

ACF Regionals 2019

Packet by Columbia A, Wesleyan, and Chicago A

Tossups

1. A fortress captured in this war was strategically built on a sharp horseshoe bend and protected with chain booms and contact mines called “torpedoes.” After a fifteen-year-old colonel in this war was killed, his mother covered his body and asked “Is this the civilization you have promised?” Executions were carried out by lance towards the end of this war because ammunition was scarce. The capture of the river fortress of Humaitá was a turning point in this war. The “Deed of December” was an ambitious passage through the Chaco region during this war engineered by the Duke of Caxias (“kah-SHEE-ahss”). Over 90 percent of the losing country’s male population died during this war, which was started by the invasion of Mato Grosso by dictator Francisco Solano López. For 10 points, name this war in which Paraguay lost to a namesake alliance of Argentina, Brazil, and Uruguay.

ANSWER: War of the Triple Alliance [accept Paraguayan War before “Paraguay” is read]

<World History>

2. This element’s oxide and nitric acid are used to oxidize acetaldehyde to glyoxal in a common laboratory synthesis, the simplest example of the Riley oxidation. Compounds in which this element is doubly bound to a carbon atom are short-lived via spontaneous oligomerization. A phenyl halide derivative of this element is used to add to carbanions (“car-BAN-eye-ons”), and is then eliminated to form alpha-beta unsaturated carbonyls. Deiodinase enzymes and glutathione peroxidase contain this element in their active site. An amino acid containing this element is coded for by UGA, which is normally the stop codon, when a SECIS element is present in mRNA. For 10 points, name this metalloid that replaces sulfur in derivatives of cysteine and methionine, with atomic number 34 and symbol Se.

ANSWER: selenium [accept Se until read]

<Chemistry>

3. In a myth of these people, an agricultural god used a secret stash of string in order to win the world’s first kite-flying contest. After an attempted murder by his in-laws, a figure sacred to these people was miraculously nursed back to health with the aid of a fire fueled by a single giant log. That figure worshipped by these people later climbed to heaven on a giant vine with the aid of his grandmother, a cannibalistic goddess of thunder. Deities worshipped by these people are often depicted on “god sticks.” Several myths about these people were first written down by George Grey while he served as the governor of their home country. According to their myths, the first man was Tiki. These people herald the arrival of the goddess of summer with a ceremonial dance called the *haka*. For 10 points, name this Polynesian ethnic group, the indigenous people of New Zealand.

ANSWER: Māori [prompt on Polynesians]

<Mythology>

4. Chemists who specialize in this substance use abbreviations for compounds like alite (“A-lite”) and belite (“B-lite”). An intermediate in the production of this substance called clinker is produced after calcination happens in a rotary kiln. Alkali-silicon reactions weaken this material by causing swelling, a problem termed this material’s “cancer.” Because this material gives off heat as it cures, it can be cooled with liquid nitrogen, or water can be pumped through it to avoid contraction-induced stress. Production of this substance accounts for around 5 percent of the world’s carbon dioxide emissions. This material includes a binder made from clay and limestone. This material’s low tensile strength is augmented by steel rebar in a common reinforced variety. For 10 points, name this material composed of an aggregate bound by cement used for large construction projects like bridges and dams.

ANSWER: concrete [accept Portland cement until “alkali-silicon,” but prompt thereafter by asking “what material is the cement primarily used for?”]

<Other Science (Engineering)>

5. A novel set in this country incessantly repeats phrases like “sitting in the wing chair” while describing a vapid “artistic dinner.” An author from this country used the sentence “It was murder” to end her novel *Malina*, which was adapted into a screenplay by another woman from this country. A novel set in this modern-day country involves the “Parallel Campaign,” which Ulrich joins in its second part, “Pseudoreality Prevails.” An author from this country wrote a novel in which a man reminisces about his classmates Wertheimer (“VAIRT-hime-er”) and Glenn Gould. Ingeborg Bachmann, Elfriede Jelinek (“el-FREE-duh YELL-ih-neck”), and Robert Musil (“MOO-zill”) are from, for 10 points, what home country of Thomas Bernhard, who set *The Loser* partially in the Mozarteum in its city of Salzburg?

ANSWER: **Austria** [or Republic of **Austria**; or Republik **Österreich**]

<European Literature>

6. The book *Eye of Dawn* by Erika Ostrovsky was written about a possible double-agent from this country who was also discussed in the book *Queer People* by Basil Thomson. A ruler of this country quipped to Wilhelm II that waterworks in this country went up to ten feet high after Wilhelm bragged that his guards were seven feet tall. Operations Chowhound and Manna provided relief to this country’s citizens during its “Hunger Winter” of 1944 to 1945. The film *A Bridge Too Far* is about a failed airborne operation that tried to seize a bridge in this country’s city of Arnhem. This country’s queen Wilhelmina reigned through both World Wars. Anne Frank hid in a “Secret Annex” in the capital city of, for 10 points, what country whose city of Rotterdam was bombed during World War II?

ANSWER: **Netherlands** [or **Nederland**; or **Holland**]

<European History>

7. An essay by Philip Converse attributes the decline of this concept to a lack of necessary “coherence” achieved by members of “mass publics.” An essay by Clifford Geertz (“gurts”) argues that the social sciences have failed to develop a “non-evaluative” approach to this concept. Intellectual agreements about the welfare state, decentralized power, and political pluralism represented the “end” of this concept, according to a book by Daniel Bell. One work draws a distinction between the skepticism associated with the “particular” form of this concept and the “structure of the mind” associated with its “total” form. That work, which analyzes this concept’s role in structuring ideas about utopia, is by Karl Mannheim. Bruno Bauer and Max Stirner were critiqued by Marx and Engels in a work titled for the “German” form of, for 10 points, what systems of beliefs and values held by people?

ANSWER: **ideology** [accept “**Ideology** as a Cultural System,” *The End of **Ideology***, particular **ideologies**, total **ideologies**, **Ideology** and *Utopia*, and *The German **Ideology***]

<Social Science>

8. This author wrote a short story that is only six paragraphs long, and which begins with the sentence: “I am losing my interest in human beings; in the significance of their lives and their actions.” One of this author’s protagonists gets into an argument with her father, a former colonel in the Confederate army, over her unwillingness to attend her sister’s wedding. In a story by this author of “The Night Came Slowly,” the protagonist mutters the words “free, free, free!” after hearing that her husband has died in a railroad accident, but then dies of a heart attack when that husband returns alive. This author of “The Story of an Hour” wrote a novella whose protagonist considers having an affair with Robert Lebrun while vacationing on Grand Isle in Louisiana. For 10 points, Edna Pontellier’s identity as a woman rather than just as a wife or mother is kindled in what author’s novella *The Awakening*?

ANSWER: Kate **Chopin** [or Katherine **O’Flaherty**]

<American Literature>

9. The founder of this movement challenged the founder of Zion, Illinois, to a prayer duel and declared himself the victor after his opponent died before he did. In one country, members of this religious movement are specifically persecuted by Ordinance XX, which prohibits them from passing as members of the majority religion. One belief of this religious movement is that Jesus survived his crucifixion and died after traveling east in search of the Lost Tribes of Israel. Unique among Muslims, members of this movement believe that its founder, the constructor of the White Minaret, was a herald of the seventh age of mankind. This movement separates jihad into Greater Jihad, Great Jihad, and Smaller Jihad, and states that the violent Smaller Jihad is no longer justified. For 10 points, name this religious movement which has its origins in present-day Pakistan and was founded by Mirza Ghulam.

ANSWER: **Ahmadiyya** [or **Ahmadi** Muslims]

<Religion>

10. Several decades after giving up on copying a painting of a tree by this artist because it was too difficult, Lucian Freud created an etching inspired by that same painting. Before executing some of his paintings, this artist unusually sketched them at full size in oils, according to a biography written by his friend C. R. Leslie. Samuel William Reynolds died before he could finish making a mezzotint of one of this artist's paintings, which shows a lock-keeper opening a canal gate. Because they were painted on six-by-four-foot canvases, some of this artist's mature works are nicknamed "six-footers." He depicted the estate of his patron Francis Slater-Rebow in his painting *Wivenhoe Park*. This painter included a depiction of Willy Lott's cottage on the River Stour in one of many paintings he made of the countryside in his native Suffolk. For 10 points, name this English landscape painter of *The Hay Wain*.

ANSWER: John **Constable**

<Painting>

11. In a talk that this scientist gave for an American Physical Society meeting, he proposed reversing the lenses of an electron microscope so that the entire *Encyclopedia Britannica* could be written on the head of a pin. That talk by this scientist is called "There's Plenty of Room at the Bottom," and according to Eric Drexler inspired the field of nanotechnology. Each term in the perturbative Dyson series is represented by a construct developed by this physicist. Those constructs named for this physicist represent contributions to the S matrix from different path types, where vertices correspond to particle interactions. For 10 points, name this Caltech physicist who developed namesake diagrams used in the path integral interpretation of quantum mechanics.

ANSWER: Richard **Feynman** [or Richard Phillips **Feynman**]

<Physics>

12. An author with this surname wrote a novel in which a construction crew uncovers a pit from which the sound of a bell ringing had emerged, freeing a two-foot-tall figure of the title character. In a novel by another author with this surname, a pole vaulter and his girlfriend Anemone search Toxitown for a substance called DATURA. An author with this surname wrote a novel in which Aomame ("ah-oh-MAH-meh") meets Tengo in an alternate reality with two moons. This surname is shared by the authors of *Coin Locker Babies* and *Killing Commendatore*, the latter of whom also wrote a novel in which Toru recalls his relationships with Naoko and Midori after listening to the title Beatles song. For 10 points, give this surname shared by the novelists Ryu and Haruki, the latter of whom wrote *1Q84* ("one-Q-eighty-four") and *Norwegian Wood*.

ANSWER: **Murakami** [accept Ryu **Murakami** or Haruki **Murakami**]

<World Literature>

13. One player of this instrument who wrote the songs "Jade Visions" and "Gloria's Step" was replaced by Chuck Israels when he died in a car accident shortly after recording *Sunday at the Village Vanguard*. A piece by another player of this instrument was posthumously premiered under the baton of Gunther Schuller in 1989 and is 4,235 measures long. That piece, *Epitaph*, was composed by a player of this instrument who opened his album *The Clown* with his composition "Haitian Fight Song." This instrument was played by Scott LaFaro and a musician who led a

group called the “Jazz Workshop.” That player of this instrument paid tribute to Lester Young with the song “Goodbye Porkpie Hat” and recorded the albums *Pithecanthropus Erectus* and *[his name] Ah Um*. For 10 points, Charles Mingus played the upright form of what low-pitched string instrument?

ANSWER: double **bass** [or string **bass**; or upright **bass**]

<Other Arts>

14. Robert the Monk, in his *Historia Hierosolymitana*, described soldiers wading through knee-deep blood in this city during a massacre that resulted from its capture. Tancred of Hauteville (“oat-VEEL”) claimed to be the first conqueror to enter this city. Frederick II visited this city in 1229, where he was crowned king of it. An army hoping to capture this city at the Battle of Ascalon was driven off by Godfrey of Bouillon (“bwee-YON”), the first ruler of a kingdom based in this city. A king of this city who suffered from leprosy was named Baldwin IV. The Battle of the Horns of Hattin allowed the capture of this city from Guy of Lusignan (“ghee of LOO-zin-yon”). Frederick Barbarossa and Richard the Lionheart set out to recapture this city after its fall in 1187. Saladin captured, for 10 points, what city, whose capture was the goal of many Crusades?

ANSWER: **Jerusalem** [or **Yerushalayim**; or al-**Quds**]

<European History>

15. A song in this language ends with the vocalist singing “ha-ha-ha” down the F-sharp Phrygian scale. That song in this language, which describes the absurd friendship between a king and an insect, was inspired by the scene in *Faust* of Mephistopheles visiting Auerbach’s cellar. In the first song of a cycle in this language, a “babysitter” lullabies a sick child into eternal sleep; the final song of that cycle personifies Death as a field marshal. This language was used for “The Song of the Flea” and *Songs and Dances of Death*. In an aria in this language, a character implores “Let me perish, but first...” before writing an impassioned love letter. In that opera in this language, which includes the “Letter” aria, the title character initially rejects Tatyana and later kills Lensky in a duel. For 10 points, name this language used in the opera *Eugene Onegin* and in songs by Modest Mussorgsky.

ANSWER: **Russian**

<Music>

16. This organelle may contain thick ring-shaped bodies called clastosomes, which contain a high concentration of proteasome components. The sp100 antigen is present in “dots” found in this organelle. Immunofluorescence against Hep-2 cells is used to detect antibodies to this organelle, which can stain in homogenous, peripheral, and speckled patterns. Survival of motor neuron protein localizes to gems within this organelle, which is stained using DAPI. Karyopherins help regulate transport in and out of this organelle, which contains pore complexes on its namesake envelope. This organelle contains chromatin, which condenses into chromosomes during prophase. For 10 points, name this eukaryotic organelle that contains genomic DNA.

ANSWER: **nucleus** [or **nuclei**]

<Biology>

17. One of these locations is where customer service expert Michael Stone meets a mysterious woman who, unlike the rest of the characters in the film other than Michael, is [emphasize] *not* voiced by Tom Noonan. A character played by Olivia Colman uses a toaster to burn the fingers of a man caught masturbating in one of these locations that enforces a 45-day deadline for singles to find partners. *Anomalisa* and *The Lobster* are set largely in these institutions, one of which titles a Best Picture-winning film in which the dancer Grusinskaya, portrayed by Greta Garbo, declares “I want to be alone.” Two characters who work in one of these places in Zubrowka are pursued by Jopling and Deputy Kovacs after stealing the painting *Boy With Apple* in a 2014 Wes Anderson film. For 10 points, M. Gustav and Zero work as a concierge and a bellhop at the “Grand Budapest” example of what businesses?

ANSWER: **hotels** [accept **Grand Hotel** or **Grand Budapest Hotel**]

<Trash>

18. An author with this surname wrote a play in which the mystery writer Andrew Wyke suggests an elaborate plan involving Milo burgling some jewels, entitled *Sleuth*. At the climax of a play by an author with this surname, a character causes another character to break down by saying “The Lord thy God is a jealous god” and repeating “He sees you!” An Alexander Pushkin play inspired that author with this surname to write a play in which a man unsuccessfully tries to kill himself with a razor, confessing that he poisoned the title character. In a play by an author with this surname, a teenager uses a steel spike to blind Nugget and its companions. A playwright with this surname wrote about Dr. Martin Dysart, a child psychiatrist who investigates Alan Strang’s religious obsession with horses. For 10 points, identify this surname of Peter, the playwright behind *Amadeus* and *Equus*.

ANSWER: **Shaffer** [accept Anthony **Shaffer** or Peter **Shaffer**]

<British Literature>

19. Thaddeus Lowe observed this battle from above aboard his homemade balloon *Enterprise*. Wilmer McLean’s house was attacked with artillery fire after it was commandeered as one side’s headquarters during this battle. The victorious side in this battle was greatly aided by documents detailing enemy troop movements obtained by the spy Rose O’Neal Greenhow. The winning side in this battle lost its general Barnard Bee, who inspired Thomas Jackson’s famous nickname by pointing to him during this battle and yelling “There stands Jackson like a stone wall!” This battle was viewed by thousands of civilian spectators packing picnic baskets, who were nearly stampeded to death after a disorganized rout of troops commanded by Irvin McDowell during it. For 10 points, name this early Confederate victory in Northern Virginia, the first major engagement of the Civil War.

ANSWER: **First** Battle of **Bull Run** [or **First** Battle of **Manassas**; prompt on Battle of **Bull Run** or Battle of **Manassas**]

<American History>

20. One book claims that humans use a form of “intuition” named for these entities to constitute “states of affairs” from “situations of affairs.” Heidegger’s *Being and Time* argues that these entities represent determinations regarding “beings unlike *Dasein* (“DAH-zyne”)” and contrasts them with “existentials.” Edmund Husserl distinguished between two types of these entities: ontological ones and ones “of meaning.” Preferring the term “predicaments” for these entities, Charles Sanders Peirce (“purse”) outlined three universal ones in a paper titled for a “New List” of them. Gilbert Ryle used an example of a visitor to Oxford viewing its buildings and asking “But where is the university?” to illustrate a type of “mistake” named for one of these entities. “Substance” and “quantity” are among a list of ten of, for 10 points, what entities proposed in a namesake work by Aristotle that attempts to inventory the structure of reality?

ANSWER: **categories** [or **category**; accept **categorical** intuition, **categories** of meaning, ontological **categories**, **kategoriai**, **category** mistake, **category** error, “On a New List of **Categories**,” primary **categories**, and secondary **categories**] (The first clue refers to Husserl’s *Logical Investigations*.)

<Philosophy>

21. The Arruda–Boyce model describes incompressible materials with one form of this property. Another form of this property comes from the transformation between austenite and martensite phases and is possessed by shape-memory alloys. One type of this property exemplified by the Mooney–Rivlin solid can be modeled by setting a linear combination of invariants of the B tensor equal to the strain energy density. In the simplest model of this property, the Cauchy stress tensor is only a function of the deformation gradient. This term describes constants derived from the stress-strain curve, as well as a type of deformation that occurs before plastic deformation. Young’s modulus quantifies this property for a material. For 10 points, identify this term for the property possessed by materials described by Hooke’s law.

ANSWER: **elasticity** [accept hyper**elasticity**, pseudo**elasticity**, super**elasticity**, Cauchy **elasticity**]

<Physics>

Bonuses

1. A ruler of this city named Sous refused to give up his conquests because he had not drunk from a spring, though all his men had. For 10 points each:

[10] Name this city whose laws were legendarily established by Lycurgus.

ANSWER: **Sparta** [accept **Lacedaemon**]

[10] Lycurgus implemented the *agoge*, which forced every Spartan male to join this institution.

ANSWER: the **military** [accept the **army**]

[10] Lycurgus also established this Spartan council of elders. It was formed of 28 men over the age of 60 plus the two Spartan kings.

ANSWER: **gerousia**

<Ancient History>

2. Answer the following about Catalan literature, for 10 points each.

[10] The 2007 edition of this book fair, the world's largest, was focused on Catalan literature, and garnered criticism for not highlighting Catalonian literature written in Spanish.

ANSWER: **Frankfurt** Book Fair [or **Frankfurter** Buchmesse]

[10] This term is used to describe the period from the 15th to the 18th century in Catalan literature. A late 19th-century literary movement of this name emphasized material excess and aestheticism.

ANSWER: **decadence** [or **decadent** movement; or *La Decadència*]

[10] This author considered *Tirant lo Blanch* ("tee-RAHN lo BLAHNK"), a chivalric romance written in the Valencian dialect of Catalan, to be much better than most examples of its genre. He satirized chivalric romances in general in his novel *Don Quixote*.

ANSWER: Miguel de **Cervantes** [or Miguel de **Cervantes** Saavedra]

<European Literature>

3. The center of the brain responsible for this sense is described by the ice cube model, which arranges neurons into dominance columns and orientation-sensitive interblobs. For 10 points each:

[10] Name this sense that is processed by the lateral geniculate nucleus, which receives input from the retina.

ANSWER: **vision** [accept reasonable equivalents like **seeing** or **sight**]

[10] This lobe of the brain at the back of the head contains the primary visual cortex. Bilateral lesions of it can cause Anton-Babinski syndrome, which is also known as cortical blindness.

ANSWER: **occipital** lobe

[10] The lateral geniculate nucleus is arranged into six layers, the first two of which contains magnocellular neurons, and the last four of which contain this kind of neuron, which gets input from midget cells of the optic tract.

ANSWER: **parvocellular** neurons [or **P**-neurons]

<Biology>

4. Many masterpieces of Russian art are found in the Tretyakov Gallery in Moscow. For 10 points each:

[10] The gallery is home to this medieval Orthodox artist's most famous icon, which depicts three angels visiting the Oak of Abraham at Mamre but is usually interpreted as an icon of the Trinity.

ANSWER: Andrei **Rublev**

[10] Sergei Tretyakov, the gallery's founder, personally purchased and donated this painting by Vasily Vereshchagin ("ver-esh-CHAY-gin"), part of his *Turkestan* series. In it, dozens of crows hover above a giant pyramid of skulls outside the city of Samarkand.

ANSWER: *The Apotheosis of War* [or *Apofeoz Voyni*]

[10] The gallery also houses a Symbolist painting by Mikhail Vrubel depicting an extremely muscular one of these beings seated atop a mountain. Many of these beings torture the damned in the rightmost panel of the *Garden of Earthly Delights*.

ANSWER: **demons** [accept *The Seated Demon*; accept **devils**]

<Painting>

5. Before playing this team, St. Louis Rams wide receiver Ricky Proehl made the ultimately correct but extremely ironic prediction “Tonight, a dynasty is born, baby.” For 10 points each:

[10] Name this team, whose ensuing victory over the Rams in Super Bowl XXXVI (“36”) was the first of their five titles under Bill Belichick and Tom Brady.

ANSWER: **New England Patriots** [accept either underlined portion; accept **Pats**]

[10] This Patriots player, who is both the NFL’s active and all-time scoring leader, kicked game-winning field goals in the “Tuck Rule” game and both Super Bowl XXXVI and XXXVII (“36 and 37”).

ANSWER: Adam **Vinatieri** [or Adam Matthew **Vinatieri**]

[10] New England’s first score in Super Bowl XXXVI (“36”) came on a 47-yard interception return by this cornerback, a Michigan alum who later picked Peyton Manning off three times in the 2003 AFC Championship Game.

ANSWER: Ty **Law** [or Tajuan E. **Law**]

<Trash>

6. While attempting to imitate the sound of an Indian drum in his piece *Ragamalika*, Maurice Delage may have been one of the first to use this instrument. For 10 points each:

[10] Name this instrument featured in a cycle of twenty *Sonatas and Interludes* by the composer of 4’33” (“four minutes and thirty-three seconds”).

ANSWER: **prepared piano** [prompt on **piano**]

[10] *Sonatas and Interludes* and 4’33” are by this avant-garde composer.

ANSWER: John **Cage** [or John Milton **Cage** Jr.]

[10] This American composer and teacher of John Cage pioneered extended piano technique in pieces like *The Banshee*, in which the performer scrapes the piano’s strings longitudinally.

ANSWER: Henry **Cowell** [or Henry Dixon **Cowell**]

<Music>

7. P. V. Narasimha Rao was responsible for the end of this system. For 10 points each:

[10] Name this complex system of regulations and bureaucracy in India from independence until 1990. It has often been blamed for the lethargic “Hindu rate of growth.”

ANSWER: **License Raj** [or **Permit Raj**; do not accept or prompt on just “Raj”]

[10] The License Raj was a result of this first Prime Minister of India’s desire to implement socialism. He gave the “Tryst with Destiny” speech on the eve of India’s independence.

ANSWER: Jawaharlal **Nehru**

[10] Nehru was a co-founder of this group along with Josip Broz Tito and others in 1961. Nehru’s “five rules of peaceful co-existence,” or *panchsheel* (“punch-sheel”), were a basis for this group, which opposed hegemony and imperialism.

ANSWER: **Non-Aligned** Movement [or **NAM**]

<World History>

8. Jacques Dubochet, Joachim Frank, and Richard Henderson received the 2017 Nobel Prize in Chemistry for developing this technique. For 10 points each:

[10] Name this technique that can produce high-resolution images of molecules. It can be used to study biomolecules in their native environment by cooling samples with liquid ethane.

ANSWER: **cryo-electron microscopy** [or **cryo-EM**; or **cryogenic electron microscopy**; or **cryogenic EM**; or **cryogenic transmission electron microscopy**; or **cryogenic TEM**; or **cryo-transmission electron microscopy**; or **cryo-TEM**; or **ECT** or; **electron cryo-tomography**; or **cryo-electron tomography**; or **cryo-ET** or **CET**; prompt on **electron microscopy**; prompt on **transmission electron microscopy**; prompt on **EM** or **TEM** or **microscopy**]

[10] Ethane cooled to the temperature of this liquid is used to rapid-freeze samples for Cryo-EM. This liquid is stored in Dewar (“DEW-er”) flasks, is used to snap-freeze biological samples, and has a temperature of 77 kelvins.

ANSWER: liquid **nitrogen** [or **LN2**]

[10] Cryo-EM works by embedding the sample in water and inducing this process, which does not form crystals in contrast to normal freezing. In this process, substances transform into a non-amorphous solid, or glass.

ANSWER: **vitrification** [accept word forms of **vitrify**]

<Chemistry>

9. This poet is discovered by the Bedouin prince Nawfal, who tries and fails to convince the family of this poet’s beloved to let the couple wed. For 10 points each:

[10] Name this poet who is given an epithet meaning “crazy.”

ANSWER: **Majnun** [or **Qays** ibn al-Mulawwah]

[10] *Layla and Majnun* is one of this many “treasures” written by the 12th-century poet Nizami. There are traditionally said to be this many great Tamil epics.

ANSWER: **five**

[10] Nizami wrote the Five Treasures in this language, which Omar Khayyam used to write the *Rubaiyat*.

ANSWER: **Farsi** [or **Persian**]

<World Literature>

10. Some participants in a ceremony centered around this action would impale themselves with animal bones to become attached to the central pole. For 10 points each:

[10] Name this action, the center of a “Sun” ceremony practiced by many Plains tribes. Wovoka founded a movement whose adherents believed that performing this action could bring back ghosts from the dead.

ANSWER: **dancing** [accept Sun **Dance** or Ghost **Dance**]

[10] Another common ritual among Plains tribes centers around the construction of these temporary purifying facilities, central to the Lakota inipi ceremony.

ANSWER: **sweat lodges**

[10] Indigenous Americans use this term to describe people who conduct fake religious ceremonies, which can be life-threatening in the case of sweat lodges. An article by Lisa Aldred pairs them with “Astroturf Sun Dances.”

ANSWER: **plastic shamans** [or **plastic medicine men**]

<Religion>

11. Answer the following about some Dutch sculptors, for 10 points each.

[10] The Dutch artist Coosje van Bruggen (“KOH-shuh fon BRUH-hin”) was the wife and collaborator of this American sculptor, who worked with her on public art pieces like *Lipstick (Ascending) on Caterpillar Tracks* and *Spoonbridge and Cherry*.

ANSWER: Claes **Oldenburg** (“KLAHSS OLD-en-burkh”)

[10] Theo Jansen (“TAY-oh YAWN-sen”) makes kinetic sculptures out of PVC that resemble animals and which are able to walk along the beach, propelled by the wind. Those sculptures have this Dutch name.

ANSWER: **strandbeesten** (“STRAWND-baste-uh”)

[10] The much earlier sculptor Claus Sluter designed a “well” named for this Old Testament character, who is depicted with horns on his head in a Michelangelo sculpture.

ANSWER: Moses [accept *Well of Moses*]

<Other Arts>

12. In a work titled for this philosopher “and justice,” Hanna Fenichel Pitkin employs his concept of “language regions” to illustrate the differences between moral and political discourses. For 10 points each:

[10] Name this philosopher. In *The Highest Poverty*, Giorgio Agamben uses this philosopher’s concept of “forms of life” to investigate the political implications of the development of written rules in 9th-century monasteries.

ANSWER: Ludwig Wittgenstein (“VIT-gen-stein”)

[10] Wittgenstein introduced the notions of “language regions” and “forms of life” in this posthumously published book, which refuted many of his earlier ideas in the *Tractatus Logico-Philosophicus*.

ANSWER: Philosophical Investigations [or Philosophische Untersuchungen]

[10] Wittgenstein begins the *Philosophical Investigations* by relaying this earlier Christian philosopher’s account of language acquisition in his *Confessions*. He also wrote *The City of God*.

ANSWER: St. Augustine of Hippo

<Philosophy>

13. Soap bubbles are examples of these systems, resulting in their multicolored appearance. For 10 points each:

[10] Name these structures whose geometry allows them to be used to make anti-reflective coatings, where light rays reflected at the upper and lower boundaries acquire a relative phase shift, causing a namesake type of interference.

ANSWER: thin films [accept thin-film interference]

[10] Conditions for thin-film interference depend on the phase shift that reflected light acquires. Light acquires a phase shift of this angle, corresponding to half a cycle, when it reflects off an interface with a higher index material.

ANSWER: π radians [or 180 degrees; prompt on 180 by asking “What unit are you using?”]

[10] If the index of refraction for the coating is between that of air and the glass it covers, then reflected waves at both interfaces experience a phase shift. In that case, this is the minimum coating thickness, which equals half the minimum thickness when there is only one phase shift. Express your answer in terms of the wavelength in the coating material. You have 10 seconds.

ANSWER: lambda over four [or one-quarter wavelength; accept mathematical equivalents]

<Physics>

14. During this battle, soldiers used stormtrooper tactics and poisonous gas shells to break the Italian lines. For 10 points each:

[10] Name this disastrous defeat for Italian forces during World War I. It was the twelfth battle along the Isonzo River.

ANSWER: Battle of Caporetto [accept Battle of Karfreit]

[10] The Italian forces at the Battle of Caporetto were led by this general, whose failure led him to be replaced by Armando Diaz. His father Raffaele captured Rome in 1870.

ANSWER: Luigi Cadorna

[10] The Battle of Caporetto led to the appointment of Vittorio Orlando, who represented Italy as one of the “Big Four” at this peace conference.

ANSWER: Versailles Peace Conference [or Paris Peace Conference]

<European History>

15. Faith Barrett’s book *To Fight Aloud Is Very Brave* calls this conflict a “poetry-fueled war.” For 10 points each:

[10] Name this war. A poem written during this war describes how “in the beauty of the lilies Christ was born across the sea.”

ANSWER: American Civil War (The poem is “The Battle Hymn of the Republic.”)

[10] *To Fight Aloud Is Very Brave* takes its title from a poem by this “Belle of Amherst.”

ANSWER: Emily **Dickinson** [or Emily Elizabeth **Dickinson**]

[10] Part of this poet’s 2006 book *Native Guard* is about an all-black Civil War regiment called the Louisiana Native Guards. Many of her poems deal with her mother’s death at the hands of the latter’s second husband.

ANSWER: Natasha **Trethewey**

<American Literature>

16. Answer the following questions about the Wigner semicircle distribution, for 10 points each.

[10] The semicircle shape of the distribution can be seen by plotting this function for it. For a continuous random variable, the value of this function at a given point is the relative likelihood that the value of the random variable will equal that point.

ANSWER: **probability density** function [or **PDF**]

[10] By definition, the integral of the PDF over the support equals this value, so that total probability is conserved. This is the *total* probability of getting *either* heads *or* tails when flipping a coin.

ANSWER: **one** [or **1**; accept **100 percent**, but do not accept “100”]

[10] Because the semicircle distribution is symmetrical about 0, all its odd moments vanish. In contrast, its even moments are proportional to these numbers, which arise in many combinatorial problems, such as balancing parentheses or the number of ways to cut an n -plus-2-gon into n triangles.

ANSWER: **Catalan** numbers

<Other Science (Math)>

17. This program was presented in a speech given at the University of Michigan in 1964. For 10 points each:

[10] Name this set of wide-ranging programs launched by Lyndon B. Johnson that was intended to improve education, healthcare, and housing, among other concerns.

ANSWER: **Great Society**

[10] These items were required to have warning labels by a Great Society law passed in 1965. Luther Terry was instrumental in raising awareness of the risks of these items.

ANSWER: **cigarette**s [prompt on **tobacco** products]

[10] This Secretary of the Interior under Kennedy and Johnson played a key role in enacting the conservation laws of the Great Society, including the Wilderness Act.

ANSWER: Stewart **Udall** [or Stewart Lee **Udall**]

<American History>

18. This god and Mars were replaced by Juno and Minerva in the second version of the Capitoline (“CAP-it-uh-line”) Triad. For 10 points each:

[10] Name this Roman god whose worship declined as the Roman Empire grew. His high priest was less important only than the Flamen Dialis (“FLAH-men dee-AH-liss”) and the Flamen Martialis (“FLAH-men mar-tee-AH-liss”).

ANSWER: **Quirinus** [prompt on **Romulus**]

[10] The third member of the Capitoline Triad was this god. This king of the Roman gods was associated with the sky and thunder, much like his Greek counterpart Zeus.

ANSWER: **Jupiter**

[10] The worship of Quirinus declined as foreign mystery cults grew. This Phrygian goddess began being worshipped in Rome following the recommendation of the Sibylline oracle.

ANSWER: **Cybele** [accept **Magna Mater** or **Great Mother**]

<Mythology>

19. Stevan Hobfoll defined this phenomenon as a reaction to either a potential loss of resources or lack of gain of resources following investment. For 10 points each:

[10] Name this phenomenon described by Hans Selye's "general adaptation syndrome." A scale developed by Thomas Holmes and Richard Rahe ("RAY-hee") uses "life change units" to estimate the health effects of it.

ANSWER: psychological **stress**

[10] This Harvard psychologist conducted an infamous series of experiments on the effects of stress, in which undergraduates, including Ted Kaczynski, were verbally abused. Earlier and somewhat more ethically, he worked with Christiana Morgan to develop the Thematic Apperception Test.

ANSWER: Henry **Murray** [or Henry Alexander **Murray**]

[10] Research indicates that this seahorse-shaped region of the brain responsible for consolidating memories is suppressed during periods of high stress, which may be a cause of the flashbacks experienced by those with PTSD.

ANSWER: **hippocampus**

<Social Science>

20. There is something that John Dryden should be blamed for. For 10 points each:

[10] Dryden is widely credited with originating the entirely bullshit rule that English sentences should not end with this part of speech, as in the phrase "the bodies that those souls were frightened from," which he criticized.

ANSWER: **prepositions**

[10] The offending phrase "the bodies that those souls were frightened from" appears in this Ben Jonson tragedy, his only foray into the genre besides *Sejanus His Fall*.

ANSWER: **Catiline** *His Conspiracy*

[10] Dryden's own play *All For Love* features this real-life historical figure as its male protagonist. In another play, he delivers a speech that begins "Friends, Romans, countrymen, lend me your ears."

ANSWER: Mark **Antony** [or **Marcus Antonius**; or Mark **Anthony**]

<British Literature>

21. Name these cities that are the subjects of books called *Capital*, for 10 points each.

[10] Rana Dasgupta's *Capital* is about the 21st-century "eruption" of this capital of India.

ANSWER: New **Delhi**

[10] Kenneth Goldsmith's *Capital* collects quotations about this city, which he calls the "capital of the 20th century," though it isn't a national capital. Teju Cole's *Open City* and Jay McInerney's *Bright Lights, Big City* are set here.

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

[10] John Lanchester's novel *Capital* is set in this city, which is the subject of a "biography" by Peter Ackroyd.

ANSWER: **London**

<Other Literature>