



**ACADEMIC  
COMPETITION  
FEDERATION**

# **2023 ACF NATIONALS**

## **Playoffs Round 5**

### **Packet By**

### **The Editors (5)**

#### **Editors**

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## 2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

### TOSSUPS

1. “Spreading factors” that degrade this molecule increase the motility of members of *Clostridium* (“claw-strid-ee-um”), *Streptococcus* (“strep-toh-kok-us”), and *Staphylococcus* (“staff-ih-loh-kok-us”) in tissue. Low molecular weight fragments of this molecule are pro-inflammatory and angiogenic, while high molecular weight types are immunosuppressive and anti-angiogenic. BX7B motifs bind this molecule in receptors like RHAMM (“ram”) and CD44 (“C-D-forty-four”), which mediates its rapid turnover. This molecule in the corona radiata is degraded by an enzyme released during the acrosomal reaction. Fillers like Restylane (“rest-al-in”) and Juvederm (“joov-eh-derm”) consist mostly of this molecule, as do injections for knee pain due to osteoarthritis. This polymer consists of units of glucuronic acid and N-acetylglucosamine (“N-ah-SEE-til-glue-KOS-ah-meen”), and it is a main component of lubricants like synovial fluid. For 10 points, name this only non-sulfated glycosaminoglycan (“gly-kos-ah-meen-oh-gly-can”) often included in “hydrating” skincare formulations.

ANSWER: **hyaluronic acid** [or **hyaluronan**; accept native **hyaluronic acid**, accept low molecular weight **hyaluronic acid**, accept high molecular weight **hyaluronic acid**; prompt on any of HA, LMW-HA, or HMW-HA] <Biology>

2. An English-language book about this language’s literature includes an appendix exercise that examines translations of a sentence about white wicker chairs. In a book subtitled for this language, the author recalls the “emptiness” of a Cape Cod writing colony while reading the anthology *Best American Short Stories*. After switching from this language to English, an author quipped, “I am too old to change Conradically.” A book titled for a novel in this language ends by analyzing it through René Girard’s theory of mimetic desire and was inspired by its author’s Stanford graduate studies. Stories in this language are the subject of George Saunders’s 2021 book *A Swim in a Pond in the Rain*. A book titled for a novel in this language follows Selim’s studies at Harvard and is by Elif Batuman. For 10 points, Richard Pevear and Larissa Volokhonsky translate novels from what language used to write *The Idiot*?

ANSWER: **Russian** [or **russkij**; accept *The Possessed: Adventures with Russian Books and the People Who Read Them*] <American Literature>

3. Frank Castorf enraged the audience during the 2013 iteration of this event because of a work themed around the global conflict over oil. Oksana Lyniv became the first woman to take a major role at Green Hill for this event’s 2021 iteration, which also featured the debuts of Asmik Grigorian and Lise Davidsen. A George Bernard Shaw essay inspired Patrice Chéreau’s socialist interpretation at this event’s 1976 centenary. A 2021 Alex Ross book mentions the friendship between the granddaughter of this event’s founder, Winifred, and Adolf Hitler; Winifred led this event after the death of its founder’s widow Cosima. A “canon” of 10 works performed at this event leaves out *Rienzi*. The Festspielhaus was built for this event so its anti-Semitic founder could premiere *Das Rheingold*. For 10 points, name this festival in Bavaria that puts on the Ring Cycle and other operas by Richard Wagner.

ANSWER: **Bayreuth** (“BYE-roit”) Festival [or **Bayreuther** Festspiele; prompt on performances of the Ring Cycle or Wagner’s operas until each is read] <Other Fine Arts>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

4. This colony's governor James Glen sent James Adair to foster relations with an Indigenous leader whom the French later arranged to be assassinated. A deranged kilt-wearing Alexander Cuming led an unsanctioned mission from this colony, bringing back a young Attakullakulla, who would later bypass this colony and open trade with a rival during the "Panic of 1751." After establishing itself as Clarendon Province, this colony was threatened by the Pocotaligo Massacre. In this colony, Fort Prince George was used for raids up the Keowee River. Charles Craven led this colony to a pyrrhic victory in the Yamasee War. A 1739 revolt of Kongolese slaves in this colony was led by Cato. Eliza Lucas Pinckney promoted indigo production in this colony to replace a "gold" strain of rice. For 10 points, name this American colony where the Stono Rebellion coincided with a malaria epidemic in Charleston. ANSWER: **South Carolina** [or Province of **South Carolina**; accept **Clarendon** Province until read; prompt on **Carolina** or the **Carolinas** or **Carolina** gold rice] (The assassinated Indigenous leader was the Choctaw chief Red Shoes.)

<American History>

5. The narrator of this novel sees his companion covered in golden scales and then swarming flies after consuming a sugar cube laced with LSD. This novel's final image features an airplane taking the remnants of a man to "the leg stances of a million passengers" as his friend anoints an object with semen. A man in this novel masturbates while watching an event that is then shown in slow-motion on an Ampex machine. After killing a chemical engineer, the narrator of this novel sleeps with the engineer's wife Helen Remington, which does not faze his promiscuous wife Catherine. This novel begins and ends with Vaughan orchestrating a bloody incident near a London Airport that wounds his obsession, the actress Elizabeth Taylor. For 10 points, what J. G. Ballard novel concerns a group of people sexually aroused by automobile collisions?

ANSWER: **Crash**

<British Literature>

6. A pair of psychologists with this surname developed a task in which the target stimulus is surrounded on both sides by congruent, incongruent, or neutral stimuli, with incongruent stimuli leading to high activation of the anterior cingulate ("SING-yuh-lit") cortex. Two psychologists with this surname name that "flanker task." Barbara Taylor Bowman co-founded an institute with this name, inspired by the work of a psychologist who collaborated with his wife Joan on a theory that includes "existential questions" like "Can I trust the world?" That psychologist with this surname examined conflicting forces like "initiative vs. guilt" and "trust vs. mistrust" in his book *Childhood and Society*. For 10 points, give this surname of the psychologist who coined the term "identity crisis" and posited eight stages of psychosocial development.

ANSWER: **Erikson** [or **Eriksen**; accept Erik **Erikson** or Erik Homburger **Erikson**; accept Joan **Erikson** or Joan Mowat **Erikson**; accept **Erikson** Institute; accept **Eriksen** flanker task; prompt on **Salomonsen**; prompt on **Homburger**; prompt on **Serson**]

<Social Science>

7. A scholar from this dynasty quoted sources like a young girl possessed by the demon Wiggo and a blind man's dream of the archangel Gabriel in a book on the "Translation" of two saints whose bodies he had stolen. A scholar from this dynasty decried the belief that hail is dropped by sailors from the sky-realm of Magonia. Dhuoda ("DOO-oh-dah") wrote a *Handbook* for her son during this dynasty, whose intelligentsia's mania for nostalgic *correctio* ("core-REK-tee-oh") reforms influenced a capitulary called the *General Admonition*. Kings of this dynasty kept tabs on their provinces through pairs of a lay official and an ecclesiastical official called *missi dominici* ("MISS-see doh-MIH-nih-kee"). During this dynasty, the modern style of spacing between words was invented for a "minuscule" script used at the Palace School by monks under the direction of a scholar from York. For 10 points, Einhard and Alcuin ("AL-quin") wrote during what dynasty's "Renaissance"?

ANSWER: **Carolingian** dynasty [or **Carlovingians** or **Karolinger**; accept **Carolingian** Renaissance; accept **Carolingian** minuscule] (Einhard wrote about the translation of Saints Marcellinus and Peter.)

<European History>

### 2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

8. A text that accompanies this practice asks pardon for sins committed by the five senses along with those committed by walking and through “carnal delectation.” Mark 6:12-13 (“chapter six verses 12 and 13”) states that the apostles performed this practice along with preaching and casting out demons. In a 1975 homily, Paul VI (“the sixth”) celebrated the recent expansion of the applicability of this practice by administering it to 50 pilgrims. The scriptural basis for this practice is contained in a James 5 (“chapter five”) passage mentioning a version of it performed by presbyters. A prayer that accompanies this practice states “May the Lord who frees you from sin save you and raise you up.” Vatican II (“two”) called for this sacrament to be performed *in infirmis* rather than *in extremis* to separate its use from that of the viaticum Eucharist during last rites. For 10 points, name this Catholic sacrament of healing in which oil is applied to the body of someone with an illness.

ANSWER: **Anointing** of the **Sick** [accept extreme **unction**; prompt on **anointing** or applying **oil** until “sacrament” is read by asking “what is the name of the sacrament?”; reject “last rites”]

<Religion>

9. The manifesto “Crabs with Brains” supports this state’s modern-day music revival of mangubeat (“mon-GHEH-beet”). Dancers from this state carry a massive cloth doll called a *calunga* in *maracatu* (“mar-ah-cah-too”) dances and use an umbrella in *frevo* (“FRAY-vo”) performances. It’s not Curaçao, but the oldest synagogue in the Americas is in this state, whose blue-on-white flag originated from the 1817 Priest’s Revolution here. In 2011, the largest festival in the world was dedicated to Saint John the Baptist and held in this state’s city of Caruaru (“cah-roo-ah-roo”). A high concentration of spinner dolphins live near this state’s archipelago of Fernando de Noronha (“Fernando jee no-ROAN-yah”). This state’s city of Olinda (“oh-LEEN-dah”) rivals its capital, which is often compared to Venice due to its widespread canals. This home state of Lula da Silva shares its name with an orange-red wood used for violin bows. For 10 points, name this northeastern Brazilian state whose capital is Recife (“heh-SEE-fee”).

ANSWER: **Pernambuco** [accept **pernambuco** wood; accept **Pernambucan** Revolt or **Pernambuco** Revolution]

<Geography>

10. Luciano Berio orchestrated a sonata for this instrument and piano, titling his orchestration after that piece’s original catalog number, *Op. 120 no. 1*. To fit the requirements of a competition, Alexander von Zemlinsky substituted this instrument for violin in his D minor piano trio. Beethoven arranged his Septet for this instrument, cello, and piano, following the success of his earlier *Gassenhauer* trio for that ensemble. This instrument joins a viola and piano in Schumann’s *Fairy Tale Stories* and Mozart’s *Kegelstatt* trio. Johannes Brahms’s two sonatas for this instrument and piano, written for Richard Muhlfeld, are often played on viola. Both Brahms and Mozart used theme-and-variations movements to conclude chamber pieces for this instrument and string quartet. For 10 points, Brahms wrote both a late trio and quintet featuring what woodwind instrument?

ANSWER: **clarinet**

<Classical Music>

11. Upon receiving a uevent (“U-event”), udev (“U-dev”) loads one of these programs by calling modprobe with the contents of MODALIAS (“mod-alias”). In cooked mode, one of these programs passes input to a line discipline, which then sends data to another one of these programs, as explained in the article “The TTY demystified.” These programs define a table of function pointers, usually including poll and select, in accordance with the file\_operations (“file-operations”) struct. Pairs of major and minor numbers identify interfaces to these programs called special files. Whether these programs transmit data byte-by-byte in order or whether they send data as randomly accessed chunks determines if they are classified as “character” or “block.” Although these programs can be implemented in user space, traditionally they are kernel modules that control I/O (“I-O”). For 10 points, name these programs used by operating systems to communicate with hardware devices.

ANSWER: device **drivers** [or Linux device **drivers**; accept TTY **drivers** or UART (“U-art”) **drivers**; prompt on kernel **modules** until “modules”; reject “kernels”]

<Other Science>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

12. In a short story, the narrator's wife gives an old man one of her father's old suits to console him for being mistakenly given an overly heavy one of these objects. A man in a novel wonders if one of these objects survived a fire in a "third pasture" after visiting an illegal Indian shanty store. In a novel, one of these objects haunts a pig-iron magnate, who is reminded of it when his leg gets stuck in some mud in the river. A poultry boy scrapes together 20 pounds for Leric's husband to buy back one of these objects, only for him to be given the wrong one, in the story "Six Feet of the Country." In a novel that shared the 1974 Booker Prize, the memory of a leftist lover named Antonia and the finding of one of these objects haunts the white South African Mehring. For 10 points, the discovery of what sort of object on a farm opens the plot of Nadine Gordimer's novel *The Conservationist*?  
ANSWER: human **corpses** [or **carcasses**; or **remains**; or dead **bodies** or a dead **body**; accept **cadavers**; prompt on **humans**, **people**, a **person**, **men**, or equivalents; reject "skeletons" or "bones"]  
<World Literature>

13. In monolayer transition metal dichalcogenides ("die-chal-koh-jen-ides"), an analogue of this effect is represented by peaks centered on the K valleys on photoluminescence spectra. Bill Phillips and Hal Metcalf used a tapered design that heightened this effect near the source to compress an atomic beam's velocity distribution. In Griffiths's treatment of this effect's intermediate form for " $n$  equals two," degenerate perturbation theory is used to calculate the eight-by-eight  $W$  matrix whose first two eigenvalues are "five gamma plus or minus beta." Lasers are tuned to the sum of the Doppler effect and this effect to cool atoms in this effect's namesake slower. The magnitude of this effect equals " $\mu$  sub B," times the Landé ("lahn-DAY")  $g$ -factor, times the external field, times  $m$ -sub- $j$ . For historical reasons, this effect is "anomalous" when spin is non-zero. For 10 points, name this shift in atomic energy levels in the presence of a magnetic field.  
ANSWER: **Zeeman** effect [accept anomalous **Zeeman** effect; accept **Zeeman** slower or **Zeeman** slowing or **Zeeman** cooling; accept valley **Zeeman** effect]  
<Physics>

14. Late in life, failing eyesight led Jean-Baptiste-Simeon Chardin ("zhahn bap-TEEST sim-ee-AHN sharr-DON") to adopt this medium, which he used in *Self-Portrait with an Eyeshade*. Jean Perréal ("zhahn pair-ray-ALL") is credited with inventing this medium, which he first used to enhance drawings of Louis XII's ("the twelfth's") military campaigns. Maurice-Quentin de la Tour was among the most acclaimed of the estimated 2,500 artists specializing in this medium in 1780s Paris. Though she first found success with miniatures, this medium brought renown to Rosalba Carriera. This medium largely replaced the *trois crayon* ("trwah crah-yohn") technique when it exploded in popularity in the 18th century, and it was repopularized a century later by the Impressionists. Traditionally, gum arabic binders held together the pigments used in this medium in bars. For 10 points, name this medium that uses sticks of unmixed colors, which lends its name to pale, low-saturation colors.  
ANSWER: **pastels** [accept dry **pastels**; accept oil **pastels**; accept **pastel** crayons; accept **pastel** drawings; accept **pastel** on paper; prompt on **crayons** until "trois crayon" is read]  
<Painting & Sculpture>

15. A discussion of how to discover the "true" type of this phenomenon uses the example of two identical globes connected by a cord, and appears in one of the scholia ("SKOH-lee-uh") of a 17th-century book. "Endeavour" is the collective name for the "small beginnings" of this phenomenon, which include aversion and appetite, according to a book that distinguishes "vital" and "voluntary" forms of this phenomenon. Thomas Hobbes, who characterized "conatus" ("koh-NAY-tus") as an infinitesimal unit of this phenomenon, defined life as a form of it in the first paragraph of *Leviathan*. Newton's theory that space, time, and this phenomenon are absolute is rejected in a George Berkeley essay titled for this phenomenon in Latin. For 10 points, name this physical phenomenon which is an illusion according to Zeno's paradoxes.  
ANSWER: **motion** [accept **movement**; accept **moving**; accept *De Motu*; accept **rotation** until "beginnings" is read]  
<Philosophy>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

16. Valuable examples of these objects are called *hanoolchaadi* and exemplify the first phase style of simple black and white designs. For a 2011 performance piece, the artist Rebecca Belmore had Ming Hon appear with one of these objects in a snowy landscape. A wooden door was built into one of these objects called the “Witness” that toured Canada in 2019. Francis Chardon was targeted by the Arikara and Mandan people for stealing one of these objects from a deckhand on the Missouri River. Bands made from cochineal, as well as diamond and rectangle designs, appear on the “chief” type of these objects created by the Navajo. Marks called “points” indicated the size of these objects when traded for beaver pelts. During the Siege of Fort Pitt, Jeffrey Amherst suggested sending a handkerchief and these objects to Native emissaries. For 10 points, the Lenape (“luh-NAH-pay”) were given what objects formerly owned by smallpox victims?

ANSWER: **blankets** [accept **sheets**; accept smallpox **blankets**; accept chief **blankets** or point **blankets**; accept Witness **Blanket**; prompt on **cloth** or **wool**; prompt on **quilts** or **rugs** or **coverings**; prompt on **fomites** by asking “in the form of what type of object?”]

<Other Academic>

17. Rulers of this ethnic group borrowed a magic whistle used to guarantee victory when blown before battle from the Mangbetu. The status of “court metal” was reserved for three-bladed knives produced by this ethnic group’s Avongara clan. Descendants of this ethnic group, which developed *kpinga* (“kuh-PIN-guh”) knives, ruled the 19th-century sultanates of Rapaï (“ruh-FYE-ee”), Zémio, and Bangassou. Nearby peoples referred to this ethnic group as “Niam-Niam” due to their supposed penchant for cannibalism. King Gbudwe (“BOOD-way”) ruled a state of this ethnic group, who name a postwar cotton cultivation scheme in Sudan. An anthropologist rationalized beliefs of this Ubangian-speaking ethnic group by using an anecdote about a “granary” collapse. Oracles of this ethnic group divine answers by poisoning chickens with *benge* (“ben-GAY”). For 10 points, name this Central African ethnic group whose views on magic and witchcraft were studied by E. E. Evans-Pritchard.

ANSWER: **Azande** [or **Zande** or **Asande**; accept **Niam-Niam** until read; accept *Witchcraft, Oracles and Magic Among the Azande*; prompt on **Bandia** or **Vungara** or **Nzakara**]

<World History>

18. This author requests to find his son a Greek tutor in the sixth of his seven epistolary “Satires.” This author adapted a tale from the *Arabian Nights* to describe a handsome man who falls ill after discovering his wife’s infidelity but recovers after seeing the queen make love to a dwarf. After encountering Merlin’s tomb inside a cave, one of this author’s characters recovers an enchanted ring with the help of the sorceress Melissa. In one of the many references to this author’s most famous work in *Don Quixote*, Sacripante is falsely cited as the winner of the helmet of Mambrino. This author created a character who aids the ancestors of his patrons, the Este family, by recovering a flask full of wits from the moon. Astolfo flies a hippogriff in that epic poem by this author, which is titled for a character whose love for Angelica causes him to go insane. For 10 points, name this Italian Renaissance poet of *Orlando Furioso*.

ANSWER: Ludovico **Ariosto**

<European Literature>

19. In this city, the architect Philon built an important *skeuotheke* (“skoi-oh-TAY-kay”) in its district of Zea. In this city, a torch-race on horseback featured in a raucous night-time festival that honored the Thracian moon goddess Bendis. This city’s hill of Munychia was taken in a night-raid by a group of men buoyed by a recent win at the fort of Phyle (“foo-LAY”). This city’s *agora* was named for the Milesian city-planner who designed its grid-system, Hippodamus. The wealthy metic Cephalus owned a house in this city that was the setting of Plato’s *Republic*, which begins “I went down yesterday to [this city].” This city, which largely supplanted Phaleron in its primary purpose, acted as Thrasybulus’s base in his resistance to the oligarchy of the Thirty Tyrants. This city was connected to its inland neighbor by the Long Walls. For 10 points, name this city that served as the primary port of Athens.

ANSWER: **Piraeus** [reject “Athens” or “Athenai”]

<Other History>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

*Note to moderator: Read the answerline carefully.*

20. A form of solution-phase Raman spectroscopy named for this molecular property reports a value called CID (“C-I-D”). This quantity is unexpectedly zero for the molecule N-butylethyl-N-hexyl-N-propylmethane. Greater values for this property of a cholesteric (“COAL-uh-steer-ick”) mesogen allow proportionally thinner films to be used in LCDs. Food scientists measure this property as a quality check on the concentration of sugar in syrup. This quantity is traditionally reported at the sodium D line, but since it’s the Kramers–Kronig transform of ellipticity, its dispersion is reported by circular dichroism. Specific values for this quantity are symbolized by an alpha in brackets. To indicate the sign of this quantity, IUPAC (“I-U-pack”) now prefers pluses and minuses to the archaic prefixes D and L. For 10 points, enantiomeric excess is calculated by using a polarimeter to measure what angle, which is only nonzero for chiral molecules?

ANSWER: **optical rotation** [or **OR**; or specific **optical rotation** angle; or **specific rotation** angle; or **optical activity** or specific **optical activity**; or **OA**; or **optical rotatory power**; or **optical rotatory dispersion** or **ORD**; accept any answer that indicates a **change** OR **difference** OR **rotation** in the **polarization** of polarized light; prompt on **rotation**; reject “chirality”; reject “chiral angle”; reject “polarization” without any explicit indication of a change or difference]  
<Chemistry>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

**BONUSES**

1. In a story from this text, a high priest and his wife rejoice after hearing music coming from three bags of barley stored in their basement. For 10 points each:

[10h] Name this text that consists of five stories focusing on magicians. In a story from this text, a magician reattaches the heads of beheaded geese and bulls.

ANSWER: **Westcar Papyrus**

[10e] In a story from the Westcar Papyrus, a man fashions a clay one of these animals that comes to life and eats his wife's lover upon contact with water. Sobek is depicted with the head of one of these animals.

ANSWER: Nile **crocodiles** [accept **crocodilians**; prompt on **reptiles** or **archosaurs**]

[10m] In another Westcar Papyrus story, a bored Sneferu makes 20 maidens wear only these objects. The Norse goddess Rán is associated with these objects, and a jewel-adorned one belonging to Indra hangs above Mount Meru.

ANSWER: **nets** [accept hunting **nets**; accept fishing **nets** or fish**nets**]

<Mythology>

2. The prevalence of this activity in the turn-of-the-20th-century Dominican Republic caused the Blue Party and the Red Party to be nicknamed the "tailless ones" and the "long-tailed ones." For 10 points each:

[10e] Name this sporting activity popular among bettors in state-sponsored Cuban arenas despite its illegality in most of the world.

ANSWER: **cockfighting** [or **cock match** or **bird fighting**; or **pelea de gallos** or **riña de gallos**; accept **gamecocks**]

[10h] The term *rabiblanco*, literally meaning "white-tailed," was used in this country to derogatively refer to rich elites of European descent. José de Fabrega convinced those elites in this country to join an eastern neighbor.

ANSWER: **Panama** [or Republic of **Panamá**; or República de **Panamá**] (The eastern neighbor was Gran Colombia.)

[10m] This Caribbean dictator claimed his grip on power was as "firm as a monkey tail" despite the Reagan Administration announcing his flight to France in 1986; he was exiled a week later.

ANSWER: **Jean-Claude Duvalier** [accept "**Baby Doc**" or "**Bebe Dòk**"; prompt on **Duvalier** or **Doc**; reject "François Duvalier" or "Papa Doc"]

<World History>

3. An 1801 novel by this author included an interracial marriage that was excised in later editions, possibly at the insistence of her father. For 10 points each:

[10m] Name this Anglo-Irish author of *Belinda* and the historical novel *Castle Rackrent*.

ANSWER: Maria **Edgeworth**

[10e] Edgeworth influenced this fellow historical novelist and entered into a lengthy correspondence with him after the publication of his novel *Waverley*.

ANSWER: Walter **Scott**

[10h] In this Edgeworth story, Rosamond uses the money earmarked for new shoes to buy the title object, but is disappointed when it turns out to be filled with a black liquid. Some critics read it as an allegory for the beginning of menstruation.

ANSWER: "The **Purple Jar**"

<British Literature>



2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

4. *Description acceptable.* Roman citizens who completed this achievement were exempt from jury duty or acting as guardians. For 10 points each:

[10h] Name this achievement that granted a namesake right, or *ius* (“YOOSE”), under Augustus’s *Lex Iulia et Papia* (“LAKES YOO-lee-ah ET pah-PEE-ah”). Later emperors granted the privileges associated with this achievement to men who had not actually completed it, such as Martial and Suetonius.

ANSWER: having **three** or more **children** [or *ius trium liberorum*; accept **sons**, **daughters**, **kids**, or **offspring** in place of “children”; accept **more than two** in place of “three”; prompt on having **children**, **sons**, **daughters**, **kids**, or **offspring** by asking “how many?”; reject “having a child,” “having a son,” or “having a daughter”]

[10m] Augustus gave his wife Livia the *ius trium liberorum* (“YOOSE TREE-um lee-bear-OR-um”), which let women inherit property, after her son with this *cognomen* died. A tribune with this *cognomen* was killed in 91 BCE, sparking the Social War.

ANSWER: **Drusus** [accept Nero Claudius **Drusus** Germanicus or **Drusus** the Elder or **Drusus** Maior; accept Marcus Livius **Drusus** the Younger or Marcus Livius **Drusus** Minor]

[10e] The historian Suetonius gained the *ius trium liberorum* from this emperor, Hadrian’s predecessor. This second of the Five Good Emperors brought the Roman empire to its largest territorial extent.

ANSWER: **Trajan** [or Marcus Ulpius **Traianus**]

<Other History>

5. The Haskalah (“hoss-kuh-LAH”) is often described as the Jewish form of this movement. For 10 points each:

[10e] Name this movement that Kant (“kahnt”) defined as “man’s emergence from his self-incurred immaturity.”

ANSWER: **Enlightenment** [or **Aufklärung**; accept Jewish **Enlightenment**; accept “Answering the Question: What Is **Enlightenment**?” or “Beantwortung der Frage: Was ist **Aufklärung**?”]

[10h] This Jewish Enlightenment philosopher critiqued Kant in the *Essay on Transcendental Philosophy*, arguing that the thing-in-itself is [emphasize] *not* outside consciousness. In a letter to Markus Herz, Kant wrote that none of his other critics understood him as well as this philosopher did.

ANSWER: Salomon **Maimon** [or Shlomo **ben Joshua**; or Salomonas **Maimonas**]

[10m] Maimon took issue with this argument, in which Kant attempted to demonstrate that the categories are applicable to objects of experience. Kant formulated “A” and “B” versions of this argument.

ANSWER: **transcendental deduction** [or **transcendental deduction** of the categories]

<Philosophy>

6. For 10 points each, answer the following about deafening orchestral works involving auxiliary brass players.

[10h] This orchestral work is bookended by two fanfares that involve nine trumpets, two bass trumpets, and two tenor tubas. It contains musical portraits of a queen’s monastery and a town hall.

ANSWER: Leoš **Janáček**’s **Sinfonietta** [accept Leo Eugen **Janáček** in place of “Leoš Janáček”; prompt on **Sinfonietta** by asking “by what composer?”]

[10e] This most famous piece by Ottorino Respighi requires six players of *buccine* (“boo-CHEE-nay”) in its last movement, which depicts the trees along the Appian Way.

ANSWER: *The Pines of Rome* [or **Pini di Roma**]

[10m] This last tone poem by Richard Strauss (“RIKH-art SHTRAUSS”) briefly employs an offstage ensemble of 16 brass players to depict distant hunters in the forest.

ANSWER: *An Alpine Symphony* [or *Eine Alpensinfonie*]

<Classical Music>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

7. Danish explorer Peter Freuchen produced a severely-abridged version of this novel that cuts it down to what he called “a man’s book.” For 10 points each:

[10e] Name this novel whose first German translation was so terrible that it cut the sentence “Call me Ishmael.”

ANSWER: **Moby-Dick** [or **Moby-Dick; or, the Whale**]

[10h] To preface their translation of *Moby-Dick*, this author wrote a novella in which Melville gains inspiration from an Irish revolutionary named Adelina White. This author depicted the Provençal countryside in novels like *Colline*.

ANSWER: Jean **Giono**

[10m] This author made a Flemish translation of *Moby-Dick* during a relatively quiet period in 1945. This deconstructionist and Nazi collaborator wrote “The Resistance to Theory” and the book *Blindness and Insight*.

ANSWER: Paul **de Man** [or Paul Adolph Michel **Deman**]

<European Literature>

8. *Description acceptable*. Spins with this relationship are coupled in the Heisenberg and Ising models. For 10 points each:

[10m] Name this relationship that is indicated by placing indices in angle brackets below the summation notation in the Hamiltonians of the Heisenberg and Ising models.

ANSWER: they are **nearest-neighbors** [or they are **adjacent**; accept descriptions indicating two spins are **next to** each other]

[10h] A Heisenberg chain is the paradigmatic model of the “many-body” type of this phenomenon, which violates the eigenstate thermalization hypothesis. In a different type of this phenomenon, high disorder strength causes the electron wavefunction to decay exponentially.

ANSWER: **localization** [accept many-body **localization**; accept Anderson **localization** or strong **localization**; reject “weak localization” or “anti-localization” or “Mott localization”]

[10e] The entropy of this phenomenon scales with the subsystem area, rather than volume, in many-body localization states. Quantum states experiencing this phenomenon are correlated no matter how far apart they are.

ANSWER: quantum **entanglement** [or **entangled** or other word forms; accept **entanglement** entropy or entropy of **entanglement**]

<Physics>

9. This industry’s BMWED (“B-M-W-E-D”) Rank and File United rejected a September 2022 contract that didn’t include travel pay for workers. For 10 points each:

[10e] Name this industry that the US Senate blocked from receiving seven sick days to avoid a December 2022 strike that would have caused a supply chain crisis.

ANSWER: **railroads** [or **trains**; or **locomotives**; or equivalents like **railways**; prompt on **transportation**]

[10h] Rail unions objected to this attendance software whose point-based system resulted in a 10-day suspension if a worker was unable to respond to a call for work, effectively eliminating sick days.

ANSWER: **Hi-Viz**

[10m] This firm’s rail subsidiary BNSF abandoned Hi-Viz in June 2022. Despite splitting off “baby B” stocks, this firm has the most expensive stock price per share.

ANSWER: **Berkshire Hathaway** [prompt on **BH**]

<Current Events>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

10. These sequences can be used to prove Hurwitz's ("HUR-vitz's") theorem concerning rational approximation. For 10 points each:

[10h] Name these sequences that can also be used to show that Ford circles are tangent to each other. The  $n$ th one of these sequences is the set of all reduced fractions with denominators less than or equal to  $n$ .

ANSWER: **Farey** sequences [accept **Farey** series]

[10m] The length of the  $n$ th Farey sequence equals this function of  $n$  plus the length of the previous sequence. This function of  $n$  equals  $n$  times the product over  $p$  of the expression: "one minus one over  $p$ ," where  $p$  is a prime factor of  $n$ .

ANSWER: Euler's ("OY-lurz") **totient** ("TOH-shint") function [or Euler's **phi** function]

[10e] The totient function is used to generalize this French mathematician's "little theorem," which is useful when performing modular arithmetic.

ANSWER: Pierre de **Fermat** ("FER-mah") [accept **Fermat**'s little theorem]

<Other Science>

11. A poem asks you to do this activity in a line that also asks you to "wrestle with wrestlers, march in line with the firemen, and pause, listen, count." For 10 points each:

[10m] Name this activity. Another poem notes, "The rest did not see her, but she saw them and loved them" of a woman who becomes the twenty-ninth person to do this activity after watching "twenty-eight young men" doing this activity.

ANSWER: **swimming** [or word forms; accept **bathing**]

[10e] This poet wrote, "swim with the swimmers" in "I Sing the Body Electric." The 29 bathers feature in this poet's "Song of Myself."

ANSWER: Walt **Whitman**

[10h] The speaker wonders if the sea will kill a "beautiful gigantic swimmer" in this Whitman poem. This dream vision features George Washington's loss at the Battle of Brooklyn and a Native American woman's visit to the speaker's mother.

ANSWER: "The **Sleepers**"

<American Literature>

12. Penelope Eckert and Sally McConnell-Ginet have described these groups as places "where language, gender, and power all live." For 10 points each:

[10h] Name this term coined by Jean Lave ("jeen layv") and Etienne Wenger ("WENG-er") for groups of people who share a common interest.

ANSWER: **communities of practice** [or **community of practice**; or **CoP**]

[10e] Eckert and McConnell-Ginet prefer the notion of communities of practice to John Gumperz's notion of communities named for this term. Performative utterances are examples of "acts" named for this term, which also include requests and greetings.

ANSWER: **speech** [accept **speech** acts; accept **speech** communities; reject "speaking" or other similar answers]

[10m] Gumperz traced the study of speech communities back to dialectologists drawing these geographic boundary lines that separate different realizations of a linguistic feature. The "centum-satem" ("SEN-tum-SAH-tem") line is one of these lines.

ANSWER: **isoglosses** [or **heteroglosses**; accept bundles of **isoglosses**]

<Social Science>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

13. Holly Solomon championed this movement in opposition to minimalist art via her Manhattan gallery. For 10 points each:

[10h] Name this 1970s and '80s movement whose artists, like Joyce Kozloff and Miriam Schapiro, were influenced by ornamental forms such as wallpaper and embroidery.

ANSWER: **Pattern and Decoration** movement [or **P&D**]

[10e] Schapiro coined a portmanteau term combining “femme” with the name of this artistic technique, which comes from the French for “glue.” Découpage (“day-koo-PAHZH”) and photomontage are forms of this technique.

ANSWER: **collage** (The portmanteau term is “femmeage.”)

[10m] Schapiro organized the *Womanhouse* installation with this artist, whose best-known artwork is on permanent exhibition at the Elizabeth A. Sackler Center for Feminist Art at the Brooklyn Museum.

ANSWER: Judy **Chicago** [or Judith Sylvia **Cohen**] (The second artwork is *The Dinner Party*.)

<Painting & Sculpture>

14. Anne Moody recalls the shock of most of her teachers being white at this state’s Tougaloo College in a memoir about “coming of age” in this state. For 10 points each:

[10m] Name this state that is the setting of *I Am More Than a Wolf Whistle*, a controversial and revisionist memoir written by Carolyn Bryant and leaked by Timothy Tyson in 2022.

ANSWER: **Mississippi** [or **MS**; accept *Coming of Age in Mississippi*] (The Bryant memoir was supposed to be published after her death, but was leaked in 2022.)

[10e] Moody recalls a general nervousness after the 1955 death of this person, whom Bryant falsely accused of flirting with her. This person’s body was returned from Mississippi to Chicago for display in an open casket.

ANSWER: Emmett **Till** [or Emmett Louis **Till**]

[10h] This author calls the ruins of Bryant’s Grocery store the “ghostliest structure in the South” in his book *Deep South*, a contemporary travelogue in the fashion of Civil Rights Era journalism.

ANSWER: Paul **Theroux** [or Paul Edward **Theroux**]

<American History>

15. Lisa McCorkell, Hannah Wei, Athena Akrami, Hannah Davis, and Gina Assaf founded the Patient-Led Research Collaborative to study this condition. For 10 points each:

[10m] Name this condition largely recognized due to patient activism aided by journalists like Ed Yong. Douglas Kell and Ethersia Pretorius have argued that this condition’s symptoms are caused by fibrin microclots.

ANSWER: **long COVID** [or **post-COVID** syndrome; or **chronic COVID**; or **long-haul COVID**; or **post-acute** sequelae of **SARS-CoV-2** infection; or **PASC**; prompt on **COVID-19** infection or **SARS-CoV-2** infection] (Some historians of science consider Long COVID the first illness “created” through patient connections on social media.)

[10e] Long COVID often manifests as a chronic form of this symptom that disproportionately affects women. A syndrome named for this symptom involves monthslong debilitating dizziness and exhaustion upon exertion.

ANSWER: chronic **fatigue** syndrome [or **myalgic encephalomyelitis**; or ME/**CFS** or **ME**/CFS; or chronic **fatigue** immune dysfunction syndrome; or **CFIDS**; prompt on post-exertional **malaise** or **PEM** by asking “what condition is that diagnostic of?”; prompt on **tiredness**]

[10h] Long COVID sex differences may be due in part to these immune cells’ responsiveness to estrogen. D816V mutations in *c-KIT* cause a clonal expansion of these cells in a different disorder.

ANSWER: **mast** cells [or **mastocytes**; or **labrocytes**; accept **mastocytosis**; prompt on **granulocytes**, **myeloid** cells, **immune** cells, **leukocytes**, **white blood** cells, or **WBCs**]

<Biology>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

16. Stephen Kotkin, the first American to enter this city in 45 years, used it as a case study in a microhistory analyzing “Stalinism as a Civilization.” For 10 points each:

[10h] Name this closed Soviet city that was transformed into an industrial complex based on designs by the American firm Arthur G. McKee and Co., effectively serving as the planned crown jewel of the first Five-Year Plan.

ANSWER: **Magnitogorsk** (Kotkin’s book is *Magnetic Mountain*.)

[10m] In the second Five-Year Plan, Magnitogorsk was a hub for a high-production labor movement named for this man, whom Soviet authorities propagandistically heroized after he reportedly mined 102 tons of coal in one shift.

ANSWER: Alexey **Stakhanov** [accept **Stakhanovite** movement; accept **Stakhanovism**]

[10e] Stakhanov gained fame after a propaganda campaign in this newspaper, the official mouthpiece of the Soviet Communist Party. This newspaper’s name means “truth.”

ANSWER: **Pravda**

<European History>

17. Answer the following about films containing scenes of people dancing to Nina Simone, for 10 points each.

[10e] Julie Delpy dances to Simone’s “Just in Time” at the end of a Richard Linklater film beginning with this word, which precedes “Sunrise,” “Sunset,” and “Midnight” to title that trilogy of romance films.

ANSWER: **before** [accept **Before Sunrise** or **Before Sunset** or **Before Midnight**]

[10m] Women dance to “Sinnerman” in the end credits of David Lynch’s film *Inland Empire*, which stars this woman as an actress whose life becomes intertwined with her on-screen character’s. This star of Lynch’s *Wild at Heart* had a breakout role in *Blue Velvet*.

ANSWER: Laura **Dern** [or Laura Elizabeth **Dern**]

[10h] A club remix of “Sinnerman” is played in the opening of this 2006 Michael Mann film, which uses high-grain digital photography to film scenes like the climactic shootout with cocaine smuggler José Yero.

ANSWER: **Miami Vice**

<Other Fine Arts>

18. The cytotoxicity of this ion prompted Carolyn Bertozzi to develop an alkyne-azide click reaction that was promoted by strain instead. For 10 points each:

[10m] Name this metal ion and its oxidation state. Because this reduced ion oxidizes rapidly in air, cells protect it inside proteins like superoxide dismutase and hemocyanin.

ANSWER: **copper (I)** (“copper one”) [or **copper plus** one; or **copper one** plus; or **Cu+** or **Cu+1** or **Cu1+**; or **cuprous** copper ion; reject “copper two plus,” “copper plus two,” “Cu2+,” “Cu+2,” or “cupric copper”; prompt on **copper** or **Cu** by asking “what oxidation state?”]

[10e] Though it’s often catalyzed by copper in organic chemistry, this reaction is run copper-free to label molecules in living cells. This reaction is the 4 + 2 (“four plus two”) cycloaddition of a diene and a dienophile.

ANSWER: **Diels–Alder** reaction [accept inverse-electron demand **Diels–Alder** reaction or IED **Diels–Alder** reaction or retro-**Diels–Alder** reaction]

[10h] Another metal-free bioconjugation links thiols to this compound — for instance, to install chemotherapeutic drugs onto antibodies. This five-membered heterocycle clicks onto furan in a popular Diels–Alder co-polymerization.

ANSWER: **maleimide** (“muh-LAY-uh-myde”) [or 2,5-**pyrroledione**]

<Chemistry>

2023 ACF Nationals | Playoffs Round 5. Editors 5

Editors: Harvey, Apte, Evans, Golden, Karim, Kearney, Mao, Nediger, Peet, Settle, Silverman

19. Mario Vargas Llosa (“YOH-sah”) claimed it was clear that this short story was narrated “from an objective reality” due to the use of the word “still.” For 10 points each:

[10m] Name this one-sentence short story by Augusto Monterroso. It reads in its entirety, “When he awoke, [the title animal] was still there.”

ANSWER: “The **Dinosaur**” [or “El **dinosaurio**”]

[10e] Monterroso added this punctuation mark to “The Dinosaur” because otherwise it seemed “as if the dinosaur was the one who awakened.” A joke advises you not to forget this punctuation mark in the phrase “let’s eat Grandma.”

ANSWER: **comma**

[10h] A boy in this novel complains, “That’s no story” when “The Dinosaur” is read to him. Two stepsiblings try to journey to Echo Canyon after running away from a road trip to Arizona in this novel by Valeria Luiselli (“val-LAIR-ee-uh LOO-sell-ee”).

ANSWER: ***Lost Children Archive***

<World Literature>

20. The name for this group may come from the Persian word for “crocodile” or the pre-initiation name of Phula Singh. For 10 points each:

[10h] Name this order of nomadic warriors who wear distinctive blue robes and elaborate quoits (“kwoyts”) in their dumallas. This group is also known for consuming liquid cannabis, or bhang, on Hola Mohalla.

ANSWER: **Nihang** [or **Akali**; prompt on **immortals**]

[10e] Four-foot sticks are used in one of these activities called gatka that is popular among Nihangs. Other examples of these activities influenced by religion include aikido and tai chi.

ANSWER: **martial** arts [accept **martial** sciences; accept **fighting** system or **fighting** style; accept mock **battles**; prompt on **exercises** or **sports**]

[10m] The Nihang’s blue robes were first worn by Fateh, the son of this guru of Sikhism who pretended to behead five volunteers with his sword during an initiation ceremony.

ANSWER: Guru **Gobind** Singh [or **Gobind** Rai or **Gobind** Das; prompt on **Singh** or **Rai** or **Das**]

<Religion>