



**ACADEMIC
COMPETITION
FEDERATION**

ACF NATIONALS 2022

PACKET 6

Packet by

Texas A

Authors

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TOSSUPS

1. A 1934 edition of this work was published by Bruce Dickins and Alan S. C. Ross, who believed it was of composite authorship. This text uses the phrase “with great zeal” three times and it shares its main subject with a six-line Latin hexameter from the same era beginning “I once appeared multi-colored,” by Tatwine (“tah-TWEE-neh”). About twenty lines of this work closely resemble inscriptions on a stone monument in Ruthwell (“RUH-thull”). This poem calls a corpse that grows cold a “life-house,” and describes its subject covered in gold and five glittering gems from the corners of the world. This 156-line poem is the fifth of six major works in the Vercelli (“vair-CHELL-ee”) Codex. This poem’s title object is called a “victory-tree” and speaks of the time it saw the “savior of Mankind” approach it. For 10 points, name this Old English poem, an allegorical vision about Christ’s crucifix.

ANSWER: *The Dream of the Rood* [or *The Vision of the Cross*] (The monument is the Ruthwell cross. The Latin work is the ninth riddle of Tatwine, who was archbishop of Canterbury in the early 730s.)

<British Literature>

2. A set of texts named for this non-biblical person were accidentally acquired by the racist anatomist Samuel George Morton from salesman Michael Chandler, who claimed to have inherited them from their excavator Antonio Lebolo. John Gee wrote a guide to those texts named for this person, which included a now-lost copy of the Book of Amenhotep (“AM-en-HOH-tep”) that told the tale of the pharaoh Onitas and princess Katumin. This person is the alternate namesake of the Hypocephalus (“high-poh-SEF-uh-lus”) of Sheshonq (“SHESH-onk”) which was copied in the Kirtland papers. Willard Richards, Frederick Williams, and Oliver Cowdery (“COW-dur-ee”) assisted this American, who used his namesake papyri as a source for the *Book of Abraham*, which was later added to *The Pearl of Great Price*. For 10 points, name this man who claimed to have translated “Reformed Egyptian” from some golden plates to produce the Book of Mormon.

ANSWER: Joseph Smith [accept Joseph Smith Papyri; prompt on Smith]

<Religion>

3. This quantity is measured for powders by adsorbing a probe at infinite dilution during inverse gas chromatography. The geometric means of the dispersive and polar components of this quantity are additive and are measured for solids using water and methyl-ene iodide. Polymer sheets are oxidized with ozone and a plasma to increase this quantity during corona treatment. This quantity is often measured for films in non-SI units, with a test named for the imperial unit of force. The critical radius for nucleation is proportional to this quantity, which has the same units as the spreading parameter. In a solid-liquid-gas system, if two values of this quantity are known, then the third can be computed from the contact angle. Amphi-philic molecules reduce this quantity and make a solid more wettable. For 10 points, name this quantity that is reduced by detergents.

ANSWER: surface energy [or surface tension; or surface free energy; or interfacial energy; or interfacial tension; or surface energy density; or interfacial energy density; or dispersive surface energy; prompt on wettability or wettable until it is read; prompt on contact angle until it is read; prompt on energy; prompt on tension; prompt on sigma; prompt on gamma]

<Chemistry>

4. This symphony was first recorded in 1933 by the BBC Symphony Orchestra and Serge Koussevitzky, who had conducted the first live complete cycle of its composer's symphonies that year in Boston. After this symphony's opening section has concluded, a pair of oboes introduces a Dorian-mode theme in a section marked "Un pochettino meno adagio" ("oon poh-keh-TEE-no MEH-noh ah-DAH-joh"). Samuel Barber extensively analyzed this symphony in preparation to write his own first symphony. This symphony, which was originally supposed to include a "Hellenic Rondo," opens with strings playing a white-note scale upwards from G until landing on an A-flat minor chord. This one-movement work, which was originally titled *Fantasia sinfonica No. 1*, includes a trombone theme named for the composer's wife Aino ("EYE-noh") in the home key of C major. For 10 points, name this final completed symphony by the composer of the *Lemminkäinen* ("LAY-min-kye-nayn") *Suite*.

ANSWER: Jean Sibelius's Symphony No. 7 [prompt on descriptions of Sibelius's final symphony or Sibelius's last symphony by asking "What number?"]

<Classical Music>

5. At this battle, an inexperienced Belgian nobleman was plied with wine, convinced to take command, and captured, then died in prison two years later in Reval. At this battle, one side's grenadiers filled enemy trenches with fascines ("fuh-SEENZ") as three attack columns advanced at 2 PM, taking advantage of a wind shift that made a blizzard blow in the enemy's face. Troops fleeing this battle made a wagon fort after trying to cross the Kamperholm Bridge, which collapsed under their weight. After that last stand, its winning commander let two surrendering elite regiments, the Preobrazhensky ("pray-oh-brah-ZHEN-sky") and Semyonovsky ("sem-yoh-NOF-skee") guards, keep their weapons. Fyodor Golovin ("FYAH-dor GOH-loh-vin") and his superior fled the night before this battle, but avenged it nine years later at Poltava. For 10 points, name this 1700 battle in which a Swedish relief force led by Charles XII defeated Peter the Great's army.

ANSWER: Battle of Narva (The nobleman in the first clue was Charles Eugène de Croÿ.)

<European History>

6. *Description acceptable.* Pigmentation abnormalities are strictly demarcated by this structure in CHILD ("child") syndrome. Neuropilin-2 ("NOO-roh-PILL-in-2") deficient mice develop defects associated with this structure since their neuronal growth cones cannot respond to a repellent barrier of the *Slit* protein adjacent to it. It's not the umbilicus, but an omphalocele ("ahm-FAL-uh-seel") usually occurs along this structure but gastroschisis ("gas-TROSS-kuh-sis") occurs to the right of it. Movement of the protein Nodal is key for positioning this structure. Ciliary defects, such as those in Kartagener's ("kar-TAG-uh-ner's") syndrome, will commonly cause major organs to be mirrored with respect to this structure in situs inversus ("SITE-us in-VER-sus"). In humans, Bishop's card reaching test is used to test for handedness based on the participant's preference for crossing this structure. For 10 points, name this structure that divides bilaterally symmetric organisms, such as humans, in half.

ANSWER: developmental midline [or midsagittal plane; prompt on middle or center; accept answers clearly describing the line that divides a bilaterally symmetric organism in equal (left and right) halves]

<Biology>

7. In 1792, Tipu Sultan decreed a monopoly on exports of one type of this good from Mysore. In the 19th century, that type of this good was the main Hawaiian export to China, where it was sold in units called *picul* (“pickle”). Timorese sultans got rich from exports of a white variety of this good to India. Another type of this good was named for the coastal regions bounded by the Eastern Ghats (“gots”) from which it was exported, called the Coromandel Coast. In Cuba, Spain created a monopoly on *caoba* (“COW-bah”), a variety of this good. Red seal ships brought this good’s “Indian red” or *sappan* variety to Edo (“eh-doh”) period Japan. Local Tupi were employed to collect another type of this good at a city founded for its exploitation, Pernambuco. Portuguese explorers prized that dye-rich type of this good so much that they named Brazil after it. For 10 points, name this good exemplified by mahogany.

ANSWER: **wood** [or **lumber** or **timber**; accept **sandalwood** or **brazilwood** or **hardwood** or exotic **wood**; accept **coromandel** before “Coromandel”; accept **sandal**; accept **ebony** before “ebony”; prompt on **trees**; prompt on **dyes** before “dye” by asking “what good are the dyes extracted from?”]

<World History>

8. In a story by this author, a young man drinks free soup at a bar and lodges for the night with an assassin, after disguising himself as a homeless man. Another story by this author ends with a child’s drunk father fatally throwing a dog out a window as an allegory for Jim Crow. A character in a story by this author says that another character “isn’t even a noun. He is kind of an adverb” before claiming “Every sin is the result of a collaboration.” That story by this author of “An Experiment in Misery” and “A Dark Brown Dog” ends with the exclamation “Well, I didn’t do anything, did I?”, by a cowboy, referring to a brawl that started at Pat Scully’s establishment. In that story by this author, Johnnie is accused of cheating at cards, leading him to fight the Swede during a blizzard. For 10 points, name this American author of “The Blue Hotel” and “The Open Boat.”

ANSWER: Stephen **Crane**

<American Literature>

9. During a weeklong September festival, this city’s people lead a procession carrying a 3-foot-tall wooden statue of the Madonna and child named La Conquistadora (“lah cone-kee-stah-DOH-rah”) to the historic Rosario (“roh-SAH-ree-oh”) Cemetery. Residents of this city annually burn a 50-foot cloth effigy named “Old Man Gloom,” or Zozobra (“soh-SOH-brah”), to destroy worries and fears. Saint Joseph is said to have built the miraculous helix-shaped staircase of this city’s Loretto Chapel. This city’s *House of Eternal Return* is operated by the contemporary art group Meow Wolf, which is funded by local resident George R. R. Martin. Many of this city’s celebrations involve the large concrete Cross of the Martyrs, built to commemorate Catholic priests killed during the Pueblo Revolt. This city’s Canyon Road arts district includes the Georgia O’Keeffe Museum. For 10 points, name this city, the capital and artistic center of New Mexico.

ANSWER: **Santa Fe**

<Geography>

10. This philosophical position is *defended* in an essay that treats a junk-heap, stone-pile, engine, and human body as possessing increasing amounts of a certain quality. This position is *attacked* in a paper in which a detective tries to figure out if Dunitz's identical twin committed murder, written by Peter Klein and Ted A. Warfield. Good versions of this position are regulated by the "Observation Requirement" according to Lawrence Bonjour's *The Structure of Empirical Knowledge*. Bertrand Russell attempted to refute this position by analyzing the sentence "Bishop Stubbs was hanged for murder." The modern formulation of this position is often attributed to a 1906 book by H. H. Joachim ("JOH-uh-kim"). An Ernest Sosa essay likens this position to a raft as opposed to the pyramid of foundationalism. For 10 points, name this position that truth derives from membership in a logically consistent collection of beliefs.

ANSWER: **coherentism** [accept **coherence** theory of truth; accept **coherence** theory of justification; accept epistemic **coherentism**; prompt on **antifoundationalism** by asking "What alternative is being presented to foundationalism?"] (The first essay is "Coherence as the Nature of Truth" by Brand Blanshard.)

<Philosophy>

11. A region with this name was home to a prince named Hesperus who climbed its tallest mountain to observe the stars, but was carried away by the winds. Diodorus Siculus states that people from a region with this name worshiped the Great Mother Basileia and were invaded by the Amazons under Myrina, who sacked their city of Cerne. Kings of an island with this name hunted without using iron weapons in a ritual where blood was poured over a pillar inscribed with their laws. An orichalcum-rich island of this name was home to the autochthon Evenor and his daughter Cleito, whose ten sons ruled its ten parts. That island of this name had concentric rings of land and sea carved by Poseidon, and was punished by the gods when its people fell from virtue. For 10 points, Plato's *Critias* describes an island with what name beyond the Pillars of Hercules that sank below the sea?

ANSWER: **Atlantis** [prompt on **Atlas Mountains**]

<Mythology/Legends>

12. During a trial of this city's political leaders, a dynamite explosion blew up the house of supervisor James Gallagher after he testified. In that trial, police chief William Biggy mysteriously turned up dead floating near a dock in this city. Defendant Morris Haas nearly shot prosecutor Francis Heney in the head during corruption trials in this city that exposed the graft of the Union Labor Party. Fremont Older joined a Hearst-owned newspaper in this city to write in defense of Tom Mooney and Warren Billings during the Preparedness Day Bombings case. Abe Ruef ("roof") was jailed for three years for his corrupt boss rule in this city, which included helping elect Eugene Schmitz as mayor. The Committee of Fifty was established to deal with a disaster in this city that destroyed the Palace Hotel. For 10 points, what West Coast city names a devastating 1906 earthquake?

ANSWER: **San Francisco**, California [or **San Fran**; prompt on **SF**]

<American History>

13. In a novel by this author, villagers are temporarily blinded by yellow butterflies raining from the sky. In that novel by this author, a "beautiful beggar girl with a bad eye" accompanies the narrator's father to a betting shop. In a 2019 novel by this author, painting the words "Who is the prisoner?" on a public wall leads to the disappearance of Amalantis, who is sought by her lover, Karnak. In the opening chapter of a novel by this author, ghosts eat dinner at the house of the police officer who was responsible for their deaths. This author of *The Freedom Artist* and *Songs of Enchantment* wrote a novel in which the narrator's father, a boxer nicknamed "Black Tyger," fights a man from the Party of the Rich. Customers from the spirit world frequent Madame Koto's bar and are seen by the child Azaro in, for 10 points, what Nigerian author's novel *The Famished Road*?

ANSWER: Ben **Okri**

<World Literature>

14. An artist from this country was the dedicatee of a painting with a blue background that shows a Ferris wheel among a mass of people, giraffes, and illuminated buildings. That work is by a French-born poet who moved to this country with her husband, the founder of a magazine whose 3-letter name comes from the Greek for “that which is possible.” This was the adopted home of Alice Rahon (“rah-OWN”) and Wolfgang Paalen, who published the art journal *DYN* (“D-Y-N”) here. A gallery run by Inés Amor in this country held a 1940 International Surrealist Exhibition, for which a native artist submitted a work in which a hemostat squeezes a severed artery. That work shows the connected hearts of a woman in white European clothing and a woman in this country’s traditional Tehuana dress. For 10 points, name this home country of an artist who painted alternate versions of herself in *The Two Fridas*.

ANSWER: **Mexico** [accept United **Mexican** States or Estados Unidos **Mexicanos**]

<Painting/Sculpture>

15. A type of this quantity competes with galaxy strangulation and galaxy harassment as explanations for the galaxy morphology–density relation. Two types of this quantity are equated to define the magneto-spheric radius at the inner edge of an accretion disk. A type of this quantity produces the trailing tails of so-called “jellyfish galaxies.” NGC 4402’s truncated hydrogen-poor dust disc is due to a high value of that type of this quantity, which drives an interstellar gas-stripping process. For a body moving in a fluid, the fluid density times the square of the body’s relative velocity gives the “ram” type of this quantity. Another type of this quantity equal to the Poynting vector over the speed of light is harnessed by solar sails. For 10 points, light imparts momentum to objects in space by exerting the “radiation” type of what fluid quantity?

ANSWER: **pressure** [accept magnetic **pressure** or ram **pressure** or radiation **pressure**; accept ram **pressure** stripping]

<Physics>

16. One of this author’s books claims that circa 1770, the rise in child labor reduced the use of foundling hospitals for state-sponsored infanticide, in the chapter “The Industrial Bubble.” The preface of one of this author’s books says, “Explanations of lifestyle are like potato chips. People insist on eating them until the whole bag is gone.” That book by this author examines why the Catholic Church changed its position on whether people fly on broomsticks. This man generalized Kenneth Pike’s etic/emic (“ET-ick EEM-ick”) paradigm to non-linguistic anthropology in his book *The Rise of Anthropological Theory*. In another book, he claimed that Middle Eastern pork taboos were a result of environmental factors, not cultural differences. For 10 points, name this American anthropologist who applied his theory of cultural materialism in *Cows, Pigs, Wars, and Witches* and *Cannibals and Kings*.

ANSWER: Marvin **Harris**

<Social Science>

17. Excerpts from a ballet titled for this action shot up in popularity in 2021 when Ava Arbuckle won the 2020 Prix de Lausanne (“pree duh loh-ZAN”) by performing a solo variation from it. In the Royal Ballet’s version of another ballet, this action causes the villain’s reflection to shatter in a mirror. In that ballet, a woman performs this action directly after an *Entr’acte symphonique* (“on-TRACT sam-phoh-NEEK”) written for Leopold Auer and the most famous “Panorama” in the classical repertoire. This action partly titles a one-act *ballet anacréontique* (“ah-NAK-ray-on-TEEK”) with music by Riccardo Drigo about the spring goddess Flora. In another ballet, a woman’s performance of this action is celebrated at a wedding whose guests include Little Red Riding Hood and Puss-in-Boots. For 10 points, name this action that the title character performs after the breaking of Carabosse’s curse by Prince Désiré’s (“day-zee-RAY’s”) kiss in Tchaikovsky’s *The Sleeping Beauty*.

ANSWER: **wakening** [or **waking** up; accept word forms; or **Réveil**; prompt on **kiss** by asking “What happens to the character who is kissed?”]

<Other Fine Arts>

18. This country's city of Umland ("OO-lahnt") is the setting of the only novel by Mathilde Franziska Anneke ("mah-TEEL-duh frahn-ZEECE-kah AHN-uh-kuh"), who moved here after the Revolutions of 1848. In a novel set in this country, the protagonist steps out of a train station and finds a hundred women dressed as angels standing on pedestals, playing trumpets. Winnetou was the protagonist of many best-selling novels set in this country that were written by Karl May ("my"). While in this country, a protagonist is held captive by the obese landlady Brumelda after being fired as an elevator operator. In a play, a gangster from this country tries to control the cauliflower market. Robinson and Delamarche meet a teenager who travels to this country in a novel adapted from the story "The Stoker" about Karl Rossman. For 10 points, name this country that provides the setting of *The Resistible Rise of Arturo Ui* ("wee") and that titles an unfinished novel by Franz Kafka.

ANSWER: the **United States** of America [or the **U.S.**; or the **U.S.A.**; or **America**]

<European Literature>

19. During a mountaintop sacrifice in this text, a king decrees an inscription extolling how he "rises early, sleeps late" to work for his subjects, whom he calls the "black-headed people." This text's preface describes its author's desire to use the office he inherited from his father to continue his father's dream, rather than the office's main job of astronomy. This text describes the melting of thousands of enemy weapons to create twelve colossal metal statues, a loyalty test in which a man points to a deer and calls it a horse, and the "rectification of weights and measures." The author chose castration over execution to finish this work, in which the First August ("aw-GUST") Ruler dies after trying to gain immortality by ingesting mercury. For 10 points, name this monumental history from the time of the Yellow Emperor, written by Sima Qian ("suh-mah chyen") of the Han dynasty.

ANSWER: **Records of the Grand Historian** [or *The Scribe's Grand Records* or *Shiji*]

<Other History>

20. This is the most common algorithm that requires as input a parameter that the OPTICS ("optics") algorithm picks for itself. This algorithm is seeded in a random but weighted way in David Arthur and Sergei Vassilvitskii's "++" ("plus-plus") variant. In the classroom, this algorithm is often introduced alongside Gaussian mixture models, which outperform it on co-variant data. Like factor analysis and PCA, this algorithm can be tuned by finding the "elbow" of a plot of the distortion function. This algorithm's naïve version, sometimes called Lloyd's algorithm, constructs a centroidal Voronoi diagram. To minimize the within-set squared Euclidean distance, this algorithm alternates between reassigning data points to sets, and updating the positions of those sets' centroids. For 10 points, identify this unsupervised clustering method named for the preset number of cluster centers that it uses.

ANSWER: **k-means** clustering algorithm [accept **k-means++**; accept **Lloyd's** algorithm before "Lloyd's"; prompt on **clustering**; reject "k-nearest neighbors" or "k-NN"]

<Misc. Science>

BONUSES

1. A seven-tiered example of these structures at Azuchi is believed to have had an unusually octagonal sixth floor that was covered in gold leaf and symbolized heaven. For 10 points each:

[10m] Name these structures centered around a *tenshu*, which typically had layers of gabled roofs. A notable white one of these structures at Himeji is nicknamed “White Heron.”

ANSWER: Japanese **castles** [or *shiro* or *jō*; accept **fortresses**]

[10h] A common roof ornament in Japanese castles were *shachihoko*, which were shaped to resemble these animals, but with the head of a tiger. Several prints by Yoshitoshi depict a boy grasping one of these animals.

ANSWER: **carp** [or **koi**; prompt on **fish**]

[10e] The *tenshu*, or keep, of a Japanese castle was usually surrounded by one or more *maru*, which were equivalent to these courtyards in European castles. Early rudimentary castles paired them with a motte.

ANSWER: **baileys** [accept **wards**]

<Other Fine Arts>

2. For 10 points each, answer the following about the medical history of colonial-era Africa:

[10m] According to the Pike Report, 75% of one side’s casualties in Africa in this war were due to lack of medical supplies. Paul von Lettow-Vorbeck (“LEH-tov-FOR-beck”) was called the “Lion of Africa” for leading *askaris* (“uh-SKAH-reez”) in this war.

ANSWER: **World War I** [or the **Great War**]

[10e] This colony’s health system was generally regarded as the best in colonial Africa, with thousands of hospital beds in cities such as Stanleyville. This colony replaced a brutal “Free State” run by Leopold II.

ANSWER: **Belgian Congo** [or **Congo belge** or **Belgisch-Congo**; prompt on **Congo**]

[10h] In the 1920s, a naturalist with this surname drafted plans to limit sleeping sickness by controlling the tsetse (“TSEE-tsee”) fly population. In the 1950s, a British official with this surname created a plan to supplant “traditional” East African farming methods with a “progressive” cash crop economy.

ANSWER: **Swynnerton** [accept Charles Francis Massy **Swynnerton**, or Roger **Swynnerton**, or **Swynnerton Plan**]

<Other History>

3. This woman’s *Reminiscences* recounts her travels to Baden-Baden with her husband in the summer of 1867. For 10 points each:

[10h] Name this woman, the subject of a biography by Andrew D. Kaufman. She worked as a stenographer before becoming the first solo female publisher in Russia.

ANSWER: **Anna Dostoyevskaya** (“doh-stoh-YEFF-skah-yah”) [or Anna **Grigoryevna**; or Anna Grigoryevna **Snitkina**; prompt on **Dostoyevskaya** or descriptions such as **Dostoyevsky’s wife**]

[10m] Kaufman’s biography of Anna Dostoyevskaya is partially titled for this activity. At the end of a Dostoyevsky novel, Alexei Ivanovich (“ih-VAH-nuh-vitch”) does this activity instead of visiting his love Polina in Switzerland.

ANSWER: **gambling** [accept **roulette**; accept *The Gambler* or *Igrok*]

[10e] Dostoyevsky dedicated this novel, his last, to his wife Anna. In this novel, Ivan recites the parable of the Grand Inquisitor to his sibling Alexei.

ANSWER: *The **Brothers Karamazov*** [or *The **Karamazov Brothers*** or ***Bratya Karamazovy***]

<European Literature>

4. Andrew Sweetman and Annelise Chapman have observed hagfish, squat lobsters, and shrimp feeding on instances of these events in Norwegian fjords. For 10 points each:

[10h] Name or describe these events in which gelatinous zooplankton (“ZOH-uh-plankton”) serve as vectors for the transfer of particulate organic matter within the biological pump. They often follow a spring bloom of the organisms involved.

ANSWER: **jelly-falls** [accept descriptions of the **sinking** or **falling** or **downward** motion of a mass of dead or decaying **jellyfish**; prompt on incomplete answers mentioning **jellyfish** by asking “What happens in those events?”; reject “whale falls”]

[10e] Though widely used, this indiscriminate collection practice is ill-suited to gathering fragile jellyfish carcasses. This is the practice of fishing by dragging a net across the ocean floor.

ANSWER: bottom **trawling** [or deep-sea **trawling**; accept **seining**]

[10m] Like jelly-falls, this type of aggregated organic detritus transports carbon down from the photic (“PHOH-tick”) zone. This substance’s name suggests an analogy to above-ground precipitation.

ANSWER: **marine snow**

<Misc. Science>

5. Martin Shubik demonstrated that these sets are equivalent to a core in game theory. For 10 points each:

[10m] Name these curves inside Edgeworth boxes. They represent all final allocations of goods between two agents that could result from mutually beneficial exchange.

ANSWER: **contract** curves

[10e] By definition, all points along a contract curve have this property, meaning that a deviation from the curve that benefits one agent will result in a loss for the other.

ANSWER: **Pareto efficiency** [or **Pareto efficient**; prompt on **efficient** or **zero-sum**]

[10h] These hypothetical events name a thought experiment illustrating how agents arrive at points on a contract curve. The figure who runs these hypothetical events facilitates *tâtonnement* (“tah-tohn-MAHN”) by adjusting prices until the market is cleared.

ANSWER: **Walrasian auctions** [accept answers which refer to an **auction** and Léon **Walras**; prompt on **auctions**]

<Social Science>

6. This man’s acting career was initiated by an 1820 lecture where nitrous oxide caused him to drunkenly deliver a soliloquy from *Richard III* (“the-third”). For 10 points each:

[10h] Name this star 19th-century American actor whose forceful style led to his rivalry with the genteel William Macready. His obsessed fans sparked the Astor Place riot.

ANSWER: Edwin **Forrest**

[10e] The Astor Place riot was set off by Forrest and Macready’s conflicting interpretations of this Shakespeare play’s title character. Orson Welles directed an all-black 1936 interpretation which replaced this play’s witches with voodoo priestesses.

ANSWER: **Macbeth**

[10m] Forrest was a mainstay of the Bowery Theatre, which had this nickname due to its violent programming. In a novel, a literal one of these places employs Tamoszius Kuszleika (“tuh-MOH-shuss kush-LAY-kuh”) and Marija Berczynskas (“maria ber-CHIN-skuss”).

ANSWER: **slaughterhouse** [accept **packinghouse**; accept **meat-packing plant**] (That novel is Upton Sinclair’s *The Jungle*.)

<American Literature>

7. This event prompts the largest annual *mudik* (“MOO-dick”), a mass homecoming of migrant workers which was banned in 2021 due to COVID-19. For 10 points each:

[10e] Name this Muslim holiday which marks the end of Ramadan.

ANSWER: Eid al-Fitr (“EED al FIT-er”) [or Idul Fitr; prompt on Eid]

[10m] Javanese tradition holds that the worship of Eid al-Fitr was brought to Indonesia by this number of saints.

The *surah* of this number contains the “Sword Verse” and notably does not begin with a *bismillah* (“bis-mih-LAH”).

ANSWER: nine [accept Nine Saints, or Ninth Surah, or tisa’at] (Surah 9 is “At-Tawbah.”)

[10h] This Indonesian word collectively refers to Eid al-Adha (“EED al ODD-hah”) and Eid al-Fitr, during which employers are required to give workers time off. It is sometimes applied to holidays of non-Muslim groups such as Chinese New Year.

ANSWER: lebaran [accept lebaran *cina*]

<Religion>

8. In the 1950s, Armour and Co. purified a kilogram of this protein by boiling a lot of sausage, then offered 10 milligram samples of it for free to any scientist. For 10 points each:

[10h] Name this virtually indestructible enzyme which Christian Anfinsen used to study protein folding. Despite its propensity to wreak havoc on downstream experiments, this enzyme is regularly added to miniprep buffers for DNA purification.

ANSWER: bovine pancreas RNase A (“R-N-ace-A”) [or ribonuclease A; prompt on ribonuclease or RNase by asking, “Which one?”; reject any other specific RNases]

[10m] To denature RNase A, the neutralization and wash buffers in a miniprep use the thiocyanate (“thigh-oh-SYE-uh-nate”) or chloride salts of this highly chaotropic (“KAY-oh-troh-pick”) ion. This cation (“CAT-eye-on”) makes up the side chain of arginine (“AR-juh-noon”).

ANSWER: guanidinium [or guanidine]

[10e] Anfinsen used an eight-molar stock of this chemical to denature RNase A. This compound is made by hydrolyzing arginine in a namesake cycle in the liver.

ANSWER: urea [or carbamide; or carbonyl diamide]

<Chemistry>

9. The namesake of this ship was assassinated in Davos by David Frankfurter, who, when asked why he did it, said “I fired the shots because I am a Jew.” For 10 points each:

[10m] Name this ship that was sunk by a Soviet submarine in 1945. 9,400 Germans on board it drowned, many of them civilians, resulting in the largest loss of life by a single ship sinking in history.

ANSWER: MV Wilhelm Gustloff

[10h] Another memorialized Nazi Party member was this Hitler Youth member, whose life was turned into a movie extolling his virtues. He was nicknamed after the German word for “quicksilver” for how fast he carried out orders.

ANSWER: Herbert “Quex” Norkus [accept either underlined portion]

[10e] Horst Wessel (“vessel”), the author and namesake of the Nazi anthem, was killed by members of this party. Rosa Luxemburg’s Spartacist uprising was backed by this German party, which the Nazis banned upon taking power.

ANSWER: Communist Party of Germany [or or Kommunistische Partei Deutschlands, or KPD]

<European History>

10. The U.S.'s population of this status peaked around 2006, and has since declined steadily to about 80% of peak, with the Black portion declining faster. For 10 points each:

[10e] Identify this population. Michelle Alexander wrote in 2019 that "we must face violent crime honestly" to reduce this population, whose growth she chronicled in her book *The New Jim Crow*.

ANSWER: **incarcerated** people [or people in **jail**, or people in **prison**, or **prisoners**, or people affected by mass **incarceration**, or people in the **carceral** system; prompt on **ex-convicts** or **criminals** or **felons** or people in the **criminal** legal system; anti-prompt (ask "Can you be less specific?") on **parolees** or people on **supervised release**; anti-prompt on people in **pre-trial detention**]

[10m] This state has decarcerated faster than any other, reducing its prison population by 43% from 1999 to 2019. Its Bristol Bay Native Corporation supported criminal law reforms signed by Independent ex-governor Bill Walker.

ANSWER: **Alaska** [accept **AK**]

[10h] Private prisons, which hold just 8% of incarcerated Americans, are also declining. Give the current name of either of the two largest publicly-traded American companies that own and operate prisons in the U.S.

ANSWER: **GEO Group** or **CoreCivic** [prompt on **WCC** or **Wackenhut Corrections Corporation** or **CCA** or **Corrections Corporation of America** by asking "What is the current name?"]

<Current Events>

11. An author opened his non-fiction travelogue *Remote People* with an account of a coronation ceremony in this country, and he included a chapter on "Waiting for the War" in a book titled for himself in this country. For 10 points each:

[10h] Name this real country. The same author fictionalized it in a novel in which it holds a Birth Control Parade and in another novel in which the fictional capital of Jacksonburg is named after the corrupt American-born dynasty that rules it.

ANSWER: **Abyssinia** [or **Ethiopia**]

[10e] Those two novels, *Black Mischief* and *Scoop*, are by this English author, who wrote *A Handful of Dust* in between them.

ANSWER: Evelyn **Waugh** ("waw") [or Arthur Evelyn St. John **Waugh**]

[10m] Before fictionalizing Abyssinia as Azania in *Black Mischief*, Waugh wrote this novel, in which the writer Adam Fenwick-Symes interacts with party girl Agatha Runcible and other members of the Bright Young Things.

ANSWER: **Vile Bodies**

<British Literature>

12. Clans belonging to this group include the Chauhans ("cho-HAHNS"), whose members included Prithviraj ("PRIT-vih-raj"), and the Solankis ("soh-LUN-keys"), who controlled Gujarat ("goo-juh-RAHT") until the 13th century. For 10 points each:

[10m] Name this loose group of Kshatriya ("KSHUH-tree-yuh") clans that controlled large parts of Northern India for centuries.

ANSWER: **Rajputs** [or **Rajaputras**]

[10e] Some Rajputs claim descent from this group of nomadic peoples, including the so-called "White" group of them who invaded India. Another branch of this group lost the Battle of Chalons ("shah-LON") in Europe.

ANSWER: **Huns** [or **Hunas**; accept White **Huns**, or Sveta **Hunas**, or **Hephthalites**, or Black **Huns**]

[10h] This Muslim commander's invasions of India are some of the earliest recorded conflicts involving the Rajputs. He ordered the execution of Raja Dahir ("RAH-jah dah-HEER"), the last Chacha ("CHUH-chuh") Brahmin ruler, during his 8th-century conquest of Sindh.

ANSWER: Muhammad ibn **Qasim** [or Muhammad bin **Qasim**; reject "Muhammad"]

<World History>

13. This piece for four soloists and string quartet was written for a 1963 CBC television special. For 10 points each:
[10h] Name this piece that warns that “a canon in inversion is a dangerous diversion / And a bit of augmentation is a serious temptation” if you have “the urge to” or “the nerve to” perform the title action.

ANSWER: “**So You Want to Write a Fugue?**”

[10e] “So You Want to Write a Fugue?” is a composition by this eccentric Canadian pianist, best known for his recordings of J. S. Bach featuring his trademark detached articulation.

ANSWER: Glenn **Gould** [or Glenn Herbert **Gold**]

[10m] Gould included “The Star-Spangled Banner” and “God Save the Queen” in a piece he wrote in this genre, which contrapuntally combines popular tunes. The final variation in Bach’s *Goldberg Variations* is a piece in this genre, whose Latin name roughly translates as “whatever pleases.”

ANSWER: **quodlibet** (“KWOD-lih-bet”) [prompt on **medley**]

<Classical Music>

14. This trope titles a 2021 novel by Grady Hendrix that centers on Lynn Tarkington and five other characters, who form a “support group” of survivors of mass killings. For 10 points each:

[10e] Give the two-word name of this trope central to feminist studies of horror films. Characters who fit this trope survive long enough to confront the killer as the film ends.

ANSWER: the **final girl** [accept **Final Girl Support Group**; reject all other answers]

[10m] Actress Marilyn Burns played the “final girl” character in this film and also starred in a sequel directed by its screenwriter Kim Henkel. This film’s dinner sequence was filmed in a single 27-hour-long shoot.

ANSWER: *The **Texas Chain Saw Massacre***

[10h] This film scholar coined the term “final girl” in her book *Men, Women, and Chainsaws*. She discussed how supposedly low-brow horror films are ignored by serious scholars in her paper “Her Body, Himself.”

ANSWER: Carol (Jeanne) **Clover**

<Misc. Academic>

15. In this organelle, a branched carbohydrate is transferred from dolichol (“DOH-luh-call”) phosphate to an asparagine (“uh-SPARE-uh-jeen”) residue. For 10 points each:

[10e] Name this portion of the endo-membrane system that has rough and smooth varieties depending on whether it has attached ribosomes.

ANSWER: **ER** [or **endoplasmic reticulum**]

[10m] This four-amino-acid-sequence on the C-terminal end of a protein serves as a retention signal. The KKXX (“K-K-X-X”) signal is instead used for transmembrane proteins.

ANSWER: **KDEL** [or **Lys-Asp-Glu-Leu** or **Lysine-Aspartate-Glutamate-Leucine**; accept answers replacing aspartate with aspartic acid or glutamate with glutamic acid; do NOT prompt on partial answer]

[10h] The central pore of the translocon contains a hetero-tri-mer of proteins that have this prefix. This three-letter prefix is followed by 61-alpha, 61-beta, and 61-gamma to name proteins in that complex.

ANSWER: **Sec** (“seck”)

<Biology>

16. A series of paintings by this artist was commissioned by the Duc de Richelieu, who lost the paintings to Louis XIV in a game of tennis. For 10 points each:

[10e] Name this French Baroque artist whose series *The Four Seasons* depicts each of the title periods with a unique time of day and biblical scene. He also painted *A Dance to the Music of Time*.

ANSWER: Nicolas **Poussin**

[10m] The *Autumn* entry in the series shows a pair of spies carrying a gigantic set of these objects between them on a pole. Along with leaves, these objects appear in the youthful subject's hair in a painting by Caravaggio.

ANSWER: **grapes**

[10h] Despite criticizing Poussin's composition for *Winter*, this artist drew from it for his own painting *The Deluge*, adding a dark sun on the horizon. This artist revisited the subject in *Shade and Darkness* and *Light and Colour*.

ANSWER: J.M.W. **Turner** [or Joseph Mallord William **Turner**]

<Painting/Sculpture>

17. Frederick Walker Pitkin campaigned for governor on the slogan that these people "must go!" and sent General Wesley Merritt to subdue them at Milk Creek. For 10 points each:

[10h] Name this tribe. Chief Ouray ("YOO-ray") served as a government mediator from this tribe and testified to Congress after this tribe murdered Indian agent Nathan Meeker.

ANSWER: **Utes** [accept White River **Utes** or Uncompahgre **Utes**; reject "Paiute"]

[10e] Meeker was trying to convert the Utes to Christianity as part of his Union Colony project. Meeker's Union Colony was financed by this man, who championed American expansion by saying "go west, young man."

ANSWER: Horace **Greeley**

[10m] A political cartoon shows a crowd of Utes asking this Interior Secretary for "more, more, more" as he denies their demands and orders their removal to reservations. This German immigrant was previously a Missouri Senator.

ANSWER: Carl **Schurz** [accept Carl Christian **Schurz**]

<American History>

18. Gabriele Veneziano ("gab-ree-EL-ay VEN-uh-tsee-AN-oh") laid the groundwork for string theory by interpreting the Euler ("oiler") beta function as a formula for one of these quantities. For 10 points each:

[10h] Name these physical quantities. A matrix collecting these quantities exhibits poles corresponding to trajectories in Regge ("RED-jeh") theory.

ANSWER: **scattering amplitudes** [prompt on amplitudes; prompt on S-matrix]

[10m] This property of QFT ("Q-F-T") scattering amplitudes can be made manifest by writing them in terms of Mandelstam variables. Quantities with this property remain unchanged during boosts and rotations in Minkowski space.

ANSWER: **Lorentz invariance** [or **Lorentz invariant**; prompt on Lorentz covariance; prompt on invariant or invariance]

[10e] Each Mandelstam variable represents a channel corresponding to a different one of these diagrams named for an American physicist, which can be summed up to compute the total scattering amplitude.

ANSWER: **Feynman** ("FYNE-man") diagrams

<Physics>

19. When this man was exiled, one of his friends wrote a poem that begins, "Parting from the dead, I've stifled my sobs, / But this parting from the living brings me constant pain." For 10 points each:

[10h] Name this man. A poem partly titled for "Thoughts about [this man]" opens by describing a cold wind blowing from a place variously translated as "at the world's end" or "the end of the sky."

ANSWER: **Li Bai** ("lee bye") [or **Li Bo**; or **Li Po**; prompt on **Li**]

[10e] This man wrote those two poems about Li Bai. This author of "Song of the Wagons" is considered one of the three classic poets of the Tang era, along with Li Bai and Wang Wei ("wong way").

ANSWER: **Du Fu** [or **Tu Fu**; prompt on **Du** or **Tu**]

[10m] Du Fu wrote a poem about the autumn wind destroying one of these structures, which is now a museum in his honor in Chengdu. In standard English translations, one of these structures partly titles a Kamo no Chōmei essay about impermanence.

ANSWER: **cottage** [or **hut**; accept "My **Cottage** Unroofed by Autumn Gales"; accept "My Thatched **Hut** Wrecked by the Autumn Wind"; accept *An Account of My **Hut***; accept *The Ten Foot Square **Hut***; prompt on **house**, **home**, or **domicile** by asking "What specific type of building?"]

<World Literature>

20. According to this substance's postulator, everything participates in everything else except for this substance, which exists alone. For 10 points each:

[10h] Give the original Greek term for this substance that is responsible for the rotation of the cosmos according to an ancient philosopher who claimed that all matter is composed of "seeds."

ANSWER: **nous** ("noose") (That postulator is Anaxagoras.)

[10m] A major source of debate in medieval Arabic philosophy was the difference between *nous poietikos* ("puh-YAY-tee-KOSS") and *nous pathetikos* ("puh-TAY-tee-KOSS"), or active intellect and passive intellect, introduced in Book III of this Aristotle work about the nutritive, sensitive, and rational components of living things.

ANSWER: **On the Soul** (by Aristotle) [or **De Anima**; or **Peri Psychēs**]

[10e] This Roman emperor and Stoic philosopher stated that the self is divided into body, soul, and intellect—or *soma*, *pneuma* ("p'NEW-muh"), and *nous*—in his *Meditations*.

ANSWER: **Marcus Aurelius** Antoninus Augustus [accept either underlined name]

<Philosophy>