e] Jaynes claimed that people with bicameral minds would hallucinate voices described as this type of being. As those voices supposedly disappeared during the breakdown of bicameralism, people instead consulted these beings through divination and oracles.

ANSWER: **gods** [or **deity** or **deities** or equivalents]

[10m] The "speaking" part of a bicameral mind may be linked to the now less-used right brain counterparts of these two "areas" associated with language production, which each name important types of aphasia. Name either.

ANSWER: **Broca**'s area OR **Wernicke**'s area [accept **Broca**'s aphasia or **Wernicke**'s aphasia]

<Social Science>

16. Urania, a queen of Mauretania with this first name, may have descended from the Emesan dynasty of priests, whose noblewomen with this name included the augustae Soaemias (“so-ai-mee-ahs”) and Mamaea (“mah-mai-ah”). For 10 points each:

[10h] Identify this nomen of the Severan matriarch Maesa (“mai-sah”) who engineered the rule of her grandchildren Elagabalus and Severus Alexander. Domna, who had this nomen, patronized Philostratus and married Septimius Severus.

ANSWER: **Julia** [or **Iulia**; accept the **Julii**; accept **Julia** Domna or **Julia** Maesa or **Julia** Soaemias Bassiana or **Julia** Mamaea or **Julia** Avita Mamaea or **Julia** Urania]

[10e] The venerable gens Julia included the Julio-Claudian dynasty founded by this man, who targeted his daughter Julia the Elder with anti-adultery laws like the Lex Papia Poppaea. This “Princeps” was the first Roman emperor.

ANSWER: **Augustus** [or Caesar **Augustus**; or **Octavian**; or Gaius **Octavius**; or Gaius Octavius **Thurinus**; or Gaius Julius Caesar **Octavianus**; do not accept or prompt on “Julius Caesar”]

[10m] Augustus’s pronatal policies exempted some mothers from the harsh tutela mulieris guardianship laws that gave men like these Roman heads of household control over women. These patriarchs had the patria potestas.

ANSWER: **paterfamilias** [or **patres familias**; prompt on translations like “father of the family”]

<Other History>

17. In a play with this property, the protagonist fears that she is a “greedy, perverted, selfish, apathetic, cynical, depraved, mannish-looking, morally bankrupt woman who can’t even call herself a feminist.” For 10 points each:

[10m] Name this property that is referenced in the title of an Eve Ensler play about female sexuality that launched the V-day movement.

ANSWER: performed in **monologues** [accept **one-person** play or **one-woman** play or **one-man** play; accept **solo** performance; accept *The Vagina **Monologues***; prompt on speeches or equivalents]

[10h] A one-woman play was adapted from this memoir by Joan Didion. In this memoir, Didion maintains the title mindset when she keeps her deceased husband’s shoes, because she believes that he will come back to life.

ANSWER: *The **Year of Magical Thinking***

[10e] In the television adaptation of Phoebe Waller-Bridge’s one-woman play *Fleabag*, the protagonist speaks to the camera directly, an example of “breaking” this theatrical construct which separates the performer from the audience.

ANSWER: **fourth wall** [accept breaking the **fourth wall**]

<American Literature>

18. Answer the following about what happened to an ancient Egyptian’s soul after passing, for 10 points each.

[10m] Egyptian priests wore Anubis masks and performed a ceremony that involved the symbolic “opening” of this thing, allowing souls to survive in the afterlife.

ANSWER: **mouth** [accept opening of the **mouth** ceremony or opening of the **mouth** ritual; accept *wpt-r* or *um-r*; prompt on head or face]

[10h] This aspect of the soul embodied one’s personality and took the form of a bird with a human head after death. The Bennu bird was sometimes referred to as this aspect of Ra.

ANSWER: **ba** [or **bau** or **baw**; accept]

[10e] Egyptians believed that morals were stored in this body part and aspect of the soul. This body part is weighed against the feather of Ma’at to judge people in the underworld.

ANSWER: **heart** [or **ib**; or **jb**; accept the Weighing of the **Heart**]

<Mythology>

19. A 2020 *Economist* article discusses how this director's father, who ran a factory that manufactured aircraft parts during World War II, influenced his many depictions of flight. For 10 points each:

[10e] Name this director whose film *The Wind Rises* is about the real-life airplane designer Jirō Horikoshi. This co-founder of Studio Ghibli also directed *My Neighbor Totoro*.

ANSWER: Hayao **Miyazaki** [or **Miyazaki** Hayao]

[10h] An Italian fighter pilot who is one of these animals fends off air pirates in a 1992 Miyazaki film. At the end of another Miyazaki film, the protagonist is asked a trick question about identifying two of these animals in a group.

ANSWER: **pigs** [or **boars**; or **hog**; or **swine**; accept **porco** or **porci**; accept **Porco Rosso**; accept *Kurenai no Buta*] (The first film is *Porco Rosso* and the second is *Spirited Away*.)

[10m] Nausicaä, a Miyazaki character with this title, flies a birdlike glider to defend a jungle. Another Miyazaki character with this title lives with a wolf pack and helps Ashitaka undo a demon's curse.

ANSWER: **princess** [or **hime**; accept **Princess** Mononoke; accept **Princess** of the Valley of the Wind] (The films are *Nausicaä of the Valley of the Wind* and *Princess Mononoke*.)

<CE/Geo/Other/Pop Culture>

20. This quantity is approximated by integrating a piecewise polytropic model. For 10 points each:

[10h] Name this quantity that is calculated using a relativistic equation with the same name. This quantity was originally calculated to be 0.7 solar masses, much lower than current estimates that account for the strong force.

ANSWER: **TOV** limit [or **Tolman–Oppenheimer–Volkoff** limit]

[10e] Though its actual value is unknown, the TOV limit is defined as the highest possible mass of these objects, above which they collapse into black holes. These objects mostly consist of their eponymous subatomic particles.

ANSWER: **neutron stars**

[10m] Empirical bounds on the TOV limit can be found by measuring neutron stars, for example via these phenomena. The first such bound was calculated using these phenomena produced by a neutron star collision observed by LIGO.

ANSWER: **gravitational waves** [accept **gravitational radiation**; do not accept or prompt on "gravity waves"]

<Other Science>

21. A rebellion against this dynasty began during the Anarchy at Samarra. For 10 points each:

[10e] Name this dynasty whose rule in Iraq and Khuzestan was interrupted by the Zanj Rebellion of African slaves. This caliphate succeeded the Umayyads.

ANSWER: **Abbasid** caliphate [accept **Abbasid** empire or the **Abbasids**; accept al-Khilāfah al-‘**Abbāsīyah**]

[10m] The leader of the Zanj rebellion used his name to claim descent from this earlier Muslim caliph. This fourth rightly-guided caliph won the Battle of the Camel against Aisha, but was later assassinated by the Kharijites.

ANSWER: **Ali** [or ‘**Alī** ibn Abī Ṭālib; accept **Ali** Maula or Maula **Ali**; accept **Ali** Wali or Wali **Ali**] (The leader of the Zanj Rebellion was named "Ali ibn Mohammad.")

[10h] This Abbasid historian chronicled the Zanj rebellion in his *History of the Prophets and Kings*. This Persian historian also wrote an influential commentary on the Quran.

ANSWER: al-**Tabari** [or Muhammad ibn Jarir al-**Tabari**; accept *Tarikh al-Tabari* or *Tarikh-i Tabari* or *The History of Al-Tabari*; accept *Tafsir al-Tabari*]

<World History>