

## 2023 ACF Regionals

Packet E by Cornell A, Cornell B, Maryland B, UNC A

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Tossups

1. The form factor of objects used for this task can be described by the K factor, which is the ratio between S-alpha and S-gamma. “Multiaxis” methods for this task often use an apparatus that can perform this task around five different axes, which are labeled X, Y, Z, A, and B. Devices for performing this task are usually described by a pair of related quantities called “speeds and feeds,” which are related to the chip load per tooth. A common method of performing this task involves using a waterjet to propel an abrasive at high pressures at a material. This task is performed on a workpiece to produce a final product through subtractive manufacturing. For 10 points, name this task often performed by CNC tools, in which material is removed by tools like lathes, bits, or saws.

ANSWER: **machining** [or **cutting**; or **milling**; accept **machine** tools; accept **dicing**; accept **turning**; accept **drilling**]

<Other Science>

2. In his third *One Year Performance*, Tehching Hsieh (“duh-ching sh’yeh”) spent a year homeless in this city without entering any buildings or shelters. A museum in this city commissioned Sūn Yuán (“swun yoo-en”) and Péng Yǔ’s (“pung yoo’s”) work *Can’t Help Myself*, in which a red liquid is swept by a robot arm. At a museum in this city, dots were painted on nude participants in the happening *Grand Orgy to Awaken the Dead*, which was organized by Yayoi Kusama. A giant gilded birdcage was among hundreds of installations in this city for the 2017 project *Good Fences Make Good Neighbors* by Ài Wèiwèi. This city’s Parsons School of Design is part of The New School. In this city, lesser-known contemporary artists are showcased by the Whitney Biennial. For 10 points, name this city that contains the MoMA.

ANSWER: **New York** City [or **NYC**]

<Other Fine Arts>

3. A poem in this language describes a bird confusing wheat for water and north for south, and repeats the line “she was mistaken.” A poem in this language, which describes a “fat lady who turns dying octopuses inside out” at Coney Island, is titled “Landscape of a Vomiting Multitude.” An author argued that “the natural music of the black poplar and the waves” characterizes this language’s “deep song.” A poet who used this language seemed to predict his murder in “The Fable and Round of the Three Friends” from his collection *Poet in New York*. That poet used this language for the line “green, how I want you green,” which opens the poem “Sleepwalking Ballad” in a collection of *Ballads* titled for the Romani people. For 10 points, which language’s Generation of ’27 included Rafael Alberti and Federico García Lorca?

ANSWER: **Spanish** [or **Español**; or **castellano**] (The poem in the first line is Rafael Alberti’s “The Dove.”)

<European Literature>

4. *Note to moderator: Read the answerline carefully.*

In the 1840s, a group of these people migrated to Beja lands in Sudan and Eritrea. The book *Colonial Effects* analyzes how the 1929 “law of supervising” these people limited their crossing of borderlands like the former “Occupation of Ma‘ān.” Lila Abu-Lughod’s book *Veiled Sentiments* analyzed the ghinnāwa poetry of these people, whose English name contains the same three consonants as stateless people who were offered Comorian passports in Kuwait and the UAE. In the 1950s, 14,000 of these people were confined to a reservation near Beersheba (“bair-SHEV-uh”). Many of these people whom local ‘ulamā’ converted to Wahhābism joined the ‘Ikhwān, who raided the Transjordan and conquered the Ḥejāz for Ibn Saud. For 10 points, Hashemite forces relied on what tribal nomads romanticized by T. E. Lawrence during the Arab Revolt?

ANSWER: **Bedouin** [or **badū** or **badawī**; accept **Bedoon** or **Bidūn**; accept Bani **Sakher**, **Otaibah**, **Oahtānī**, **Mutayr**, **Awlad ‘Ali**, **Tarabin**, **Harb**, Bani **Hamida**, **Rashaida**, or Bani **Rashid**; prompt on **Arabs**, **Arabians**, **arabīyun**, Israeli **Arabs**, **Saudis**, **Jordanians**, **Palestinians**, **Su‘ūdiyyūn**, **Filastīnīyūn**, or **Masriyyūn**; prompt on **Muslims**; prompt on **nomads**, nomadic **pastoralists**, **tribesmen**, tribal **confederations**, camel **herders**, **goatherds**, or **shepherds**]

<World History>

5. Additives named for their use in increasing the content of this element include TAME and MBTE. Sensors for this element are classified as “narrowband” or “wideband,” are often based on zirconia, and measure the concentration of this element from the voltage difference across porous platinum electrodes. In reformulated gasoline, this element must account for at least 2.1 percent by weight. Whether the concentration of this element is too high, low, or just right, determines whether an engine is running rich, lean, or stoichiometric. A class of compounds named for containing nitrogen and this element are a pollutant in car exhaust. Catalytic converters add this element to incomplete combustion products like carbon monoxide. For 10 points, a diatomic form of what element reacts with fuel in internal combustion engines?

ANSWER: **oxygen** [or **O**; accept **O<sub>2</sub>** (“O-two”)]

<Chemistry>

6. After his “blasphemous” judgment is questioned, this character compares “all visible objects” to “pasteboard masks” and brags, “I’d strike the sun if it insulted me.” This character provides the “secret motto” of a novel “broiled in hell-fire” by “deliriously [howling]” a Latin phrase as he forges a “fiery dart” in the name of the Devil. This “ungodly, god-like” character takes pity on a child who is said to see “God’s foot upon the treadle of the loom” while swimming, the Black boy Pip. A lightning-shaped white scar runs down the face of this Quaker, who uses the blood of “three pagan kinsmen” to baptize a weapon. He shouts, “From hell’s heart, I stab at thee,” after being strangled by hemp rope as the *Pequod* sinks. For 10 points, what monomaniacal, peg-legged captain hunts the title whale in *Moby-Dick*?

ANSWER: Captain **Ahab**

<American Literature>

7. An 1896 book of legends named for this river includes the story of a tyrant who is eaten alive in the “Mouse Tower.” This river names the 14th-century mysticism of the Friends of God. At a city on this river, King Danocrat or Gibica invites challengers to the rose garden of his daughter, who is cut up for beheading her husband’s murderer. This river’s flood is compared to the “heroes’ blood” of a country’s guardians in lyrics written during an 1840 “crisis.” A wand is part of the hoard sunk in this river by the villainous Hagen. Boatmen drown on this river’s rocks due to a woman combing her golden hair in a legend that inspired a poem by the author of *Atta Troll*. For 10 points, what river is inhabited by a siren called the Lorelei and maidens who guard gold that is stolen to forge the ring of the Nibelungs?

ANSWER: **Rhine** River [or der **Rhein**, **Rijn**, **Rhing**, or **Ragn**; accept **Neckar**; accept **Rheingold**; accept **Rhinemaids** or **Rheintöchter**; accept **Rhine** Crisis; accept “Die Wacht am **Rhein**” or “The Watch on the **Rhine**”; accept **Rhineland** mysticism; accept *Legends of the Rhine* or *Rheinisches Sagenbuch*] (Wilhelm Ruland wrote *Legends of the Rhine*. Gibica’s court appears in *Der Rosengarten zu Worms* and his daughter is Gudrun or Kriemhild.)

<Mythology>

8. In this dialogue, Socrates uses the example of someone being convinced to buy a donkey that he thought was a horse to argue that a “ridiculous friend” is better than a “cunning enemy.” Socrates tells a story in this dialogue about the god Theuth and the king Thamus after describing four types of divine madness. This dialogue’s use of a word for writing that translates as both “remedy” and “poison” is examined in Jacques Derrida’s essay “Plato’s Pharmacy.” An allegory in this dialogue compares the soul to a pair of winged horses and their charioteer. Socrates’s interlocutor in this dialogue, who recounts Lysias’s speech about the best sexual partners, also appears as the first speech-giver in the *Symposium*, which addresses similar themes. For 10 points, name this Platonic dialogue on the nature of love.

ANSWER: **Phaedrus** (The word discussed by Derrida is “pharmakon.”)

<Philosophy>

9. An effect named for this scientist, in which electrons in a solid are accelerated by an external electric field, was first observed in a long period superlattice in 1993 and occurs when particles Bragg reflect at the edge of the Brillouin (“bree-WANN”) zone. In boundaries between domains described by this scientist, the magnetization rotates around the normal vector, in contrast to Néel (“nay-ELL”) walls. Vectors named for this scientist correspond to orthogonal states if they are antiparallel in a construct where the  $x$ ,  $y$ , and  $z$  axes correspond to the Pauli matrices. Functions named for this scientist multiply  $e$ -to-the- $ikx$  to give the wavefunction in a periodic potential. This scientist’s theorem gives solutions to the Schrödinger equation for particles in crystal lattices. For 10 points, name this scientist whose “sphere” represents the state of qubits.

ANSWER: Felix **Bloch** [accept **Bloch** sphere; accept **Bloch**’s theorem; accept **Bloch** function; accept **Bloch** vectors; accept **Bloch** walls; accept **Bloch** oscillations]

<Physics>

10. To hasten the end of this campaign, a general flogged Acco to death in front of his allies. To weaken his younger brother, who had conspired with Casticus, this campaign was encouraged by Divitiacus. Lucius Aurunculeius Cotta's wariness of a promise of truce and safe passage during this campaign was ignored by Quintus Titurius Sabinus, causing both of their deaths. After serving as a lieutenant to this campaign's general, Titus Labienus later defected. Aulus Hirtius added an eighth volume to an existing account of this campaign that valorized the Belgae king Ambiorix. This campaign's general, who besieged Alesia and captured Vercingetorix ("ver-sin-JET-uh-rix"), later became the last Roman dictator. For 10 points, name this campaign waged by Julius Caesar to annex territory in modern-day France.

ANSWER: **Galic** Wars [accept descriptions of the Roman invasion of **Gaul** or the Roman conquest of **Gaul**; prompt on descriptions of the Roman invasion of **France** or equivalents until "France" is read]  
<Other History>

11. This word appears in bold red at various angles on a crowded lithograph advertising a series of "small evenings" in Holland. A text named for this word proposes forms of "spontaneity" and "disgust" and imagines "A. B. C." fulminating "against 1. 2. 3." This word is scattered over images of the "Last Weimar Beer Belly Cultural Epoch of Germany" in Hannah Höch's collage *Cut with the Kitchen Knife*. This word was called the "heart of words" in a manifesto that Hugo Ball read at the Cabaret Voltaire. Jean Arp led the Cologne branch of a movement named for this word, which Richard Hülsenbeck legendarily chose at random by slotting a paper knife into a French dictionary and landing at the word for "hobby horse." For 10 points, what nonsense word names an avant-garde art movement?

ANSWER: **Dada** [accept **Dada** Manifesto or Le Manifeste **DaDa**] (The second line quotes from Tristan Tzara's "Dada Manifesto 1918.")  
<Painting/Sculpture>

12. The protagonist gives some of his dried seaweed to two of these animals in Susanna Clarke's novel *Piranesi*, which is set in the year that one of them "came to the south-western halls." In D. H. Lawrence's poem "Snake," the speaker's "vulgar" act makes him think of one of these animals and wish for the snake's return. A poem describes how one of these animals "ate the food it ne'er had eat" after being "hailed" like a "Christian soul." In that poem, one of these animals disappears when the speaker sees some snakes and "[blesses] them unaware." After the death of one of these animals that "brought the fog and mist," it is hung around its killer's neck in a poem from *Lyrical Ballads*. For 10 points, what type of bird is killed by the title character of "The Rime of the Ancient Mariner?"

ANSWER: **albatross** [or **Diomedea**; accept wandering **albatross** or other specific species; prompt on **birds** or **avians** until "bird" is read]  
<British Literature>

13. These objects name cabarets where the elderly listened to women sing old songs in 1960s Taiwan. The Shaw brothers began the tradition of providing these objects to the elderly in Singapore. Green versions of these objects are exchanged on Hari Raya Puasa, which is Brunei and Malaysia's Eid al-Fitr. Within a web of long-term reciprocal social relationships that literally means "closed system," these objects are a euphemism for bribes. These objects are attached to heads of lettuce to be retrieved by lion dancers. In 2015, Alibaba launched a system to digitize these objects to compete with Tencent's WeChat Pay. Due to superstition, the gifts inside these objects typically display even numbers, but not four. For 10 points, children receive money in what objects with a lucky color on Chinese New Year?

ANSWER: **red envelopes** [or **hóngbāo**, **ang pow**, **lai see**, **red packets**, or **red bags**; accept digital **red envelopes** or virtual **red envelopes**; accept **hóngbāo** chǎng; prompt on **envelopes** or **packets** or **bags** by asking "what is their typical color?"; prompt on **money**, **cash**, **currency**, **banknotes**, **dollars**, **lǐjīn**, **qián**, **kuài**, **yuán**, **rénmínbì**, **RMB**, **duit** raya, or other types of money by asking "accompanied by what distinctive objects?"] (The fourth line refers to guānxì.)

<Other Academic>

14. This thinker's time among the Siksika Blackfoot overturned his theory about the universality of the quest for dominance, according to Edward Hoffman's biography *The Right to be Human*. In a speech at California's Esalen Institute, this thinker inspired the Human Potential movement by outlining his theory of "B-values." This thinker's methodology of reading biographies of figures like Albert Einstein and studying the healthiest one percent of college students has been criticized as rife with selection bias. This psychologist theorized metamotivations that only emerge over time. A five-layered diagram created by this humanistic psychologist lists "physiological" and "safety" as its bottom two categories. For 10 points, name this psychologist who placed "self-actualization" at the pinnacle of his "hierarchy of needs."

ANSWER: Abraham **Maslow** [or Abraham Harold **Maslow**; accept **Maslow**'s hierarchy of needs]  
<Social Science>

15. This country's economy was tanked by both the struggles of a national bank run by a 1970s tennis star and the Caritas Ponzi scheme. A former monarch of this country was once again forced into exile after drawing massive crowds from his balcony in the Hotel Continental for an Easter speech. Anti-corruption agents in this country arrested the organizer of the mineriad and leader of the Jiu ("JEE-oo") Valley coal miner's union, Miron Cozma. An event in this country sometimes called the "Christmas Revolution" culminated after protests over the eviction of ethnically-Hungarian pastor László Tőkés ("LOSS-low TUR-kesh"). A leader of this country, who departed from the policies of Gheorghe Gheorghiu-Dej ("GYOR-gay gyor-GHEE-oo-DEZH") in the July Theses, was executed on live television with his wife Elena. For 10 points, name this communist state led by Nicolae Ceaușescu ("chow-SHESS-ko").

ANSWER: **Romania** [accept Socialist Republic of **Romania** or Republica Socialistă **România** or **RSR**; accept **Romanian** People's Republic or Republica Populară **Română** or **RPR**] (Tennis star Sever Mureșan ran the Dacia Felix Bank.)  
<European History>

16. *Description acceptable.* Aviva Ben-Ur ("uh-VEE-vuh ben-OOR") argued that the resurgence of this doctrine empowered Suriname's Eurafricans. Islamic influence may explain this doctrine's reversal by the Crimean Karaites ("CARE-uh-ites"). Shaye Cohen theorized that the Tannaim ("tah-nah-EEM") adopted this doctrine by analogy from the prohibition on kil'ayim ("keel-AH-yeem") and initially designated its subjects as mamzerim ("mom-zair-EEM"). Keren McGinity cited this "principle" to explain why the term "shegetz" ("SHAY-gets") is rarer than the pejorative "shikse" ("SHICK-suh"). In 1983, this doctrine was repudiated by the Reform movement. Rabbinic lore bolstered this doctrine from the Mishnah by positing the conversion of the Midianite Zipporah. Under this doctrine, Paul Newman was a gentile but Harrison Ford is a Jew. For 10 points, what doctrine recognizes the Jewish status of only certain children of mixed marriages?

ANSWER: **matrilineality** [or **matrilineal** principle; or descriptions of Jewish status being inherited from the **mother** or **maternal** line or equivalents; accept **patrilineal** Jews requiring **conversion** or equivalents; prompt on determining **who is a Jew** or equivalents; prompt on **opposition** to **interfaith marriages**, **prohibition of mixed marriages**, **opposition to intermarriage**, or equivalents; prompt on **conversion** of non-Jews or equivalents] (Ben-Ur argued that matrilineality was initially suppressed by Portuguese Sephardim, but resurfaced and created a large class of Jews born to mothers of African descent.)  
<Religion>

17. After this city hired Charles Hatfield to fill Lake Morena with rainwater, floods broke the Sweetwater Dam. Bob Dole was nominated at the 1996 RNC hosted in this city, where Spiro Agnew earlier denounced “the nattering nabobs of negativism.” During World War II, W. J. Morcott organized the “Yippie” fleet of tuna clippers from this city’s 32nd Street Naval Station. This city’s Cabrillo National Monument on Point Loma marks exploration that led to the founding of its mission named for Didacus of Alcalá, the earliest and southernmost of the 21 stations on the Camino Real. A fair in San Francisco was rivaled by the 1915 Panama–California Exposition in this city’s Balboa Park, where the Scripps family funded its massive zoo. For 10 points, name this city across the Mexican border from Tijuana.

ANSWER: **San Diego** [accept **San Ysidro**; accept **Point Loma** until read; accept **San Diego** Zoo; accept Mission **San Diego** de Alcalá; accept Naval Base **San Diego**]

<American History>

18. In a novel set during this decade, the pregnant Neni studies pharmacy and her husband Jende Jonga works for the stressed executive Clark after they leave Cameroon. Early in this decade, Binyavanga Wainaina founded the literary magazine *Kwani?* after his story “Discovering Home” won the third annual Caine Prize. This decade is the setting of Imbolo Mbue’s novel *Behold the Dreamers*. In this decade, a novel’s female protagonist delays her move for a Princeton fellowship until the election of a politician who she writes will “do it better” in texts that use the alias “Professor Hunk” for her boyfriend Blaine. “Raceteenth” is written in this decade in Chimamanda Ngozi Adichie’s *Americanah*. For 10 points, name this decade when Ifemelu blogs about the first election of the US president who wrote *Dreams from My Father*.

ANSWER: **2000s** [or ‘**00s**, **aughts**, **noughties**, **first decade** of the **21st century**, or equivalents] (*Behold the Dreamers* is set during the 2008 financial crisis.)

<World Literature>

19. The circuits these animals use to specify the endomesoderm (“endo-MEE-zo-derm”) form the best-studied gene regulatory network. Over 20 lineages of these animals evolved direct development instead of a feeding larva called a pluteus. In these animals, E. E. Just discovered the “slow block” due to the cortical granule reaction. Tim Hunt discovered cyclins in these animals’ eggs. Hans Driesch isolated the blastomeres of these animals to discover regulative embryonic development, since they were the classic model of fertilization. The common name of these invertebrates was once a term for hedgehogs. Overgrazing by these roe-bearing deuterostomes creates “barrens” in the absence of a top-down trophic cascade from the keystone predator of Pacific kelp forests, the sea otter. For 10 points, name these spiny echinoderms.

ANSWER: sea **urchins** [or **Echinoidea**; accept **urchin** barrens; accept **Strongylocentrotus** or **Strongylocentrotidae**; accept **Arbacia** or **Arbacioida**; accept **Paracentrotus** or **Toxopneustes**; accept **Lytechinus**; accept cake **urchins** or **sea biscuits**; prompt on **echinoderms**, **Echinodermata**, **deuterostomes**, or **invertebrates** until each is read] (E. E. Just names a program for underrepresented STEM students at Dartmouth.)

<Biology>

20. A symphony of this number opens with tremolo violins over the quiet low string theme [read slowly] “F, G-flat, [pause] F up to long D-flat, C, long E-flat, D D-flat C,” which Heinrich Schenker likened to “the beginning of the world.” A different symphony of this number gives the instruction to sing “like a breath” in its lengthy Part II. The scherzo from a symphony of this number is based on a five-note theme that represents the nationalistic figure “Deutscher Michel.” In a symphony of this number, the “Chorus Mysticus” praises the “eternal feminine” in a triumphant E-flat major conclusion. The “Apocalyptic” is a nickname for Anton Bruckner’s symphony of this number, his penultimate. For 10 points, settings of *Veni Creator Spiritus* and Goethe’s *Faust* are found in Gustav Mahler’s massive symphony of what number, the *Symphony of a Thousand*?

ANSWER: **eight** [accept **Eighth** Symphony or Symphony No. **8**; reject “one thousand” or “1,000”]

<Classical Music>

21. *Note to moderator: Read the answerline carefully.*

The Khalimpur copper plates were commissioned by a ruler from this region who also founded the Vikramashila Monastery. The Sufi mystic Shah Jalal helped conquer this region, where Sikandar Shāh built the Adina Mosque in Pandua. This region’s calendar system descends from a project commissioned in 594 CE by Shashanka of Gauda. The Pāla Empire based in this region patronized Nālandā University. This region widely cultivated phuti cotton to export fine Mal-Mal muslin. After wars with its eastern neighbor Mrauk U, this region’s namesake sultanate lost Arakan. Chandidas wrote love poems in this region’s namesake language, which was also spoken by the wealthiest of the Mughal Nawabs. For 10 points, the port of Chittagong is located in what region of the Indian subcontinent around a namesake bay?

ANSWER: **Bengal** [or **Bānglā** or **Bôngô**; accept **Bangladesh**; accept West **Bengal**; accept Bay of **Bengal**; accept **Bihar** or **Jharkhand** or **Assam**; accept **Chittagong** or **Chattogram** until read; accept Chittagong **Hill Tracts**; accept **Bengal** Sultanate or Shahī **Bāngala**; accept **Magadha** or **Gangaridai**; accept **Bhagalpur** District, **Maldah** District, **Rahr** region, or **Chota Nagpur** Plateau; prompt on **India** or Indian **subcontinent** until each is read; prompt on **Ganges–Brahmaputra Delta**; prompt on **Gangetic Plain**]

<World History>

## Bonuses

1. A thought experiment named for this city spurred Daniel Bernoulli to propose a logarithmic utility function, thereby developing expected utility theory. For 10 points each:

[10m] Identify this city whose namesake “paradox” asks how much an agent should be willing to pay for a lottery whose value is doubled each time a heads appears in a game that ends the first time a tails appears.

ANSWER: St. **Petersburg** [or Sankt-**Peterburg**; accept St. **Petersburg** paradox or St. **Petersburg** game or St. **Petersburg** lottery]

[10e] To resolve the St. Petersburg paradox, this economist posited that rational agents possess a bounded utility function. This economist is best known for his impossibility theorem regarding ranked choice voting.

ANSWER: Kenneth **Arrow** [or Kenneth Joseph **Arrow**; accept **Arrow**’s impossibility theorem or **Arrow**’s paradox]

[10h] A view of economics named for this scientific principle, as promoted by the physicist Ole Peters, would resolve the paradox by pointing out that the expected value of a stochastic process may not equal its time average.

ANSWER: **ergodicity** [accept **ergodic** theory or **ergodic** principle; accept **ergodicity** economics]

<Social Science>

2. Marcus Paus’s 2021 piece in this genre has a title that punningly references the Roman Catholic requiem mass, and fittingly quotes the “Dies irae” motif throughout. For 10 points each:

[10h] Name this genre of a John Williams work written for the centennial anniversary of the Boston Pops, which briefly quotes his theme for *Superman* in its first movement.

ANSWER: **tuba concerto** [prompt on **concerto**]

[10e] The first-ever tuba concerto, written in 1954, was among the last works by this English composer of *The Lark Ascending* and *A Sea Symphony*.

ANSWER: Ralph **Vaughan Williams**

[10m] This composer’s tuba concerto includes the movements “Crescent Line” and “Adamant Scherzo.” This contemporary American composer memorialized her brother in her piece *blue cathedral* and won a Pulitzer Prize for her Violin Concerto for Hilary Hahn.

ANSWER: Jennifer **Higdon** [or Jennifer Elaine **Higdon**]

<Classical Music>

3. A chief of these people named Tanacharison the Half-King killed and scalped Joseph Coulon de Jumonville in an incident that prompted the Braddock Expedition. For 10 points each:

[10h] Name these people whose leader Logan the Orator fought Lord Dunmore’s militia in retaliation for the Yellow Creek Massacre. These people arose mainly from Seneca and Cayuga who migrated away from a larger alliance into the Ohio Country.

ANSWER: **Mingo** [or **Mingwe** or **Minque** or **Mingoes**; accept Blue **Mingo** or Black **Mingo**; prompt on, but DO NOT REVEAL, Ohio **Iroquois** or Ohio **Haudenosaunee** by asking “their descendants in the Ohio Country were known by what name?”]

[10e] The Mingo became independent from the Grand Council of this confederacy, whose Covenant Chain alliance with Britain broke down in the mid-18th century. The Tuscarora became its sixth nation.

ANSWER: **Iroquois** Confederacy [or **Iroquois** League; or **Haudenosaunee**; prompt on **Onondaga**, **Oneida**, **Mohawk**, **Seneca**, **Cayuga**, **Onönda’gaga’**, **Onyota’a:ka**, **Kanien’kehá:ka**, **Onödowá’ga:**, or **Gayogohó:nq’** by asking “they belonged to what confederacy?”]

[10m] Sir William Johnson attended a 1754 congress in this city in a failed attempt to revive the Iroquois–British alliance. Benjamin Franklin drafted his “Short Hints” before arriving at this city’s *Stadt Huys* meeting house.

ANSWER: **Albany** [accept **Albany** Plan or **Albany** Plan of Union; accept **Albany** Congress or **Albany** Convention]

<American History>



4. *Two answers required.* The yield point on a graph of these two quantities corresponds to the location where the slope greatly decreases. For 10 points each:

[10m] Name these two quantities symbolized sigma and epsilon. One has dimensions of pressure, while the other has dimensions of length.

ANSWER: **stress** AND **strain** [accept answers in either order; accept **stress–strain** curve]

[10e] This process is the endpoint on a stress–strain curve. This process, in which an object breaks into two, is a common failure mode in brittle materials.

ANSWER: **fracture** [prompt on **cracking**]

[10h] This statement from fracture mechanics, which was refined by Irwin, relates the critical energy release rate during fracture to the critical stress intensity squared over Young’s modulus.

ANSWER: **Griffith**’s criterion

<Physics>

5. The reader is advised to experience the story “Autobiography” with “monophonic tape and visible but silent author” in an opening note by this author that is followed by further notes refuting it as pretentious. For 10 points each:

[10m] Name this author who included a “frame-tale” intended to be cut out and twisted to be read to open his collection *Lost in the Funhouse*, which is partly set in his home state of Maryland.

ANSWER: John **Barth** [or John Simmons **Barth**]

[10h] Barth’s story “Glossolalia” consists of six mostly-incomprehensible passages that imitate the meter of this text. In a story by a different author, an old waiter at a café recites a version of this text interspersed with the word “nada.”

ANSWER: The **Lord’s Prayer** [or **Pater Noster**; or **Our Father**; prompt on **Sermon on the Mount**; prompt on Gospel of **Luke** or Gospel of **Matthew**] (The second story is Ernest Hemingway’s “A Clean, Well-Lighted Place.”)

[10e] *Lost in the Funhouse* exemplifies this style of literature championed in Barth’s essay “The Literature of Exhaustion.” It often relies on metafiction and intertextuality.

ANSWER: **postmodernism**

<American Literature>

6. Tablets discovered as part of this collection were shaped according to the information they contained, such as four-sided for financial transactions or round for agricultural data. For 10 points each:

[10h] Name this collection of tens of thousands of clay tablets, whose fragments allowed George Smith to piece together a story about a biblical flood.

ANSWER: Royal **Library** of **Ashurbanipal** [or **Ashurbanipal**’s **library**; accept **Aššur-bāni-apli** in place of “Ashurbanipal”; prompt on **Nineveh tablets**]

[10e] The British Museum hired Smith to translate twelve tablets from Ashurbanipal’s library that recorded this epic about a Sumerian ruler, in which Ea warns Utnapishtim of an impending flood.

ANSWER: *Epic of* **Gilgamesh** [accept **Shūtur eli sharrī** or **Sha naqba īmuru**]

[10m] The myth of Adapa was preserved by fragments from both the Library of Ashurbanipal and this temporary capital of Egypt’s Eighteenth Dynasty. The Byblian king Rib-Hadda wrote repeated pleas for help on tablets named for this city.

ANSWER: **Amarna** [or **Akhetaten**; accept **Amarna** Letters; reject “Akhenaten”]

<Other History>

7. People of this ethnicity, who brought Kavadi Attam processions to the Seychelles, are the main ones who celebrate the harvest festival Pongal by overflowing pots filled with a dish of rice, milk, and jaggery. For 10 points each:

[10m] Name this ethnic group whose medieval poet-saints included the Alvars. The hymns of the *Tēvāram* were composed by saints of this ethnicity, which originated a devotional classical dance called Bharatanātyam.

ANSWER: **Tamils** [or **Tamilarka**]; or **Tamizh**; accept **Tamil**-Seychellois; prompt on South **Indian**, **South Asian**, **desi**, **Dravidians**, or **Indo**-Seychellois]

[10h] By the 7th century, Tamil poets were said to have attended these three semi-legendary gatherings in the past. These “academies” name a corpus of early medieval South Indian literature that includes akam and puram poems.

ANSWER: **Sangam** [or **Caṅkam**; accept **Sangam** period or **Caṅkakālam** or **Saṅkakālam**; accept **Sangam** literature or **Caṅka** ilakkiyam]

[10e] Iraiyaṅār, a poet from the Third Sangam at Madurai, was identified as an incarnation of this god. The 63 Nāyaṅārs spread bhakti with their devotion to this member of the Trimūrti, who is symbolized by phallic lingams.

ANSWER: **Shiva** [or **Śiva**, **Mahādeva**, **Rudra**, **Parameshwara**, **Shankara**, **Samkara**, **Natarāja**, **Sabesan**, **Adalvallaan**, **Koothan**, **Annamalai**, **Mulsthanewswara**, **Someswara**, **Rameswara**, **Mallikarjuna**, **Iswara**, **Nandiswara**, **Lingeswara**, **Sambhu**, Sadā**shiva**, Parash**iva**, or Paramash**iva**; accept **Shaivism** or **Shaivites** or **Shaivasampradāyah**]

<Religion>

8. These languages are contrasted with What You See Is What You Get, or WYSIWYG (“WIZ-ee-wig”), systems. For 10 points each:

[10m] Name these languages that can be split into presentational, procedural, and descriptive varieties. These languages are systems for annotating text documents by combining semantic and formatting tags.

ANSWER: **markup** languages [reject “markdown”]

[10e] This descriptive macro-expansion markup language was developed by Donald Knuth in 1978. It is typically paired with software developed by Leslie Lamport in a widely used typesetting tool for scientific publications.

ANSWER: **TeX** (“teck”) [accept La**TeX**; accept Mik**TeX**]

[10h] This markup language, derived from a Bell-Labs-developed Unix program, has a “typesetting” or “t” spinoff and is the default format for man pages. Tags in this language begin on a new line with a period followed by a two-letter name.

ANSWER: **roff** [accept **troff** (“T-roff”) or **groff** (“G-roff”) or **nroff** (“N-roff”)]

<Other Science>

9. This man calls himself a “prophet new inspired” and states that “the tongues of dying men / enforce attention like deep harmony” as he prepares to deliver advice from his deathbed. For 10 points each:

[10h] Name this character who gives a patriotic speech that describes England as “this other Eden, demi-paradise” and “this precious stone set in the silver sea.”

ANSWER: John of **Gaunt** [or **John** of Gaunt; prompt on Duke of **Lancaster**]

[10e] John of Gaunt is the father of a character with this name, who deposes the title king in *Richard II*. In another play, Gaunt’s grandson of this name addresses a “band of brothers” before the Battle of Agincourt.

ANSWER: **Henry** [accept **Henry V** or **Henry** of Monmouth; accept **Henry IV** or **Henry** Bolingbroke; prompt on **Bolingbroke**; prompt on Prince **Hal** by asking “what is his formal name?”]

[10m] This character punningly claims that Gaunt “beat his own name” when he beat the thin Robert Shallow. Orson Welles plays this man in a film titled for his claim that he has “heard the chimes at midnight.”

ANSWER: Sir John **Falstaff** [or Jack **Falstaff**; prompt on **John** or **Jack**] (The film is *Chimes at Midnight*.)

<British Literature>

10. An artist from this country stacked hundreds of handmade books stained with his own semen, dirt, and vegetation in his installation piece *20 Years of Solitude*. For 10 points each:

[10m] Name this country where the capitalist realism movement developed in the 1960s in response to pop art. Another artist from this country created photo-paintings using his trademark “blur” technique and designed the stained-glass window *Symphony of Light*.

ANSWER: **Germany** [or **Deutschland** or Federal Republic of **Germany** or Bundesrepublik **Deutschland**; accept West **Germany** or **FRG** or **BRD**; accept East **Germany** or **DDR** or **German** Democratic Republic or **Deutsche** Demokratische Republik] (The second artist is Gerhard Richter.)

[10e] In his *Heroic Symbols* photographs, the German artist Anselm Kiefer poses in a salute associated with this leader. The Leni Riefenstahl film *Triumph of the Will* glorifies a 1934 rally led by this man.

ANSWER: Adolf **Hitler** [accept **Hitler** salute or **Hitlergruß**]

[10h] This German capitalist realist artist added blurry sections to his photos of the homeless in New York’s Bowery neighborhood. This artist incorporated a piece of blue fabric in his canvas *Carl Andre in Delft*.

ANSWER: Sigmar **Polke**

<Other Fine Arts>

11. This poet was anthologized in the Thirty-Six Female Immortals of Poetry and is considered one of the Three Beauties of Japan. For 10 points each:

[10h] Identify this author of *The Mayfly Diary*, which is often translated as *The Gossamer Years*. This poet’s name is now unknown, so she is typically referred to as “the mother of” a certain named person.

ANSWER: **Michitsuna**’s mother [or the mother of **Michitsuna**; or Fujiwara no **Michitsuna** no Haha; prompt on **Fujiwara**]

[10e] Michitsuna’s mother expanded the potential of Japanese prose writing and became a major influence on this author’s novel *The Tale of Genji*.

ANSWER: Lady **Murasaki** [or **Murasaki** Shikibu]

[10m] *The Mayfly Diary* combines prose with *waka* poetry, which includes this genre. In contrast to long *chōka* poems, this genre encompasses short poems that consist of five units or lines.

ANSWER: **tanka**

<World Literature>

12. Speakers of languages in this family recited the dastan *Alpamysh*, which titles a history of national identity by H. B. Paksoy that analyzes its condemnation as “anti-populist” in the 1950s. For 10 points each:

[10m] Name this primary language family whose epics include the stories of Dede Korkut and Oghuz. A poem in a language from this family inspired a red national flag whose central sun has 40 rays for the clans united by Manas (“mah-NOSS”).

ANSWER: **Turkic** languages [accept Common **Turkic** languages; prompt on **Kyrgyz** or **Uzbek** or **O‘zbekcha** by asking “what primary language family does it belong to?”; prompt on **Turco-Mongolic**; prompt on **Altaic** by asking “what language family from mainstream linguistics?”; reject “Turkish” languages] (The flag is that of Kyrgyzstan.)

[10e] The Pan-Turkic writer Mahammad Amin Rasulzade personified Azerbaijan’s hybrid Turkic and Persian identity in *Siyavush of Our Century*, which references an epic by Ferdowsi named for this kingly Persian title.

ANSWER: **shah** [accept **Shāhnāme** or **Shahnama**; accept **shāhanshāh** or **pādeshāh**]

[10h] In the *Shāhnāme*, Afrasiab rules this region, which is likely northeast of Māzandarān. Ziya Gökalp promoted pseudohistory about this region, which was once a metonym for Central Asia and inspired a Pan-Altaic movement.

ANSWER: **Turan** [accept Pan-**Turanianism** or Pan-**Turanism**; accept **Turan** Depression; accept **Turanians** or **Turanids**]

<Mythology>

13. Answer the following about the varied roles of vitamin E tocopherols (“toh-KOFF-er-ols”) in plant stress responses, for 10 points each.

[10e] In both plants and animals, tocopherols function as antioxidants that control oxidative stress from free hydroxyls, which are a type of these species with unpaired electrons.

ANSWER: free **radicals** [accept hydroxyl **radical**; prompt on **reactive oxygen** species or **ROS**]

[10m] Tocopherols combat photoinhibition and water stress, which, like salt and heat stress, are examples of these plant stressors that generally trigger abscisic acid signaling. This term also names ecosystem factors like rocks and weather.

ANSWER: **abiotic** [accept **abiotic** factors or **abiotic** components; accept **abiotic** stress responses or **abiotic** stress tolerance; prompt on **environmental** stresses; prompt on **physical** factors or **nonliving** factors]

[10h] In *Arabidopsis*, tocopherols promote tolerance to copper and this other heavy metal, which causes stunting and chlorosis in the absence of phytochelatins. Japanese rice fields contaminated with this metal caused itai-itai disease.

ANSWER: **cadmium** [or **Cd**; accept **Cd<sup>2+</sup>**; accept **Cd**-sensitivity]

<Biology>

14. John Anster Fitzgerald’s nightmarish, drug-fueled paintings enjoyed success during the Victorian-era craze for paintings of these creatures. For 10 points each:

[10e] What mythical beings feature in paintings of scenes from *A Midsummer Night’s Dream*, such as Joseph Noel Paton’s *The Quarrel of Oberon and Titania*?

ANSWER: **fairies** [or **fairy**, the **fay**, **faeries**, or **fair folk**; accept **fairy** painting]

[10m] Fairies dance around Oberon, Titania, and Puck in a watercolor by this artist, who also painted creatures like *The Ghost of a Flea* and the Great Red Dragon. Urizen appears as *The Ancient of Days* on one of his frontispieces.

ANSWER: William **Blake**

[10h] This artist’s ovular painting *Contradiction* shows a chaotic quarrel between Titania and Oberon. This founder of the art group The Clique painted *The Fairy Feller’s Master-Stroke* while interred in an asylum for murdering his father.

ANSWER: Richard **Dadd**

<Painting/Sculpture>

15. With Zenon Pylyshyn, this philosopher disputed connectionist theories of mind by arguing that they cannot handle compositional semantics. For 10 points each:

[10m] Name this Rutgers philosopher who defended the modularity of mind and put forth the language of thought hypothesis.

ANSWER: Jerry **Fodor** [or Jerry Alan **Fodor**]

[10e] Fodor conceived of the language of thought as possessing a “combinatorial” form of this sort of structure. In linguistics, this term refers to the rules governing how words form grammatical sentences.

ANSWER: **syntax**

[10h] Fodor’s language of thought treats these mental states, such as “I believe that snow is white,” as computational relations to an internal representation. A 1981 paper by Paul Churchland partly titled for these mental states uses eliminative materialism to deny their existence.

ANSWER: **propositional attitudes** [prompt on **attitudes**] (Churchland’s paper is “Eliminative Materialism and the Propositional Attitudes.”)

<Philosophy>

16. This dynasty hired Chén Tiānbǎo (“chun t’yen-bao”) to command a pirate fleet that was ultimately destroyed by Nguyễn Ánh’s (“n’win ann’s”) navy at the mouth of the Perfume River. For 10 points each:

[10h] Name this dynasty that began to recruit anti-Qīng pirates after thwarting the Qiánlóng (“ch’yen-lung”) Emperor’s invasion. This dynasty launched a rebellion against the Trịnh and Nguyễn lords during the weakened Lê (“lay”) Dynasty.

ANSWER: **Tây Sơn** (“tie sun”) dynasty [or Nhà **Tây Sơn** or **Tây Sơn** triều; accept **Tây Sơn** Rebellion; accept **Tây Sơn** brothers; prompt on **Nguyễn** by asking “what non-familial name was the dynasty known by?”]

[10e] Despite repelling the invasion, the Tây Sơn (“tie sun”) re-entered this relationship system with the Qīng. The Nguyễn dynasty later established this system with China by sending gift-bearing envoys to the Jiāqing Emperor.

ANSWER: **tribute** system [or **tributary** system or **tributary** state; or **cèfēng** system; accept **vassalage** or **vassal** state; accept **client** status or **client** state; reject “protectorate” or “satellite”]

[10m] Gia Long (“zah long”) established his capital at this city on the Perfume River in Central Vietnam. The Trịnh and Tây Sơn both occupied this city, whose citadel housed an Imperial City palace complex modeled after Beijing’s.

ANSWER: **Huế** (“hway”) [or **Phú Xuân**]

<World History>

17. These highly reactive species are commonly prepared through the Kobayashi precursor, which involves the removal of a trimethylsilyl group *ortho* to a triflate leaving group. For 10 points each:

[10h] Name these highly strained species, whose significant departure from the optimal linear geometry results in their instability. The simplest example of these species can be synthesized by dehydrohalogenation of aryl halides.

ANSWER: **benzynes** [or **arynes**; reject “benzenes”]

[10e] The Kobayashi method of generating arynes uses a source of this ion to remove the trimethylsilyl group. This ion is the anion of the most electronegative element.

ANSWER: **fluoride** [or **F<sup>-</sup>** (“F-minus”); reject “fluorine”]

[10m] Similarly to benzyne, a highly strained derivative of this nitrogen-containing heterocycle can be used as a reactive intermediate. Name either this stable heterocycle whose formula is C<sub>5</sub>H<sub>5</sub>N (“C-5-H-5-N”) or its benzyne analog with a triple bond.

ANSWER: **pyridine** OR **pyridyne**

<Chemistry>

18. In the story “A Dream,” this character walks into a cemetery and sees a gravedigger etching his name on a tombstone. For 10 points each:

[10m] Name this bank cashier who is arrested in a novel after having an affair with Miss Bürstner. After a priest tells him the fable “Before the Law,” this character is killed in a quarry just before his thirty-first birthday.

ANSWER: **Josef K.** [prompt on **K.**]

[10e] Josef K. is eventually executed for an unknown crime in *The Trial*, a novel by this German-speaking Czech author.

ANSWER: Franz **Kafka** [or František **Kafka**]

[10h] Kafka also satirized law and bureaucracy in “The New Advocate,” in which one of these animals becomes a lawyer. A mysterious man gives the protagonist two of these animals in Kafka’s story “A Country Doctor.”

ANSWER: **horses** [or **equines** or **equids**; or **Pferde**; or **Equus ferus caballus**]

<European Literature>

19. A fur merchant who had lost three ships proposed that Juan de Jáuregui (“HOW-reg-ee”) assassinate this nobleman, a plot that failed despite his supposed use of black magic when a pistol overfilled with powder blew up in his face. For 10 points each:

[10m] Name this stadtholder assassinated in 1584 by Balthasar Gérard. This man led the Dutch Revolt against the Spanish Habsburgs, sparking the Eighty Years’ War.

ANSWER: **William** the **Silent** [or **William** the **Taciturn**; or **Willem** de **Zwijger**; prompt on **William** I or **Willem** I; prompt on **William** of Orange or **Willem** van Oranje]

[10h] One of the “black magic” objects found in Jáuregui’s pockets was a green variety of these objects. Alfred the Great invented a 24-hour clock that used six of these objects.

ANSWER: **candles** [accept **candle** clock]

[10e] As a reward for assassinating William the Silent, this ruler gave Gérard’s family peerage and three estates. This successor of Charles V as king of Spain sent the Spanish Armada to invade England.

ANSWER: **Philip II** of Spain [accept **Philip** the **Prudent**; accept **Philip I of Portugal**; accept “Felipe” in place of “Philip”; accept el **Prudente** in place of “the Prudent”; prompt on **Philip** or **Felipe**]

<European History>

20. These workers, who often receive meager stipends, are said to be “insecure, isolated, exploited, and devalued” in a book by Adrianna Kezar that likens their situation to the gig economy. For 10 points each:

[10e] Identify these workers who make up a quarter of UAW union membership. A 2022 strike in California’s UC system was led by these workers, who formed a union at Yale in light of the NLRB ruling that they are employees.

ANSWER: **academic** workers [accept **graduate** students, **grad** students, **graduate** tutors, **PhD** students, **master’s** students, or **postgraduates**; accept **postdoctoral** students or **postdocs**; accept **teaching assistants** or **TAs**; accept **readers**; accept student **researchers** or academic **researchers** or postdoctoral **researchers**; prompt on **students** or **tutors**; reject “professors” or “adjuncts”] (Kezar’s book is *The Gig Academy*.)

[10m] In December 2019, graduate students at UC Santa Cruz went on this type of strike to demand a cost-of-living adjustment. This type of strike, which occurs without union authorization, is colloquially named for an animal.

ANSWER: **wildcat** strike [or **wildcat** strike action; or **outlaw** strike or **quickie** strike; or **unofficial industrial action**; prompt on **unofficial** strike or **unofficial** action or **unofficial** work stoppage]

[10h] South African police killed 34 Lonmin workers on a wildcat strike in this industry in the 2012 Marikana Massacre. This industry provides the name of Impala, a company that works in the Merensky Reef and Zimbabwe’s Great Dyke.

ANSWER: **platinum** mining [or **Pt** mining; accept **platinum** group metals; accept Impala **Platinum** or **Implats**; prompt on **mining**, **miners**, **minerals**, **metals**, or extractive **metallurgy**]

<Current Events>

21. James Orr, a poet from this region, belonged to a group of working-class vernacular “rhyming” poets in the late 18th century. For 10 points each:

[10h] What region names a poetic group of “honest men” that included Philip Hobsbaum and Michael Longley? A character from this region meets an Old Man beside a desolate mountain in the play *At the Hawk’s Well*.

ANSWER: **Ulster** [or **Ulaidh** or **Ulstèr** or Cúige **Uladh**; accept County **Antrim** or Contae **Aontroma** or Coontie **Antrim**; accept County **Down** or Contae an **Dúin** or Coontie **Doon**; accept Honest **Ulstermen** or **Ulster** Movement or **Ulster** Renaissance; prompt on Northern **Ireland** or Tuaisceart **Éireann** or Norlin **Airlann**; prompt on **Éire** or Republic of **Ireland** or Poblacht na h**Éireann**; prompt on **UK** or **United Kingdom**] (James Orr was called the “Bard of Ballycarry.” *At the Hawk’s Well* is by W. B. Yeats and portrays Cú Chulainn.)

[10m] Many of Ulster’s vernacular 18th-century poets belonged to this profession. A novel’s title character with this profession is excommunicated by the Calvinist congregation in Lantern Yard before he adopts a young girl.

ANSWER: **weavers** [or **weaving**; accept **textile** workers; accept *Silas Marner: The **Weaver** of Raveloe*; accept **weaver** poets; prompt on **craftsmen** or **artisans**] (George Eliot wrote *Silas Marner*.)

[10e] This author, who was a major influence on Ulster’s weaver poets, wrote “To the Weavers Gin Ye Go” and “The Gallant Weaver” in vernacular Scots. Annual suppers honor this Scottish poet of “To a Mouse.”

ANSWER: Robert **Burns** [or Rabbie **Burns**; accept **Burns** Supper or **Burns** Night or **Burns** Nicht]

<British Literature>