

2021 ACF Regionals

Packet J by Duke B, NYU B, WUSTL B, Columbia B, Indiana, Maryland A

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Tossups

1. In a novel by an author with this first name, a woman bakes crackers at midnight to save three hundred dollars, which is then stolen. An author with this first name claims that a novel “ends with freedom; not in the usual way, with marriage.” In a novel by an author with this first name, the protagonist sells hair dye and is abandoned by her mother Mag; Henry Louis Gates rediscovered that work as the first African-American novel published in the US. An author with this first name described hiding in an attic for seven years to escape Dr. Flint in a work written under the pseudonym Linda Brent; that author of *Incidents in the Life of a Slave Girl* had the last name Jacobs. For 10 points, give this first name of an author who dramatized Eliza’s escape from slavery in *Uncle Tom’s Cabin*.

ANSWER: **Harriet** [accept **Harriet** Wilson or **Harriet** Jacobs or **Harriet** Beecher Stowe]

<American Literature>

2. This country’s scientific community was shaped by adaptation to a “hostile intellectual environment,” according to the Forman thesis. Though structural formulas were first widely used by chemists in this country, this country was excluded from being a founding member of IUPAC (“eye-yoo-pack”). An 1872 mathematical lecture in this country proposed viewing geometric ideas as subgroups of projective geometry as part of a “program” named for a university in this country. In the 19th century, most Americans with PhDs earned them in this country. During World War I, BASF manufactured the chlorine gas used by this country from a technique developed by Fritz Haber. For 10 points, name this country whose hostility to “Jewish physics” led Max Born, Albert Einstein, and others to leave it in the 1930s.

ANSWER: **Germany** [or **Deutschland**; accept **German** Empire or Imperial State of **Germany** or **German** Republic or **German** Reich; accept Kingdom of **Prussia**; accept **Weimar** Republic] (The third sentence refers to Felix Klein’s Erlangen program.)

<CE/Geo/Other/Pop Culture>

3. In this modern-day country, Klaus Schmidt excavated an Eden-like Neolithic archaeological site known for its broken, T-shaped limestone megaliths. A pair of golden diadems, which had been originally smuggled out of this country, were taken by Soviets from the Berlin Zoo and brought to the Pushkin Museum. In this country, James Mellaart potentially fabricated the existence of artifacts in the “Dorak Affair,” but did uncover a statue of a mother goddess on a throne with two leopard-shaped armrests. That artifact from this country is the “Seated Woman.” At the suggestion of Frank Calvert, Heinrich Schliemann excavated this country’s ruins at Hissarlik, discovering the “Treasures of Priam.” For 10 points, the remains of Troy are located on what country’s Ionian coast?

ANSWER: **Turkey** [or Republic of **Turkey**; or **Türkiye** Cumhuriyeti]

<Other History>

4. Robert Jensen describes calculating this quantity on data from Hunan in an article that punningly calls him the “Indiana Jones of economics,” because he used the arc method to calculate the Daltonian form of this quantity. Cohen et al. used single-decimal rounding in Uber data to estimate consumer surplus by calculating this quantity, which has a U-shaped behavior over a brand’s lifetime, according to Hermann Simon. This quantity’s reciprocal, the Lerner index, is proportional to marginal revenue, which is maximized when this quantity is negative one. Veblen and Giffen goods uniquely have a positive value for this quantity, while more essential goods have a lower value for this quantity. For 10 points, name this quantity that measures how desire for a good changes as its cost changes.

ANSWER: **price elasticity of demand** [prompt on elasticity of demand or price elasticity or elasticity; prompt on arc elasticity; do not accept or prompt on “income elasticity of demand” or “cross-price elasticity of demand” or “wealth elasticity of demand”] (The article in the opening line is “The Indiana Jones of Economics: Raiders of the Lost Arc Elasticity” from *Freakonomics*.)

<Social Science>

5. It's not the thyroid, but casts of THP resembling colloid cause “thyroidization” of this organ in one chronic infection. A procedure that treats dysfunction of this organ introduces fluid that dwells in the peritoneal cavity. C3 and IgA (“eye-G-A”) are deposited in this organ’s mesangium in another condition. Another procedure for problems of this organ creates a fistula between the radial artery and cephalic vein for high-pressure vascular access. Minimal change disease of this organ requires electron microscopy to detect its hallmark foot process effacement in podocytes. This organ’s function can be measured using serum creatinine levels or the measured GFR. A countercurrent multiplier concentrates filtrate in an ascending loop found in components of this organ. For 10 points, urine is produced by the nephrons of what organ?

ANSWER: **kidneys** (The first clue refers to chronic pyelonephritis. The second clue refers to peritoneal dialysis.)

<Biology>

6. A man in this novel describes how “we made love and gave birth without a sound” to avoid being whipped while forcing a woman to look at charred ruins. This novel’s protagonist recounts meeting Leland Stanford and requesting 75 million dollars as payment for Stanford’s land theft. In this novel, soldiers leave a ballroom intact after gazing at their reflections in its giant mirrors. This novel’s protagonist shoots a hole through a silver coin and carries a copy of *Don Quixote*. In this novel, a man who “came here to die” is killed for burning land-granting documents, leading to the execution of Tomas Arroyo. This novel’s title character falls in love with Harriet Winslow and serves under Pancho Villa. For 10 points, Ambrose Bierce inspired the elderly title character of what Carlos Fuentes novel?

ANSWER: *The **Old Gringo*** [or ***Gringo Viejo***]

<World/Other Literature>

7. The scherzo of a “symphonic study” by this composer depicts the title literary character leading a scarecrow army. This man’s cyclic First Symphony begins with the soft walking melody “long C, B-flat, A-flat, G, up to E-flat” that is marked by a word he coined. A short piece for strings, harp, and organ by this composer is called *Sospiri*. Near the end of a four-movement concerto in E minor by this composer, the soloist reprises both the slow third-movement theme and the opening recitative that begins with a triple stop; Jacqueline du Pré was known for playing that concerto. A set of orchestral variations by this man depicts his friends, such as the publisher August Jaeger as “Nimrod.” For 10 points, name this composer of the *Enigma Variations* and the *Pomp and Circumstance* marches.

ANSWER: Edward **Elgar** (The first sentence is about *Falstaff*. The word in the second sentence is “nobilmente.”)

<Classical Music>

8. As recounted by Father Le Bel, this leader reluctantly executed the Marquis Monaldeschi (“mo-nall-DESS-kee”) for giving state secrets to England. Alexander VII asked Gianlorenzo Bernini to decorate the inner façade of the Porta del Popolo in honor of this leader. This leader used the pet name “belle” for the lady-in-waiting Ebba Sparre, who may have been a lover of this leader. Pierre Chanut’s correspondence with this leader led René Descartes to visit her court, but he died in 1650 shortly after meeting her. This “Minerva of the North,” who had a contentious relationship with her father’s advisor Axel Oxenstierna (“ook-sen-SHWANN-ah”), controversially abdicated the throne and converted to Catholicism. For 10 points, name this Swedish queen who succeeded her father Gustavus Adolphus after he died during the Thirty Years’ War.

ANSWER: Queen **Christina** of Sweden [or **Christina** Alexandra of Vasa; or **Christina** Augusta of Vasa]

<European History>

9. Paul von Ragué Schleyer introduced an *ab initio* type of this quantity that, like magnetic exaltation, is negative for aromatic compounds and positive for antiaromatic compounds. Overlapping values of this quantity can be resolved by adding lanthanide reagents like EuFOD (“yoo-F-O-D”). This quantity differs by a small but nonzero amount for diastereotopic (“dia-stereo-topic”) atoms, as seen in AB systems. High values of this quantity are called “downfield” and can arise in aromatic compounds when an induced ring current causes deshielding. This quantity, which is defined as a relative change in the Larmor frequency, is typically set to 0 for TMS. Benzene has a single peak at 7.3 ppm for this quantity on a proton spectrum. For 10 points, NMR reports changes in nuclear resonant frequencies as what kind of “shift”?

ANSWER: **chemical shift** [accept **chemical** after “shift” is read; accept nucleus-independent **chemical shift**; prompt on **delta**; prompt on **NICS**; prompt on lanthanide **shift** reagents]

<Chemistry>

10. According to Josephus, the high priests of these people were actually offshoots of the Zadokites. These people have their own non-Jewish Book of Joshua, which concludes with the reign of their high priest Baba Rabba. These people believe that their messiah, known as the *Taheb*, will come during an apocalypse known as “the day of vengeance.” Because these people believe that Eli secretly usurped the priesthood, they revere Mount Gerizim as their holiest site. One of these people is told “whoever drinks the water I give them will never thirst” at Jacob’s well. Another one of these people is the only person to help an injured man after he is ignored by a priest and a levite. For 10 points, a parable by Jesus depicts a man helped by a “good” passerby from what group of people?

ANSWER: **Samaritans** [or word forms like **Samaritanism**; or **Shamerim**; accept Good **Samaritan**]

<Religion>

11. In a play with this adjective in its title, a man dons a suit of armor to fight a perceived rival, but chickens out and says the armor is in case of rain. In that play, misunderstandings arise when a couple ends up with a woman’s locket after she faints in the street. This adjective partly titles a play in which a woman discreetly declares her love to a man pretending to be her music teacher via an improvised song about the shepherds Tircis and Phyllis. In that play, the protagonist learns that his wife Béline does not love him while faking dead. This adjective describes the title “Cuckold” of a play about Sganarelle (“scon-uh-rell”). The author of a play with this adjective in its title died on stage while starring as the hypochondriac Argan. For 10 points, name this adjective that describes the title “Invalid” of a Molière comedy.

ANSWER: **imaginary** [or **imaginaire**; or *The **Imaginary** Cuckold*; or *The **Imaginary** Invalid*; or *Sganarelle, ou Le Cocu **imaginaire***; or *Le malade **imaginaire***]

<European Literature>

12. A musician from this state used a knife to play bottleneck slide guitar on the song “Dark Was the Night, Cold Was the Ground”; that man is Blind Willie Johnson. The song “Waiting Around to Die” is by a musician from this state, Townes Van Zandt. A folk song set in a city in this state opens by stating “As I walked out in the streets of” that city. Blind Lemon Jefferson played the namesake blues style of this state, which was home to Stevie Ray Vaughan. A musical style whose Spanish name refers to this state is similar to *norteño*. A musician from this state released the album *Amor Prohibido* in 1994, a year before she was killed by the president of her fan club. For 10 points, name the home state of Selena Quintanilla (“keen-ta-NEE-ya”), where the “Live Music Capital of the World” can be found in Austin.

ANSWER: **Texas** [accept **Tejano** music]

<Other Arts (Auditory)>

13. A six-foot-tall queen of this kingdom was the subject of Elizabeth Wood-Ellem’s most notable biography, discussing her long 48-year reign. That queen of this kingdom rode in an open carriage with the Sultan of Kelantan during Elizabeth II’s rainy coronation. In the 1880s, this kingdom forced all of its subjects to become members of its Free Church, founded by the Wesleyan missionary Shirley Waldemar Baker. Accounts of Captain Cook’s 1773 visit

to this kingdom led westerners to refer to it as the “friendly islands.” This kingdom, whose kings descended from an ancestor named Tu’i (“too-ee”), adopted a flag that replaced the Union Jack on the British Red Ensign with a red cross. For 10 points, Tupou VI (“the sixth”) is the current king of what Polynesian kingdom whose capital is Nuku’alofa?

ANSWER: Kingdom of **Tonga** [or Tu’i **Tonga**] (The queen was Salote Tupou III.)

<World History>

14. A result named for this function is used to prove the Hadamard three-circle theorem and the Schwarz lemma. This function of f must be less than this function of g to apply Rouché’s (“roo-SHAY’s”) theorem to f and f -plus- g . For a non-constant holomorphic function f , this function of f cannot be maximized in the interior of a domain, by a namesake principle. A complex number z is often parameterized in terms of its argument and this function of z . In complex analysis, this function is called the modulus. For real numbers, this function is applied to x , y , and x -plus- y in the standard triangle inequality. This function equals the identity function times the signum (“SIG-num”) function and is non-differentiable at the origin. For 10 points, name this V-shaped function that gives the positive distance between the input and zero.

ANSWER: **absolute value** [or **magnitude**; or **amplitude**; or **L1 norm**; accept **modulus** or maximum **modulus** principle until “modulus” is read; prompt on **mod**; prompt on **norm**; prompt on **max**imum until “maximized” is read by asking “what other function is in the name of that result?”]

<Other Science (Math)>

15. He’s not Descartes, but in writing on a scenario proposed by this thinker, Hilary Putnam noted the lack of “entry rules” and “exit rules” that allow content about “apples, fields, and steeples” and proposed a “for reference” variant of that thought experiment. In a paper, this thinker considered nine objections, including “heads in the sand,” “arguments from various disabilities,” and “Lady Lovelace’s Objection.” Ned Block’s “Blockhead” is an objection to a concept that this thinker devised in an article that begins “I propose to consider the question, ‘Can machines think?’” That criterion created by this man is also the target of John Searle’s “Chinese Room” argument. For 10 points, name this scientist who imagined an “imitation game” or “test” in which an AI attempts to pass as a human.

ANSWER: Alan **Turing** [accept **Turing** test] (Putnam’s discussion of the “Turing Test for Reference” appears in “Brains in a Vat” in *Reason, Truth and History*.)

<Philosophy>

16. A woman demands this object even louder than Othello “roar’d for the handkerchief that caus’d his pain.” This object is thought to be kept with “cages for gnats, and chains to yoke a flea.” A character tasked with guarding this object is threatened with the punishment of Ixion on the wheel of a chocolate mill. After acquiring this object, a man praises “the conqu’ring force of unresisted steel.” A man builds an altar of billet-doux (“BILL-ay-DOO”) before resolving to acquire this object during a card game, based on one of them owned by Arabella Fermor. This object turns into a constellation at the end of a poem that begins “What dire offence from am’rous causes springs” and centers on the Baron using scissors to take this object. For 10 points, name this object that is snipped from the head of Belinda in a mock-epic by Alexander Pope.

ANSWER: the **lock** of hair [accept *The Rape of the Lock*; accept Belinda’s **hair**]

<British Literature>

17. During this period, a man claimed he would fight another man who wanted to “carry a streak of fire to Boston”; that first man espoused this period’s idea of a “benevolent empire.” Famous figures during this period included Jarena Lee, who traveled thousands of miles on foot, and the genderless Public Universal Friend. During this period, the “anxious bench” was popularized, and James McGready organized a Gasper River gathering. During this period, Charles Finney coined the name for New York’s “burned-over districts.” A Cane Ridge outdoor camp meeting lasted for days during this period, which expanded Methodism and occurred [emphasize] *after* a similar 1730s

movement led by Jonathan Edwards. For 10 points, dramatic revivals were held during what early 1800s evangelical movement?

ANSWER: **Second Great Awakening** [prompt on Great Awakening; prompt on Revival of 1800 by asking “what larger movement was this a part of?”; prompt on religious revival or awakening or sermon] (The first clue is about Lyman Beecher feuding with Finney.)

<American History>

18. A logic family described by this word is divided into subfamilies based on whether the “saturated” or “active” state corresponds to logical high. The hybrid-pi model simplifies a device named for this adjective into two resistors and a current source, allowing one to account for Early voltages at small signals. This is the [emphasize] *second* word in the name of a device whose varying concentration of germanium creates a graded interface and increases injection efficiency. This is the [emphasize] *first* word in the name of devices whose current gains are multiplied when they are chained together in Darlington pairs. Those devices named for this adjective have emitter, base, and collector terminals, and use both electrons and holes to carry charge. For 10 points, what word and “junction” name a transistor also called a BJT?

ANSWER: **bipolar** [accept **bipolar** logic or **bipolar** junction transistor or heterojunction **bipolar** transistor; prompt on **B** or **HBT**; prompt on **BJT** until read]

<Physics>

19. This figure gives advice to a prince who loses his bride after burning her frogskin and wants to find a magic needle. A sea-bird, lioness, and honeybees assist a hero in stealing a flying horse from this figure’s herd. This figure kicks out a visitor with a “mother’s blessing.” A brother and sister escape this figure with a towel that turns into a river and a comb that turns into a forest. A fire-containing skull from this figure burns a wicked stepmother and stepsisters to death. White, red, and black riders representing Day, Sun, and Night ride from this figure’s home. A girl with a magic doll, Vasilisa the Beautiful, visits this figure. This cannibalistic figure flies around in a mortar and lives in a hut on chicken legs. For 10 points, name this Slavic witch.

ANSWER: **Baba Yaga** [accept **Yaga Bura** or **Baba Yaga** Bony Leg or **Baba Iaga** or **Ježibaba**]

<Mythology>

20. This location currently houses a sculpture meant to evoke “hubris and impending collapse.” A commission for this location drew from a George Stubbs engraving for a skeletal bronze horse with a ticker marking stock prices in real time; that is Hans Haacke’s *Gift Horse*. Members of the public were invited to stand in for sculptures at this location in Anton Gormey’s *One and Other*. Heather Phillipson’s *THE END*, which features a fly, a drone, and a cherry atop a swirl of whipped cream, currently stands at this location on its Fourth Plinth. This place’s four bronze lions were sculpted by Edwin Landseer, and its namesake battle was commemorated with a *Ship in a Bottle* containing the *HMS Victory*. For 10 points, name this square in London, also home to Nelson’s Column.

ANSWER: **Trafalgar Square** [prompt on London; anti-prompt (ask “can you be less specific?”) on the Fourth Plinth until read] (Yinka Shonibare sculpted *Nelson’s Ship in a Bottle* for the Fourth Plinth.)

<Painting/Sculpture>

Bonuses

1. This program is funded through FICA (“FYE-kuh”), and amendments to it created Medicare and Medicaid. For 10 points each:

[10e] Name this 1935 program that provides benefits for retirees.

ANSWER: **Social Security**

[10m] This Secretary of Labor under FDR promoted the Social Security Act as well as the Fair Labor Standards Act, which limited child labor and created a minimum wage.

ANSWER: Frances **Perkins**

[10h] In a speech, Perkins described this man responding only “Okay” to her proposal of unemployment insurance. Perkins and this head of the PWA were the only cabinet members to remain in office for FDR’s entire presidency.

ANSWER: Harold L. **Ickes** (“ICK-iss”) [do not accept or prompt on “Harold M. Ickes”]

<American History>

2. These artworks can be made with albatross bone chisels called *uhi* and the caterpillar fungus *āwheto* (“AH-feh-toh”). For 10 points each:

[10m] Name this art form, which is practiced by the Māori as *tā moko*. A Japanese form of this art was spread to the US by Don Ed Hardy.

ANSWER: **tattooing** [accept *kiri tuhi*; accept *tā moko* until read]

[10e] This reddish-brown dye can be used to make temporary tattoos, which are applied during namesake pre-wedding parties across India, the Middle East, and parts of Africa.

ANSWER: **henna** [or **mehndi**]

[10h] *Name or description acceptable*. In Māori tattoos, this design branches off the main *manuah* lines to represent people in the wearer’s life. Gordon Walters frequently painted this symbol of growth, which appears on the tails of Air New Zealand planes.

ANSWER: **koru** [accept **spiral**; accept silver **fern**]

<Other Arts (Visual)>

3. The speaker of Nikki Giovanni’s poem “The Great Pax Whitie” refers to this character’s fate by claiming that she is “now a product of the Morton company.” For 10 points each:

[10e] Name this character. Natalie Diaz’s poem “Of Course She Looked Back” is titled in reference to a story from Genesis in which this woman turns into a pillar of salt upon looking back at Sodom.

ANSWER: **Lot’s wife** [or the **wife of Lot**; accept **Ado** or **Edith**; do not accept or prompt on “Lot”]

[10m] This author’s poem “Lot’s Wife” renders her transformation as “a single glance: a sudden dart of pain / stitching her eyes before she made a sound.” This poet lamented her son Lev’s imprisonment in the poem *Requiem*.

ANSWER: Anna **Akhmatova** (“ahkh-MAH-tuh-vuh”) [or Anna Andreyevna **Gorenko**]

[10h] In a poem by this author, Lot’s wife claims to have flown “upward / until darkness fell from the heavens / and with it scorching gravel.” A poem by this author ends: “the book of events is never more than half open.”

ANSWER: Wisława **Szyborska** (“VEES-wah-vuh shim-BOR-skah”) [or Maria Wisława Anna **Szyborska**]

(The second poem is “Love at First Sight.”)

<European Literature>

4. A set of these objects belonging to Shakuni were crafted from the ashes of his father and thus responded to his will. For 10 points each:

[10e] Name these objects. Shakuni organized a game with these rigged objects between Yudhishtira

(“yoo-DISH-tih-ruh”) and Duryodhana that resulted in Yudhishtira gambling away his kingdom, brothers, and Draupadi.

ANSWER: **dice** [or **die**]

[10h] Khonsu gambled on a game of senet with Thoth and lost, forfeiting the light to create these specific days. The Pyramid Texts identify these days with the “Birth of the Gods” because Nut gave birth during them.

ANSWER: **epagomenal** (“ep-uh-GOM-uh-null”) days [or the **monthless** days or the Five Days **upon the Year** or **above the Year** or the **Hryw Rnpt**; accept **intercalary month** or **intercalary days**; prompt on **extra month**; prompt on last **five days at the end of the year** or equivalents]

[10m] The divine Navajo gambler, Noqoilpi, kept a piece of this stone as a lucky charm. Navajo silversmiths often use this stone, and the Aztecs used it to create mosaic serpents on a mask of Quetzalcoatl (“KET-sull-koh-AH-tull”).

ANSWER: **turquoise** [or **chalchihuitl**]

<Mythology>

5. In the aesthetic theory of a philosopher from this country, art is the “expression” of feeling created through “intuitive knowledge.” For 10 points each:

[10e] Name this country home to Benedetto Croce (“CRO-chay”), who also wrote a manifesto calling this country’s fascist movement a “moral sickness.”

ANSWER: **Italy** [or **Italia**]

[10h] This philosopher criticized Croce’s “identification of intuition and expression” in her major work of aesthetics, *Feeling and Form*. She differentiated discursive and presentational symbols in the book *Philosophy in a New Key*.

ANSWER: Susanne K. **Langer** [or Susanne Katherina **Knauth** Langer]

[10m] Langer dismissed the “mystical” nature of this philosopher’s opposition of “intuition” and “intellect.” Gilles Deleuze’s (“zheel duh-LOOZ’s”) concept of the *movement-image* in cinema draws on this French thinker’s book *Creative Evolution*.

ANSWER: Henri-Louis **Bergson**

<Philosophy>

6. Alaska’s Kobuk Valley National Park protects some of the northernmost examples of this land feature, which have been studied as analogs for these features on Mars. For 10 points each:

[10e] Name these masses of sand created by the wind. They have a stoss side and a lee side.

ANSWER: sand **dunes**

[10h] *Description acceptable*. Dunes known as barchans (“BAR-kahns”) are formed in environments with what property, in contrast to where star dunes form?

ANSWER: **wind** comes predominantly from **one direction** [or equivalents; prompt on answers describing wind that is not omnidirectional but that do not further specify the direction; do not accept or prompt on “bidirectional wind”; do not accept or prompt on answers that do not mention “wind direction”]

[10m] The dunes of White Sands National Park in New Mexico are made of this hydrated calcium sulfate mineral. Crystal habits of this mineral include selenite and “desert rose.”

ANSWER: **gypsum**

<Other Science (Earth Science)>

7. Stylus and papyrus ready! Answer the following about the early days of computational math, for 10 points each.

[10e] The Plimpton 322 tablet, written using this script, exemplifies how the ancients may have quickly solved the Pythagorean theorem. The Sumerians wrote this script on clay tablets using reed styli.

ANSWER: **cuneiform**

[10h] To solve problems involving beer and bread, you might use the papyrus, written by a scribe with this name, that A. H. Rhind purchased in 1858. The first pharaoh with this name captured the Hyksos stronghold at Avaris.

ANSWER: **Ahmes** [or **Ahmose**; accept **Ahmes** Papyrus; accept **Ahmose I**]

[10m] Even earlier than in India, the Mayans used a seashell to represent zero on this calendar system, which divides time into units such as *baktun* and *katun*.

ANSWER: **Long Count** [prompt on **Mayan** calendar or **Mesoamerican** calendar]

<Other History>

8. One author may have referred to his use of this literary technique by saying that an author should be “like God in the universe, present everywhere and visible nowhere.” For 10 points each:

[10h] Name this type of “discourse” frequently seen in the works of Jane Austen, which is marked by a character’s first-person voice being presented as the third-person voice of the narrator.

ANSWER: **free indirect** discourse [accept “speech” or “narration” or equivalents in place of “discourse”; prompt on third-person omniscient; prompt on omniscient; prompt on partial answer; accept **close writing**]

[10m] This author’s use of free indirect discourse in an 1857 novel contributed to his trial for immorality. This user of “*le mot juste*” (“luh moh joost”) allegedly said of his most famous character, “*c’est moi*” (“say mwah”), and was caricatured dissecting her heart.

ANSWER: Gustave **Flaubert** (Flaubert’s prosecutor quoted bits of the novel that used free indirect discourse, which made it unclear whether Emma was describing her affairs as good, or whether Flaubert was.)

[10e] This novel by Virginia Woolf begins with a flood of free indirect discourse in its opening line, which describes how the title character “would buy the flowers herself” as she prepares for a party.

ANSWER: ***Mrs. Dalloway***

<British Literature>

9. Rich green walls and red carpets characterize a work in this medium, which, with colorful silk costumes, helped inspire colorful Orientalist fashions. For 10 points each:

[10e] Name this art form that accompanies theatrical productions. Isamu Noguchi’s minimalist work in this medium for the ballet *Appalachian Spring* included a wooden rocking chair and fence.

ANSWER: **set** design [or **stage** design or **scenic design**; prompt on partial answer; prompt on curtains; prompt on scenography by asking “what specific aspect of the scene?”; prompt on theater design]

[10h] This Belarusian-born member of the World of Art movement designed the aforementioned set and costumes for the Ballets Russes’s *Scheherazade*, and drew from Attic art for the set of *Prelude to the Afternoon of a Faun*.

ANSWER: Léon **Bakst**

[10m] Soon after *Scheherazade*’s premiere, this “zero point of painting” appeared on a stage curtain in the Futurist opera *Victory Over the Sun*. Kazimir Malevich later premiered this dark painting at the 0,10 (“zero-ten”) Exhibition.

ANSWER: ***Black Square***

<Painting/Sculpture>

10. Seth Putterman and others have studied the role that noble gases play in this phenomenon, which does not occur for pure nitrogen or oxygen. For 10 points each:

[10h] Name this phenomenon in which intense sound waves pass through a liquid and generate super-hot flashes of blue light, sometimes colloquially called a “star in a jar.”

ANSWER: **sonoluminescence**

[10e] Sonoluminescence occurs when these gas-filled cavities collapse. Donald Glaser used beer in a prototype of a particle-detecting “chamber” named for these things that developed from the cloud chamber.

ANSWER: **bubbles** [accept **bubble** chamber]

[10m] Some proposed explanations of sonoluminescence link it to this form of free–free radiation produced by decelerating charged particles. This continuous-spectrum radiation is usually known by a German name.

ANSWER: ***bremsstrahlung*** [or **braking radiation**]

<Physics>

11. During the Christmas Truce, soldiers fighting in these places came out and supposedly played an impromptu soccer game. For 10 points each:

[10e] Name these places whose cramped and dirty environment caused diseases such as gangrene. Fighting in them was common during World War I.

ANSWER: **trenches** [accept **trench** warfare]

[10m] To protect soldiers in trenches, the French developed one of these things known as the Adrian, later copied by the British to create the Brodie. A pointed one of them called the *pickelhaube* was also phased out during the war.

ANSWER: **helmets**

[10h] Late in the war, Commonwealth troops began using this tactic, where precisely-timed artillery fire would protect infantry charging out of trenches. It was used to great effect at the 1917 Battle of the Messines.

ANSWER: **creeping barrage** [or **rolling barrage**; prompt on **barrage**]

<European History>

12. This company faced a lawsuit from Eko for purportedly stealing Turnstyle technology that allows both horizontal and vertical viewing. For 10 points each:

[10m] Name this short-form streaming platform. This company raised over a billion dollars from investors but shut down only six months after its April 2020 launch.

ANSWER: **Quibi**

[10h] This founder of Quibi explained that his mobile-only platform would compete with Snapchat and Instagram, not with Netflix, in a 2019 *Vanity Fair* interview. This former Walt Disney Studios chairman co-founded Dreamworks.

ANSWER: Jeffrey **Katzenberg**

[10e] Though Katzenberg blamed COVID-19 for Quibi's failure, this social media app crossed two billion downloads in 2020. Dances often go viral on this app, where users share short videos of themselves set to music.

ANSWER: **TikTok**

<CE/Geo/Other/Pop Culture>

13. A teacher with this additional profession pulls a gun on some of her ex-students at the end of a comedic play by Christopher Durang, whose title claims that she "Explains It All for You." For 10 points each:

[10m] Name this profession held by the protagonist of John Patrick Shanley's play *Doubt*, who accuses a colleague named Flynn of sexual misconduct.

ANSWER: **nun** [or **sister**; or **Sister Mary Ignatius Explains It All for You**; prompt on school **principal** by asking "what is her other profession?"; do not accept or prompt on "priest"]

[10e] Mary Tyrone alludes to her past dream of becoming a nun during one of her many morphine-fueled hallucinations in this Eugene O'Neill play.

ANSWER: ***Long Day's Journey into Night***

[10h] Ronnie builds a bomb to kill the Pope on his visit to New York, but ends up killing two nuns instead, in this playwright's *The House of Blue Leaves*. A con man claims to be Sidney Poitier's son in another play by this author.

ANSWER: John **Guare** (The second play is *Six Degrees of Separation*.)

<American Literature>

14. Plum Village founder Thích Nhất Hạnh ("tick nyut han") published "Fourteen Precepts of Engaged Buddhism" for an order named for this concept. For 10 points each:

[10h] Name or describe this Buddhist doctrine that can be visualized as twelve links representing *nidāna*, or causes, encircling the wheel of Dharma. It is also explained with an infinite net owned by Indra.

ANSWER: **pratītya-samutpāda** [or **paṭicca-samuppāda**; or **dependent origination** or **dependent arising** or **co-arising**; or **interconnectedness** or **interbeing** or **interdependence** or **interpenetrance**; or **Conditioned Genesis** or **Causal Nexus**; accept **all things are connected** or **everything is causally linked** or equivalents; prompt on chain of **causation** or **cause and effect** or similar]

[10m] In *Root Verses on the Middle Way*, Nāgārjuna equates dependent origination with this concept and explains that things lacking this concept do not exist. In the *Heart Sutra*, Avalokiteśvara (“uh-vuh-loh-kee-TESH-vuh-ruh”) teaches that form is this concept.

ANSWER: **śūnyatā** [or **suññatā**; accept **emptiness** or **voidness**]

[10e] The cyclical nature of the twelve links and the Wheel of Dharma are linked to this cycle of death and rebirth. Nirvana marks the release from this ongoing cycle.

ANSWER: **samsāra** [or **sansāra**]

<Religion>

15. A protein called MAVS is vital to the induction of a Type I response named for these proteins. For 10 points each:

[10m] Identify these cytokines that are best known for their role in hindering viral replication in infected host cells.

ANSWER: **interferons**

[10e] Interferon production can be induced when RIG-5 or MDA5 recognize panhandle-shaped double-stranded forms of this molecule. The genomes of both SARS-CoV-2 and HIV consist of this uracil-containing molecule.

ANSWER: **RNA** [or **ribonucleic acid**; accept **mRNA** or **dsRNA**; do not accept or prompt on other types of RNA]

[10h] Interferon signalling largely proceeds through this pathway. Dimerized interferon receptors recruit one namesake member of this pathway, whose name as published refers to its two near-identical kinase domains.

ANSWER: **JAK-STAT** pathway [accept **Janus kinase** in place of “JAK”; accept **signal transducer and activator of transcription** in place of “STAT”; prompt on partial answer]

<Biology>

16. In a movement called “Dream of a Witches’ Sabbath,” two of these unusual low brass instruments play the “Dies irae” motif along with several bassoons. For 10 points each:

[10h] Name this 19th-century instrument designed to replace the serpent that was also named for its snake-like shape. When a piece calls for this instrument, modern orchestras usually replace it with a tuba.

ANSWER: **ophicleide** (“OFF-ih-clyde”)

[10e] “Dream of a Witches’ Sabbath” is the finale of the *Symphonie fantastique* by this composer.

ANSWER: Hector **Berlioz** [or Louis-Hector **Berlioz**]

[10m] Another depiction of a witches’ sabbath is Mussorgsky’s *Night on Bald Mountain*, whose most well-known version is an arrangement by this other composer. He wrote the operas *Sadko* and *The Snow Maiden*.

ANSWER: Nikolai Andreyevich **Rimsky-Korsakov** [prompt on partial answer]

<Classical Music>

17. One of these people sends the narrator out to sea on a boat encased in a green bottle in a story from the collection *At the Bottom of the River*, which includes several stories whose narrators discuss these people. For 10 points each:

[10h] Name this type of person. A one-sentence story narrated by one of these people consists of an extensive list of instructions and ends with an insult about “the kind of woman who the baker won’t let near the bread.”

ANSWER: **mother** [or “My **Mother**”; or synonyms like **mom**; prompt on **parent** or **woman**; prompt on **Antiguan** by asking “what type of person in relation to the narrator?”] (The second story is “Girl.”)

[10m] The mother–daughter relationship is central to many works by this Antiguan author of the story “Girl” and the novels *Lucy* and *Annie John*.

ANSWER: Jamaica **Kincaid** [or Elaine Potter **Richardson**]

[10e] The girl Xuela (“SHWEL-ah”) narrates a Kincaid novel titled for one of these works “of My Mother.” Both an Alex Haley book about Malcolm X and a James Weldon Johnson novel about an “ex-colored man” purport to be in this genre.

ANSWER: **autobiography** [prompt on **memoir**; prompt on **biography**; accept *The **Autobiography** of Malcolm X* or *The **Autobiography** of an Ex-Colored Man*]

<World/Other Literature>

18. To exemplify this concept, Ana Celia Zentella recalls a supervisor asking her to modify her name's pronunciation with the prestige Spanish "lisp." For 10 points each:

[10h] Name this concept introduced by Pierre Bourdieu ("boor-DYUH") that refers to the unconscious ways in which dominant groups reinforce power differentials in the status quo.

ANSWER: **symbolic violence**

[10e] Symbolic violence also occurs when people use "Mock Spanish" like Donald Trump's "bad hombres" in public discourse. This is because the "joke" relies on these prejudicial generalizations about groups of people.

ANSWER: **stereotypes**

[10m] Mock Spanish may be a form of this process in which a dominant group adopts the symbols of another group. bell hooks describes how perpetrators of this act "pay no dues" to "reap the benefits" of language born of struggle.

ANSWER: **cultural appropriation** [prompt on appropriation or linguistic appropriation; do not accept or prompt on "linguistic reappropriation"] (Jane Hill and Adam Schwartz argue that Mock Spanish or Gringo Language is a form of cultural/linguistic appropriation and covert racist discourse that helps maintain White public space and racializes Latinx people.)

<Social Science>

19. Astatine has no stable isotopes and is the rarest naturally occurring element in the Earth's crust. Answer the following about artificial routes to synthesizing it, for 10 points each.

[10e] Astatine's relatively stable 211 isotope is usually formed by firing alpha particles at this element's 209 isotope. This diamagnetic element lends its name to a pink antacid, and its chemical symbol is Bi.

ANSWER: **bismuth** [prompt on Pepto-Bismol]

[10m] After synthesis, astatine is often extracted into this organic solvent. The deuterated form of this one-carbon compound is the most common solvent in NMR.

ANSWER: **chloroform** [or trichloromethane; or CHCl₃]

[10h] Astatine's instability limits studies of its reactivity, but a 2018 paper showed that it forms halogen bonds with these compounds. The binding of these compounds to antimony pentachloride is used to define their donor number.

ANSWER: **Lewis bases** [prompt on bases; prompt on nucleophiles]

<Chemistry>

20. Indigenous peoples in this country rebelled during the Rupununi Uprising. For 10 points each:

[10m] Name this country that was ruled by the strongman Forbes Burnham for two decades after its independence. Burnham lent this country's city of Port Kaituma to the cult leader Jim Jones.

ANSWER: **Guyana** [or Co-operative Republic of Guyana]

[10h] The Rupununi Uprising occurred in a region named after this river, claimed by Venezuela to demarcate Guyana's true border. It named a Dutch colony that was combined with "Demerara" in the 1800s.

ANSWER: **Essequibo** River [or Rio Essequibo; accept Demerara-Essequibo]

[10e] Guyana's "father of the nation," Cheddi Jagan, was of this ethnicity. The British brought people of this ethnicity to Guyana and Fiji as indentured laborers during the British Raj.

ANSWER: **Indians** [or Indo-Guyanese; or Indo-Fijians]

<World History>