2025 ACF Regionals
Packet N by Chicago C, George Washington A, Georgia Tech B, McMaster, Minnesota A, Ohio State B, Texas A
Edited and written by Jeremy Cummings, Ani Perumalla, Erik Christensen, Henry Goff, Taylor Harvey, Amogh
Kulkarni, Tim Morrison, Noah Sheidlower, Munir Siddiqui, Abigail Tan, Maxwell Ye, JinAh Kim, Ophir Lifshitz,
and Abhinav Rachakonda

Tossups

1. A pink-colored phenomenon on this body of water, referred to as the Lanterns of Saint Anthony or by a name in
the Barí language, can aid or kill fishermen who live in tin houses on stilts. An indigenous word for copaiba names
the city of Cabimas on the eastern shore of this body of water. The main land route to a city in Zulia State named for
this body of water is over the General Rafael Urdaneta Bridge. Air circulation over the spot where the Catatumbo
River meets this body of water causes the most frequent lightning on earth. The oil extracted from the spit at the
north of this body of water has funded the Bolivarian Mission social programs in the westernmost founding member
of OPEC. For 10 points, what largest lake in South America is located in northwest Venezuela?
ANSWER: Lake **Maracaibo** [or Lago de **Maracaibo**; accept **Tablazo** Strait]
<EC, Geography>

2. Two regions of this country were sardonically referred to as the "valley of the clueless" because they were outside
of the signal range of ARD TV broadcasts. Concerts by the Beatles in a [emphasize] *neighboring* country
precipitated a 1965 youth-led "Beat Revolt" against authorities in this country. A walking figure wearing a straw hat
known as the "little light man" first appeared on this country's pedestrian signals. People in this country waited up to
10 years to acquire a loudly-backfiring plastic car called the Trabant. A famous piece of graffiti showed a leader of
this country, Erich Honecker, sharing a fraternal kiss with Leonid Brezhnev. For 10 points, *ostalgie* romanticizes the
culture of what former Communist country, whose citizens were heavily surveilled by the Stasi?
ANSWER: **East Germany** [or **GDR** or **German Democratic Republic**; or **DDR** or **Deutsche Demokratische
Republik**; prompt on Germany or Deutschland]
<Minnesota A, European History>

3. This scientist and Walther Ritz name a "combination principle" that generalizes an equation developed by this
scientist. Serge Haroche ("ah-ROSH") used highly excited states named for this scientist to study photons trapped in
an optical cavity. Using a reduced mass term allows for a constant named for this scientist to account for finite
masses. This scientist's namesake constant is equal to the fine structure constant over 4 pi times the Bohr radius and
is usually subscripted infinity. An exotic atom that could theoretically hold many atoms within it is this scientist's
namesake polaron. An equation named for this scientist is used to derive the Lyman and Balmer spectral series for
hydrogen. For 10 points, what Swedish physicist names a formula for emissions from electronic transitions in an
atom?
ANSWER: Johannes **Rydberg** [accept **Rydberg** formula or **Rydberg** constant or **Rydberg** polaron or **Rydberg**
atom or **Rydberg** state or **Rydberg**–Ritz combination principle]
<Ohio State B, Physics>

4. One of these beings has a dream in which a man rises into the heavens while another of these beings rides a donkey and falls into a pile of dung. Karna uses the *Vasavi Shakti* against a figure whose mother was one of these beings; that figure grows in size as he dies and crushes an entire unit of the Kaurava army. In a duel, one of these beings becomes invisible and uses a trap of a million snakes against his opponent. One of these beings defeats the vulture king Jatayu ("juh-TAH-yoo") and clips his wings. In an epic, an army of monkeys and bears hurl stones to build a bridge to these beings' domain. One of these beings transforms into a golden deer so that their king can abduct Rama's wife Sita. For 10 points, name these demon-like beings who reside in Lanka and are led by Ravana.
ANSWER: **rakshas**as ("ROCK-shuh-suhs") [or **rākṣas**as; or **rakkhas**as; accept **asur**as; prompt on demons until read] (The first three lines refer to Trijāta, Ghatotkacha, and Indrajit.)
<MS, Mythology>

5. The Manglish pidgin was used for *The Kampung Boy*, a book of this type by the Malaysian author Lat. Travelogues in this form set in Shenzhen and North Korea were written by Guy Delisle ("ghee duh-LEEL"). A book in this form called *Shortcomings* is part of the larger series *Optic Nerve* centering Asian-American characters. A Canadian press abbreviated D+Q publishes books of this type, including a 2022 work documenting its author's time working the Athabaskan oil sands to pay off student loans. Recent books of this type by Adrian Tomine and Kate Beaton have won Eisner Awards. In a book of this type, a girl listens to Iron Maiden tapes and her Communist uncle Anoosh before going to boarding school in Vienna. For 10 points, what sort of work is Marjane Satrapi's *Persepolis*?
ANSWER: **graphic** memoirs [or **graphic** fiction or **graphic** novels; accept **comic** books or **comic** memoirs; accept **cartoon**s; prompt on memoirs or autobiographies by asking "in what form?"] (Kate Beaton's graphic memoir is *Ducks*. The Canadian press is Drawn & Quarterly.)
<George Washington A, World Literature>

6. These people allegedly carried portable meals made of crystallized sugar known as "thirst balls" to combat dehydration. A possibly fictional one of these people amputated his ankle after being caught in a bear trap and led the "Ten Braves." These people invented a method of communication using rice grains dyed five different colors. These people learned how to create explosions as diversions as part of their "fire techniques." These people formed the armies of the Iga–Kōka alliance. A manual on the *Legends of* [these people's] *Secrets* was written by a man who led a military unit of these people, Hattori Hanzō. These people used iron caltrops called *makibishi*, which could be thrown similar to their *shuriken*. For 10 points, name these Japanese assassins often depicted in all-black.
ANSWER: **ninja**s [or **shinobi**; accept *Legends of **Ninja** Secrets*; prompt on warriors or assassins until read] (The second line refers to Sarutobi Sasuke.)
<AK, World History>

7. A picaresque novel by this author features the laughing baboon Bosse-de-Nage ("boss-duh-NAHZH") as a companion to a doctor of a field that "explains the universe supplementary to this one." W. B. Yeats lamented, "after us, the Savage God" after seeing a play by this author whose protagonist frequently swears "by my green candle." This author started staging one of his plays with marionettes after an uproar at its premiere over the title character's exclamation of "merde!" ("maird") with an extra R. This author invented the "science of imaginary solutions," 'pataphysics. Sequels titled for a man "Cuckolded" and "in Chains" follow a send-up of *Macbeth* by this author in which the title king goes to war with Russia after he usurps the throne of Poland. For 10 points, name this absurdist French author of *Ubu Roi* ("OO-boo rwah").
ANSWER: Alfred **Jarry** ("zhah-REE") (The first sentence refers to *Exploits and Opinions of Dr. Faustroll*.)
<HG, European Literature>

8. This male actor's character is horrified when a bullet breaks his violin during a civil war in the 1968 film *Shame*. Lute music accompanies a monologue in which this actor asserts he will remember "this moment," "these strawberries," and "this bowl of milk." In a film based on a ballad, this actor flogs himself with branches from a birch tree he uprooted, before killing three goat herders who raped his daughter. This actor's 11 films for a director include *Hour of the Wolf*, *The Virgin Spring*, and a film in which his character invites a family of thespians to shelter in his castle from a plague. In that 1957 film, this actor plays Antonius Block, who takes part in a climactic Danse Macabre. For 10 points, what actor played a knight who plays chess with Death in Ingmar Bergman's *The Seventh Seal*?
ANSWER: Max von **Sydow** ("SEE-dov") [or Carl Adolf von **Sydow**]
<AP, Other Fine Arts>

9. Gabriel Nivasch's "multi-stack" algorithm identifies these structures. An unsolved problem that asks whether these structures produce a double cover reduces to asking about "snarks." These structures cause Kahn's algorithm to output an empty list, since they prevent topological sortings. Pollard's algorithm for integer factorization is named for the eventual resemblance to one of these structures over time. Gosper's algorithm for detecting these structures improves upon another algorithm that creates a leading and trailing pointer called a "hare" and "tortoise" and is named for Floyd. Detecting these structures by checking already-visited nodes ensures that DFS halts. The [emphasize] *absence* of these structures defines the "A" in a DAG. For 10 points, name these paths in a graph that eventually lead back to their start.
ANSWER: **cycle**s [accept word forms such as **cyclic**; accept **circular** or **circuit**al or **loop**s]
<Texas A, Other Science>

10. This character says it is "great bliss for a man to love them well and believe them not" in a monologue about how "womens' wiles" ruined Adam, Solomon, and Samson. A lengthy dressing scene assigns concordances like the Five Wounds of Christ to the pentangle on this character's shield. Simon Armitage's introduction to his translation of one poem notes that this character's name must be pronounced as both an iamb and a trochee to preserve meter in bob and wheel sections. This character returns three kisses received from a woman and obtains her magic girdle. In a circa 1400 poem, this nephew of King Arthur travels to a northern chapel to finish a game with a figure he had beheaded at Christmas. For 10 points, what character titles a Middle English poem with the Green Knight?
ANSWER: **Gawain** [or Sir **Gawain**; prompt on Gwalchmei]
<McMaster, British Literature>

11. A complex in this organelle interacts with the protein frataxin as part of the activity of PMPCA and PMPCB. If this organelle's functionality is degraded, its repair is controlled by PINK1 and Parkin. Hexokinase may regulate the formation of a complex in this organelle made of VDAC and ANT proteins. This organelle releases the Smac/DIABLO complex to bind to IAP and inhibit its function. The TIM and TOM complexes transport proteins in and out of this organelle. One process in this organelle uses the iron-sulfur enzyme aconitase to isomerize one molecule. The products of that process in this organelle include NADH and FADH2, which are used to generate a proton gradient. For 10 points, name this double-membraned organelle that contains the electron transport chain.
ANSWER: **mitochondria** [or **mitochondrion**]
<Ohio State B, Biology>

12. This painting inspired a pastel and charcoal series of an urban wasteland made in the 1980s by William Kentridge. In a darker poem inspired by this painting, a traveler sees birds pecking at a corpse on a "gallows tree." On the right side of this reception piece, a bow and quiver sit below a statue adorned with pink roses. Though its main version is in the Louvre, a second version of this painting is in Berlin's Charlottenburg Palace, which also houses its artist's painting of works being boxed up at a dealer's shop. On the left of this painting, a red cloth drapes the prow of a ship, above which fly several cupids. It is unclear whether the joyous aristocrats in this *fête galante* are heading to or from the title Greek island. For 10 points, name this Rococo painting by Jean-Antoine Watteau.
ANSWER: The *__Embarkation for Cythera__* [or The *__Embarkation to Cythera__*; or The *__Voyage to Cythera__*; or *__Pilgrimage to the Isle of Cythera__*; or *L'__embarquement pour Cythère__*; accept reasonable translations mentioning a __journey__ to or from __Cythera__] (The poem in the second sentence is "A Voyage to Cythera" by Charles Baudelaire. The other Watteau painting is *The Shop Sign of Gersaint*.)
<TM, Painting and Sculpture>

13. An essay by this thinker imagines the "obstinate pride" needed to say that there are "nine hundred million little ants" on earth but "only my anthill is beloved of God." Mikhail Bakunin's *God and the State* uses the word "abolish" in an inversion of a quote by this thinker. This thinker's critiques of dogmatic authority include the claim that "superstition sets the world in flame," the plea to "crush the infamous," and his *Treatise on Tolerance*. This thinker wrote that "if God did not exist, it would be necessary to invent him." This author of *Letters on the English* and the *Philosophical Dictionary* created a character who rationalizes his syphilis and the Lisbon earthquake. For 10 points, what author parodied Leibniz's *Theodicy* via the character Pangloss in his novel *Candide*?
ANSWER: __Voltaire__ [or François-Marie d'__Arouet__] (Bakunin wrote that "If God really existed, it would be necessary to abolish him.")
<TM, Philosophy>

14. Philip E. Tetlock authored a "social check" on this phenomenon, which was eliminated in an experiment centering on affirmative action. Thomas Pettigrew extended this phenomenon to an "ultimate" type for in- and out-groups. In an experiment demonstrating this phenomenon, students rated a quizmaster's knowledge as "above average" despite being selected randomly. Lee Ross coined this phenomenon's name in an essay discussing how people believed individuals assigned to write pro-Castro essays were actually pro-Castro. This cognitive bias under-emphasizes situational explanations and overemphasizes trait-based explanations for an actor's behavior. For 10 points, identify this "error" named in part for the process in which people infer causes for behaviors.
ANSWER: __fundamental attribution__ error [or __FAE__; accept __correspondence__ bias; prompt on attribution]
<Georgia Tech B, Social Science>

15. An 8-movement piece titled for this genre consists of four movements each accompanied by a variational "double," the last of which is marked "Tempo di Borea." Hans-Peter Schmitz ascribed the name of this genre to an A minor work for flute that ends with a "Bourrée angloise." Six keyboard works titled for this genre comprise the *Clavier-Übung I*. The final movement of a piece in this genre consists of 64 variations on a four-bar theme and was lauded as "the greatest structure for solo violin" by Yehudi Menuhin. That movement from a set of works in this genre that inspired a Caroline Shaw piece "for 8 voices" is an oft-excerpted violin chaconne. For 10 points, name this genre of dance suite that J. S. Bach paired with sonatas.
ANSWER: __partita__ [accept keyboard __partita__ or __Partita__ for solo violin or *__Partita__ for 8 Voices*; prompt on suite until read by asking "what genre is the collection titled for?"]
<MY, Classical Music>

16. This day of the week is the traditional occasion of the distribution of the pre-consecrated Eucharist during the Mass of the Presanctified. The "Sermon for Necessities" often begins a sermon formally observed on this day of the week, during which the reciter sits down during a long pause between two sections. Lutherans engage in three exchanges with their pastor on this day of the week known as the "Solemn Reproaches." Sermons based on the "seven sayings" are read on this day of the week during the Three Hours' Agony. In Islam, the *khutbah* is recited before the obligatory *jumu'ah* prayer on this day of the week. Shabbat begins at sunset on this day of the week. For 10 points, the crucifixion of Jesus is commemorated during Holy Week on what "Good" day of the week?
ANSWER: **Friday** [accept Good **Friday** or Holy **Friday**; accept ***jumu'ah*** until read]
<AK, Religion>

17. After bicycling 15 miles to swim in a river, two characters in this novel have sex, as implied by the line "this is how it was." In this novel, a doctor interrupts a Christmas party with a long speech on Karl Marx, whom the doctor named his son after. A boy in this novel becomes a quiet loner after accidentally shooting his neighbor in the face with a BB gun. After a failed prom party in this novel, a tomboy feels music "boil inside her" as she listens to Beethoven's Third. In this novel, the sudden erratic behavior of a slovenly Greek man results in his detention in a state asylum, where news of his death causes his deaf-mute best friend to shoot himself in the chest. For 10 points, characters like Jake Blount and Mick Kelly confide in John Singer in what novel by Carson McCullers?
ANSWER: The ***Heart is a Lonely Hunter***
<George Washington A, American Literature>

18. A text by this person considers the "desperately slow" ascent of man and wonders at how long it would take for humanity to become as "charitably inclined" as Gotthold Lessing. This person told Kaiser Wilhelm II ("VIL-helm the second") to ask the Ottoman sultan for "a Chartered Company – under German protection." While working for the *Neue Freie Presse* ("NOY-uh FRY-uh PRESS-uh"), this person may have been heavily influenced by a scandal in the French Third Republic. This person chaired an 1897 congress where the Basel Program was adopted, and later proposed the Uganda Scheme. After being upset by the Dreyfus ("DRY-fuss") Affair, this person proposed a solution to the title people's "question" in an address to the Rothschilds. For 10 points, what author of *The Jewish State* founded modern political Zionism?
ANSWER: Theodor **Herzl** [or **Herzl** Tivadar; or Teodor **Hertzel**; or Binyamin **Ze'ev**]
<McMaster, Other History>

19. Preventing the use of rotationally symmetric static fields in this technique can help overcome a limit set by Scherzer's theorem. The "spot-scan" technique is sometimes used to prevent beam-induced motion in this larger technique. Samples in this technique may use heavy metals such as tungsten and osmium to undergo a "negative stain." The development of a form of this technique, for which Dubochet, Frank, and Henderson were awarded the 2017 Nobel Prize in Chemistry, generated a "resolution revolution." In a form of this technique, the observed specimen is embedded in vitrified ice before being mounted on a grid and fixed via plunging in liquid ethane. For 10 points, name this imaging technique that comes in "scanning," "transmission," and "cryogenic" types.
ANSWER: **electron microscopy** [or **EM**; accept cryogenic **electron microscopy** or cryo-**EM** or transmission **electron microscopy** or T**EM** or scanning **electron microscopy** or S**EM**; prompt on microscopy]
<Minnesota A, Chemistry>

20. In an 1890 article named for this concept, the authors examined English case law, including *Prince Albert v. Strange*, before outlining a scenario of opening a letter. With Samuel D. Warren II, Louis Brandeis co-authored an article in the Harvard Law Review in which he argued that this concept originated in property law. In a case reaffirming this concept, Anthony Kennedy argued that *Romer v. Evans* eroded a Georgia precedent. The idea of "penumbras" was first articulated to support the right to this concept in *Griswold v. Connecticut*. The right to this concept, which was reaffirmed in *Lawrence v. Texas*, is provided by the Due Process Clause, per a 1973 ruling in a case concerning Norma McCorvey establishing a "trimester framework." For 10 points, *Roe v. Wade* affirmed Americans have what "right to be let alone"?

ANSWER: **privacy** [or right to **privacy**; prompt on gay rights or sodomy by asking "what was the main right those cases concerned?"] (The case Georgia precedent was *Bowers v. Hardwick*.)

<Chicago C, American History>

Bonuses

1. Quillen's "small object" argument uses a variant of this procedure to construct a factorization of morphisms into two terms. For 10 points each:
[10h] Name this procedure that requires a well-ordered set and the axiom of choice. This procedure involves verifying a "successor case" and a "limit case" to show that a property "P of alpha" is true for all alpha.
ANSWER: **transfinite induction** [accept **transfinite recursion**; prompt on induction or recursion]
[10m] Gerhard Gentzen used transfinite induction up to a particular ordinal in his consistency proof for this set of statements. An Italian mathematician names these statements that define the natural numbers.
ANSWER: **Peano axioms** [or **Peano postulates**; or Dedekind–**Peano axioms**; or Dedekind–**Peano postulates**; accept "Peano's" in place of "Peano"]
[10e] Transfinite recursion can be used to construct a "universe" of well-founded sets named for this polymath. This Hungarian-born "father of game theory" wrote *Mathematical Foundations of Quantum Mechanics*.
ANSWER: John **von Neumann** [or **Neumann** János]
<Ohio State B, Other Science>

2. Women with design studios in this city include Cini Boeri ("CHEE-nee bo-AY-ree"), who co-created the glass "Ghost" armchair, and Gae Aulenti, who oversaw the conversion of a train station into the Musée d'Orsay ("moo-ZAY dor-SAY"). For 10 points each:
[10m] Name this city where Ettore Sottsass ("ETT-oh-ray SOT-sass") led the flashy Memphis Group of designers. The "neo-rationalist" designer who wrote *Architecture of the City* was from this city, where the Compasso d'Oro is awarded.
ANSWER: **Milan** [or **Milano**; accept Nova **Milanese**] (Aldo Rossi wrote *Architecture of the City*.)
[10e] Sottsass's *Tahiti* model of this sort of appliance resembles a toy drinking bird. Clara Driscoll led a group of women who designed stained-glass Art Nouveau instances of these appliances for Tiffany & Co.
ANSWER: **lamp**s [or table **lamp**s; accept **lampshade**s]
[10h] This designer created an ad promoting Sottsass's glossy red design for the Olivetti Valentine typewriter. This designer created the cover of *Angels in America* and a psychedelic 1966 poster for Bob Dylan.
ANSWER: Milton **Glaser**
<AP, Other Fine Arts>

3. A 2024 Nature paper by Schartl et al. attributes the large genomes of these fish to suppression of transposons. For 10 points each:
[10h] Name this class of fish whose "South American" and "Marbled" species have the largest known animal genomes. These fish are the closest living relative of tetrapods, with whom they form the Rhipidistia clade, the sister group to the Coelacanths ("SEE-luh-canths").
ANSWER: **lungfish** [or *Dipnoi*; accept **salamanderfish** or **barramunda**; prompt on *Sarcopterygii* or lobe-finned fishes or *Osteichthyes* or bony fishes] (The genomes of the South American lungfish and Marbled lungfish have 91 and 132 billion base pairs respectively, compared to the human genome's 3.5 billion base pairs.)
[10e] Lungfish represent an important evolutionary milestone since they have both lungs and these structures, but only the Australian lungfish actually breathes from these organs that uptake oxygen from water.
ANSWER: **gill**s
[10m] Some lungfish perform this behavior by burrowing themselves in mud. Animals enter this type of dormancy, which unlike hibernation happens in the summer, to avoid damage from high temperature or desiccation.
ANSWER: **aestivation** [or **estivation**]
<MS, Biology>

4. While acting in this play, Ralph Richardson asked the audience, "is there a doctor in the house?", and when a doctor raised his hand, Richardson said "terrible play, isn't it doctor?" and resumed acting. For 10 points each:
[10h] Name this play that premiered in 1966 after its author's murder by his lover Kenneth Halliwell. At the end of this play, a sergeant wearing a dress descends from a skylight and asks for a politician's "missing parts."
ANSWER: *__What the Butler Saw__* (by Joe Orton)
[10e] Peter Hall directed Ralph Richardson and John Gielgud ("GHEEL-good") in this author's play *No Man's Land*. This playwright wrote *The Birthday Party* and *The Dumb Waiter*.
ANSWER: Harold **Pinter**
[10m] Gielgud and Richardson also starred together in David Storey's play *Home*, which is set in this sort of place. The frame stories of Peter Weiss's *Marat/Sade* and Friedrich Dürrenmatt's *The Physicists* occur in these places.
ANSWER: mental **asylum**s [or **sanatorium**s; or insane **asylum**s; or **psychiatric hospital**s; or **mental hospital**s; prompt on hospitals]
<AP, British Literature>

5. This composer names a graphical interface front-end for the engraving software LilyPond. For 10 points each:
[10h] Name this Ferrara-born composer who was celebrated by composers like Pachelbel and Purcell for his early organ collection *Fiori Musicali*.
ANSWER: Girolamo **Frescobaldi**
[10m] Parts of the *Fiori Musicali* were enshrined in a book of counterpoint by Johann Joseph Fux with this title. Debussy prepended "Doctor" to this title to parody exercise books by Clementi and Czerny ("CHAIR-nee").
ANSWER: *__Gradus ad parnassum__* [or "**Steps to Parnassus**"; accept "Doctor **Gradus ad parnassum**"]
[10e] Though influenced more by Frescobaldi in his own music, Fux most fervently admired this earlier Italian composer who supposedly "saved polyphony" with his *Pope Marcellus Mass*.
ANSWER: Giovanni Pierluigi da **Palestrina**
<JC, Classical Music>

6. *Specific term required.* This specific process shifted to occurring through publicity in the modern age, according to a "postcolonial genealogy" by Kevin Olson. For 10 points each:
[10h] Name this specific process that erased one of the "Three Faces of Sans Souci," according to a book titled for this process by Michel-Rolph Trouillot ("troo-YO").
ANSWER: **silencing** [accept *__Silencing__ the Past*; accept *Subaltern __Silence__*; prompt on erasure; prompt on subordination or equivalents]
[10e] Olson's *Subaltern Silence* considers "times of exception" like this event, the focus of the second chapter of Trouillot's *Silencing the Past*. *The Black Jacobins* emphasizes the leadership of Toussaint L'Ouverture in this late 18th-century event.
ANSWER: **Haitian Revolution** [or **Haitian Revolt**; or **Révolution haïtienne**]
[10m] Olson claims that these people's "self-chosen silence" destabilized subaltern silence, calling them an example of "silence as an achievement." Queen Nanny and Cudjoe ("CUD-jo") led these people in two namesake wars against the British.
ANSWER: Jamaican **maroon**s [accept **marronage**; prompt on escaped slaves or runaway slaves]
<McMaster, World History>

7. Yale professor Joel Waldfogel authored a paper on this quantity during the Christmas season, comparing the efficiency of gifts to significant others to the inefficiency of gifts from extended family. For 10 points each:
[10e] Name this so-called economic "loss" in which market inefficiencies cause a decline in total surplus. This quantity is represented by a triangle formed on two sides by supply and demand.
ANSWER: **deadweight** loss
[10h] Some economists argue that micro-efficiencies denoted by triangles named for this economist pale in comparison to macroeconomic harms on Christmas. This economist wrote *The Incidence of Taxation*.
ANSWER: Arnold **Harberger** [or Arnold Carl **Harberger**]
[10m] In "The Business Cycle Effects of Christmas," Yi Wen analyzed seasonal business cycles with this property. Variables with this property are uncorrelated with the error term.
ANSWER: **exogenous** [or **exogeneity**]
<McMaster, Social Science>

8. Economist Emily Oster has linked the crop failure and economic hardships caused by the Little Ice Age to an increase in these events. For 10 points each:
[10m] Name these events that peaked in the 16th and 17th centuries, often in Germany. King James I, who presided over some of these events in North Berwick ("BAIR-ick"), wrote manuals for these events.
ANSWER: **witch trial**s [accept **witch hunt**s; prompt on trials]
[10h] Another manual written for witch trials is the *Malleus Maleficarum* by Jacob Sprenger and this Dominican Inquisitor, who wrote his manual in retaliation to being ousted from the Diocese of Brixen.
ANSWER: Heinrich **Kramer**
[10e] To get its anti-sorcery message out, copies of the *Malleus Maleficarum* were made with the movable type printing press invented by this craftsman from Mainz.
ANSWER: Johannes **Gutenberg** [or Johannes Gensfleisch zur Laden zum **Gutenberg**]
<McMaster, European History>

9. A vignette from this collection set in "a garden at Mons" dispassionately describes an ambush of German soldiers by noting, "We shot them. They all came just like that." For 10 points each:
[10h] Name this story collection whose first edition was published with an all-lowercase title and featured eighteen italicized vignettes describing combat in World War I.
ANSWER: *__In Our Time__*
[10e] *In Our Time* was written by this American author of many stories featuring Nick Adams. This author's other stories include "The Snows of Kilimanjaro" and "Hills Like White Elephants."
ANSWER: Ernest **Hemingway** [or Ernest Miller **Hemingway**]
[10m] In a vignette set during a bombardment of Fossalta, an unnamed soldier, possibly Nick, does this action. In Hemingway's story "A Clean, Well-Lighted Place," an old waiter repeatedly intersperses the word "nada" while doing this action.
ANSWER: **pray**ing [accept reciting the **Lord's Prayer** or calling out to **Jesus**]
<HG, American Literature>

10. A niche in mosques called a *mihrab* indicates the *qibla*, or the direction of an object in this city. For 10 points each:
[10e] Name this city where the Kaaba is located.
ANSWER: **Mecca** [or **Makkah**]
[10m] While mosques typically have one *mihrab*, a mosque in this city contains four *mihrabs* lining the sanctuary. Before Judgment Day, Muslims believe Isa will descend in this city, where a mosque allegedly enshrines the head of John the Baptist.
ANSWER: **Damascus** [or **Dimashq**; accept Great Mosque of **Damascus**]
[10h] Mu'awiya I built one of these structures near the "Mihrab of the Companions" in the Great Mosque of Damascus. These enclosures were built in mosques for Muslim rulers to protect them from assassinations.
ANSWER: *maqsurah* [accept **Maqsura** of the Companions]
<Minnesota A, Religion>

11. Roderick and Susan McIntosh excavated *Oryza glaberrima* chaff from the 2,000-year-old Phase II of this site, marking the earliest yet known instance of African rice. For 10 points each:
[10h] Name this archaeological site in modern-day Mali, an early urban center on the Inland Niger floodplain.
ANSWER: **Djenné-Djenno** ("JEN-ay jen-OH") [or **Jenne-Jeno**; or **Djenné-Jeno**; or **old Djenné**; or **ancient Djenné**; prompt on Djenné]
[10e] While the first *O. glaberrima* was found at Djenné-Djenno, 3,000-year-old ceramic impressions of rice grains have been found in this country. This modern country was home to the Nok culture and the site of Great Igbo.
ANSWER: **Nigeria** [or Federal Republic of **Nigeria**; or **Najeriya**; or **Naìjíríyà**; or **Nàìjíríà**]
[10m] The period from 1900 to 1600 BCE saw the early cultivation of this other staple crop at the Dhar Tichitt site in modern Mauritania. Champion et al. noted the sociocultural significance of the *Cenchrus americanus* variety of this crop among the Nok culture.
ANSWER: **millet** [accept pearl **millet**; prompt on grain]
<AT, Other History>

12. The movement of compounds with this property from groundwater into buildings is the most common form of vapor intrusion. For 10 points each:
[10e] Name this property of compounds that readily vaporize. This property names a class of hazardous "organic compounds" found in paints and perfumes.
ANSWER: **volatility** [or **volatile**; accept **volatile** organic compounds]
[10h] This naturally produced compound comprises the majority of VOCs emitted by plants. In biological systems, DMAPP is a precursor to derivatives of this compound.
ANSWER: **isoprene** [accept **terpene**s; accept **isoprenoid**s or **terpenoid**s]
[10m] Ozonolysis of VOCs can form this carcinogen, "releasers" of which have been controversial in the cosmetics industry. This chemically-simple preservative cross-links DNA and proteins in a classic example of chemical fixation.
ANSWER: **formaldehyde** [or **methanal**]
<MY, Chemistry>

13. In a speech to the John Randolph Club, Murray Rothbard argued that this politician could "break the clock of social democracy." For 10 points each:
[10m] Name this politician who claimed the greatest ideological vacuum was "to the right of Reagan." In a 1992 speech, this politician outlined a conflict "for the soul of America."
ANSWER: Pat **Buchanan** [or Patrick Joseph **Buchanan**]
[10h] This journalist used the term "speech tartare" to describe a Buchanan speech recalling meetings at the James Paper Mill. Walter Cronkite said "I think we got a bunch of thugs here" after this journalist was punched in the stomach.
ANSWER: Dan **Rather** [or Daniel Irvin **Rather** Jr.]
[10e] Buchanan evoked "prophets of doom" in a speech given at this president's nominating convention. At an RNC, this president stated, "Read my lips: no new taxes."
ANSWER: George **H. W. Bush** [or George **H**erbert **W**alker **Bush**; or George **Bush Sr.**; or **Bush 41**; prompt on Bush; reject "George W. Bush"]
<Minnesota A, American History>

14. At a cabin, a woman in this one-page story kisses the bloodied face of her knife-wielding lover before they depart on opposite-facing paths. For 10 points each:
[10h] Name this metafictional short story. In this story, a man sitting in a green velvet armchair reads about two lovers' plan to murder a man who is reading a novel while sitting in a green velvet armchair.
ANSWER: "The **Continuity of Parks**" [or "**Continuidad de los parques**"]
[10e] "The Continuity of Parks" is a short story by this Argentine author who also wrote the optionally nonlinear novel *Hopscotch*.
ANSWER: Julio **Cortázar**
[10m] *Hopscotch* is primarily set in this city, where Horacio Oliveira searches for his lover La Maga. The narrator of another Cortázar story is entranced by the "golden eyes" of the titular axolotl in a botanical garden in this city.
ANSWER: **Paris**
<Chicago C, World Literature>

15. Loki lies to one of these beings that his companion's ferocious appetite and burning eyes are due to not having eaten or slept in eight days. For 10 points each:
[10m] The ancestor of what beings is said to have been born from the venom of the Elivagar River and drank the milk of Auðumbla ("ow-THOOM-bla")? One of these beings claims that an object he hid "eight leagues beneath the earth" will only be returned if Freya is brought to marry him.
ANSWER: **jotunn** ("YO-tun") [or **jotnar** or frost **giant**s]
[10e] The theft of this weapon by the jotunn Thrym requires Thor to cross-dress as Freya. Thor kills Thrym after this short hammer is returned to him.
ANSWER: **Mjölnir**
[10h] Thrym lends his name to a location once occupied by these two jotunn in Jotunheim. After one of these two figures is set on fire outside of Asgard for an attempted kidnapping, the other is allowed to choose a husband from among the gods, but only by looking at their feet.
ANSWER: **Thiazi** AND **Skadi** [accept **Thjazi** or **Thiazzi** or **Tjasse** or **Thiassi** or **Tjasse** or **Thiassi** in place of "Thiazi"; accept **Skade** or **Skathi** or **Öndurgud** or **Öndurdís** in place of "Skadi"]
<Georgia Tech B, Mythology>

16. In an essay that discusses a cult of "action for action's sake," the author recalls receiving a childhood award for a speech about this person before being disappointed by this person's own speech. For 10 points each:
[10h] Name this person opposed by a compatriot who wrote *The Essence of Aesthetic*. "Fundamental Ideas," the first section of an essay by this person, was ghostwritten by the theorizer of "actual idealism."
ANSWER: Benito **Mussolini** (The two philosophers mentioned are Benedetto Croce and Giovanni Gentile.)
[10e] Umberto Eco criticized Mussolini's supporters in an essay titled for an "Ur" form of this political ideology, whose name Mussolini coined in reference to a Roman symbol of an axe in a bundle of sticks.
ANSWER: **fascism** [or **fascismo**; accept **fascist**; accept "Ur-**Fascism**"]
[10m] Mussolini persecuted the author of this text that includes the essay "Americanism and Fordism." This text proposes that the ruling class undertakes a "passive revolution" for its preservation and wields cultural hegemony.
ANSWER: ***Prison Notebooks*** [or ***Quaderni del carcere***] (by Antonio Gramsci)
<McMaster, Philosophy>

17. Answer the following about French written works with falsified attributions, for 10 points each.
[10m] Prosper Mérimée had to tell this author that the "Illyric poetry" book *La Guzla* was a hoax after this poet began to translate it. Mérimée translated a story by this author in which Hermann learns a gambling secret from a dead countess.
ANSWER: Aleksandr **Pushkin** [or Alexander Sergeyevich **Pushkin**] (The story is "The Queen of Spades.")
[10h] A fictional German archaeologist "unearthed" this collection, which attempted to lend credence to its supposed Greek origins via sections titled for Pamphylia and Mytilene. Pierre Louÿs ("loo-EESE") wrote this collection of lesbian poetry.
ANSWER: The ***Songs of Bilitis*** [or Les ***Chansons de Bilitis***]
[10e] In the 1860s, Denis Vrain-Lucas forged over 20,000 documents before being caught trying to dupe the French Academy of Sciences into thinking that gravity was first discovered by this author of *Pensées* ("pawn-SAY").
ANSWER: Blaise **Pascal**
<Minnesota A, European Literature>

18. At a tavern suggested by his mentor Constantin Brâncuşi ("brin-KOOSH"), this artist met his longtime friend Buckminster Fuller, of whom he sculpted a chrome-plated bust. For 10 points each:
[10m] Name this set designer for *Appalachian Spring*. A museum in Queens honors this American artist of Japanese ancestry, who names a modernist glass-topped coffee table.
ANSWER: Isamu **Noguchi**
[10h] Noguchi co-designed Fuller's Dymaxion car and drove it with Clare Boothe Luce and this actress. Noguchi removed the dedication from a painting that shows this socialite on a sidewalk and in the clouds in front of the Hampshire House.
ANSWER: Dorothy **Hale** [accept *The Suicide of Dorothy **Hale***] (That painting is *The Suicide of Dorothy Hale* by Frida Kahlo.)
[10e] Noguchi's frequent collaborator Shoji Sadao contributed to Fuller's idea of a geodesic one of these structures. Inspired by Fuller's designs, Epcot's Spaceship Earth is made of two of these structures.
ANSWER: **dome**s [prompt on hemispheres]
<TM, Painting and Sculpture>

19. This process is divided into "streaming" and "collision" terms in lattice Boltzmann methods, which may also account for thermodynamic effects. For 10 points each:
[10e] Name this process described by the Navier–Stokes equations. Particles undergoing this process follow streamlines over time.
ANSWER: fluid **flow** [or equivalents such as **fluid motion** or **fluid movement**; accept **fluid dynamics** or **fluid simulation**]
[10h] *Two answers required.* These two descriptions of fluid flow correspond to "mesh" and "meshfree" simulations. One of these descriptions is fixed in space while the other follows the movement of the fluid over time.
ANSWER: **Lagrangian** AND **Eulerian** descriptions
[10m] The Lagrangian and Eulerian descriptions are connected by the fluid's material derivative, which is sometimes named for this phenomenon. Bénard cells exhibit this phenomenon that occurs when the Grashof number is much larger than the Reynolds number.
ANSWER: **convection** [accept **convective** derivative]
<MY, Physics>

20. Answer the following about the history of foundling hospitals in Europe, for 10 points each.
[10e] In 1783, this kingdom's queen Maria I proclaimed that all of its towns must have a foundling hospital. This kingdom established the Casa Pia to educate children in the aftermath of a 1755 earthquake in its capital.
ANSWER: **Portugal** [or Kingdom of **Portugal**; or Reino de **Portugal**]
[10m] This composer trained an all-female orchestra of foundlings at the Ospedale della Pietà in Venice, where he may have premiered his D major Gloria.
ANSWER: Antonio **Vivaldi**
[10h] In Italy's Campania region, hospitals traditionally gave foundlings this Italian surname because of the condition they had after being abandoned in "foundling wheels." Today, this is the commonest surname in Naples.
ANSWER: **Esposito** [or D'**Esposito**; or Degli **Esposti**; or **Esposti**; or **Esposto**; or **Sposito**; accept **Espósito** or **Expósito**] (The surname means "exposed," either to the elements or to the protection of Madonna.)
<AP, Other Academic>