**ACF Regionals 2018**

**Edited by Auroni Gupta, Will Alston, Kenji Shimizu, Will Holub-Moorman, and Stephen Eltinge**

**Packet by Yale A (Adam S. Fine, Isaac Kirk-Davidoff, and Jacob Reed), UT-Dallas A (Stephen Badger, Beck Duggleby, Scotty Ballard, Noah Corbitt), and New College of Florida A (Yonathan Stone and Leo Law)**

Tossups

1. In a film from this country, a man emasculates a large statue of a bull, and a climactic duel is fought with two gigantic pieces of ham. Two girls lay with their heads on railroad tracks to listen for trains in a different film from this country in which a girl finds a wounded soldier and confuses him for Frankenstein. This country’s film *The Spirit of the Beehive* was made at the tail end of a time of political and cultural repression, which gave way to a sexually liberal era featuring films like *Pepi, Luci, Bom* and *Labyrinth of Passion*. A director from this country depicted men bonding over comatose women in his film *Talk To Her*, as well as *Women on the Verge of a Nervous Breakdown*, in which a character spikes a large amount of gazpacho. For 10 points, name this home country of Pedro Almodóvar, where the movie *Pan’s Labyrinth* takes place during the rule of Francisco Franco.

ANSWER: Kingdom of **Spain** [or Reino de **España**]

<Other Art (Film)>

2. A uranium-containing submarine that ran aground near a naval base in this body of water was nicknamed “Whiskey on the Rocks.” An island in this body of water would have been the site of the massive resort of Prora. Ships like the *Magdalena* transported people across this body of water to supplement the White Buses operation. Thousands of prisoners died in this body of water when the RAF sank the SS *Cap Arcona*. As it crossed this body of water, a cruise ship initially built for the Strength Through Joy program fell victim to the deadliest modern-day maritime disaster; that ship is the *Wilhelm Gustloff*. The port of Stettin on this body of water was the northern end of the metaphorical “Iron Curtain.” For 10 points, name this sea on which the Free City of Danzig, as well as Estonia, Latvia, and Lithuania, are located.

ANSWER: **Baltic** Sea

<European History post-600>

3. Jaime (“HIGH-may”) Rosenthal founded a bank in this country that was the first foreign bank sanctioned by the United States’ Kingpin Act. The fruit company Fyffes (“fifes”) supposedly denied rights to melon farmers in this country’s southern city of Choluteca. An environmental activist from this country warned that the construction of the Agua Zarca dam would endanger its indigenous Lenca people. This country’s government imposed dusk-to-dawn curfews to quell protests over the suspicious defeat of opposition candidate Salvador Nasralla. The murdered activist Berta Cáceres (“KAH-say-race”) blamed Hillary Clinton for the 2009 coup that overthrew this country’s president Manuel Zelaya (“seh-LAH-yah”). For 10 points, name this country where the 2017 re-election of Juan Orlando Hernández sparked protests in Tegucigalpa.

ANSWER: **Honduras** [or Republic of **Honduras**]

<Current Events>

4. At a molar ratio of 1, this quantity and enthalpy can be estimated from isothermal titration calorimetry curves. Taking the negative of the slope of a Scatchard plot yields this quantity. This quantity has a much larger value for a porphyrin ring or EDTA compared to their open-chain or monodentate analogs, according to the macrocyclic and chelate effects. The derivative with respect to temperature of the natural log of this quantity is equal to the standard enthalpy change over *R* *T*-squared, according to the van ’t Hoff equation. There is unusually no denominator in the expression for the “solubility product” form of this quantity. The Henderson–Hasselbalch equation yields the pH as a function of the acid dissociation type of these constants. For 10 points, name this quantity, denoted *K*, which is equal to the ratio of products and reactants of a reaction in stasis.

ANSWER: **equilibrium constant** [accept **dissociation constant**; accept **affinity constant**; accept **binding** constant; accept **stability constant**; accept **solubility constant** or **Ksp** until “solubility” is read; accept **acid dissociation constant** or **Ka** until “acid dissociation” is read; accept **equilibrium** after “constant” is read]

<Chemistry>

5. This play’s author wrote that he was resisting the “bourgeois conception of the immutability of the soul” by having its characters be “somewhat lacking in ‘character.’” That essay lists possible motivations for one of this play’s characters, including Midsummer Night festivities, the “aphrodisiac effect of the flowers,” and her menstruation. In its preface, this play’s author terms one of its characters “modern,” even though “the man-hating half-woman” has been around forever. The protagonists of this play repeatedly waltz to help replace the normal division into acts. Its main characters’ plans to start a hotel are derailed when one decapitates the other’s pet canary. This play’s preface claims that an “Aryan” sense of honor causes its title character, and not her valet, to commit suicide with Jean’s razor. For 10 points, name this play by August Strindberg.

ANSWER: ***Miss Julie*** [or ***Fröken Julie***]

<Drama>

6. The two-and-a-half-hour keynote address that concluded this event began by praising Dorothy Height for helping organize it. The 20th anniversary of this event was commemorated by the “Justice or Else!” rally. Federal park police ceased making crowd size counts after this event when they were threatened with a lawsuit for a low estimate of its attendance. Speakers during this event’s “Atonement and Reconciliation” section included Benjamin Chavis, who coordinated it as head of the NAALS. Maulana Karenga wrote an anthology commemorating this event and the “Day of Absence” that took place simultaneously. Its speakers included the mayor of the city it took place in, Marion Barry, and its main organizer Louis Farrakhan. For 10 points, name this October 16, 1995, event, a large gathering on the National Mall by African-American males.

ANSWER: **Million Man March**

<US History>

7. A complexity class whose name begins with this character was introduced in the computation of the permanent of a matrix of all zeros and ones, and contains all counting problems that correspond to a decision problem in NP. In Unix systems, files that will invoke an interpreter directive begin with this character. This character replaces a dollar sign at the end of a Unix command prompt with root access. In Perl, a dollar sign followed by this symbol accesses the last index of an array. This character and an exclamation mark comprises a shebang. “Include” directives in C begin with this symbol, which is appended to the names of several programming languages included in Microsoft’s .NET (“dot-net”) framework. For 10 points, name this symbol used to comment code in Perl and Python, which appears in the name of the C-sharp language.

ANSWER: **number** sign [or **pound** sign; or **hash** sign; accept **sharp** sign or **#**; accept **sharp**-P or **sharp**-P-hard or **#**P or **#**P-hard; accept C-**sharp** or C**#** until “sharp” is read]

<Other Science (Computer Science)>

8. One of these poems states that the “burden of a great / sadness” arises from realizing that “what one is pursuing now / was / once / nearer, truer, and joined to us / with infinite tenderness.” Another of these poems commands the reader to “throw the / emptiness out of your arms / to add to the spaces we breathe.” A youth follows a “Lament” to the “mountains of / primal grief” in the last of these poems, which ends by imagining that “we, who think of ascending / joy, would feel the emotion, / that almost dismays us, / when a joyful thing falls.” The speaker recalls “how once, in / the grieving for Linos, / first music ventured to penetrate arid / rigidity,” in the first of these poems, which declares that “beauty is nothing but / the beginning of terror.” The question “Who, if I cried out, would hear me among the Angelic / Orders?” opens, for 10 points, what set of ten mystical poems by Rainer Maria Rilke?

ANSWER: ***Duino Elegies*** [or ***Duineser Elegien***]

<Non-Epic Poetry>

9. A work by this thinker analyzes the difference between the Greek verbs *archein* and *prattein* to illustrate how rulers have monopolized the strength of others, creating a “delusion of extraordinary strength.” That work by this thinker discusses how men began to encounter “instruments” where they once found “objective qualities” following the discoveries of Galileo. This thinker argued that a conception of people as “animal laborans” has replaced one of them as “homo faber” in a work that analyzes the *vita activa*. This thinker argued that the transition from absolute monarchy to the New Imperialism caused a certain group to lose its political function as bankers, allowing the emergence of anti-Semitic political movements like the Nazis. This author of *The Human Condition* also analyzed how a Nazi illustrated the “banality of evil.” For 10 points, name this author of *The Origins of Totalitarianism*.

ANSWER: Hannah **Arendt**

<Philosophy>

10. A painting set in this city includes a woman in black and red that its artist reused in *A Boy Bringing Bread*. This city’s buildings are shown in an exaggerated perspective in a small painting of a lute-maker’s stall that was most likely displayed in a special box. A sign that reads “This is in Saint Jerome’s vale” appears above a doorway in a painting of a *Courtyard of a House in* this city. The painter of *The Goldfinch*, Carel Fabritius, led a school of artists in this city that included Pieter de Hooch (“hoke”). The empty bell tower of the New Church is illuminated in an early-morning painting of this city that shows a boat about to cross the Schie (“skee”) River. The painting *The Milkmaid* depicts some of this city’s famed blue-and-white pottery. For 10 points, name this hometown of Jan Vermeer, who painted a “view” of its cityscape.

ANSWER: **Delft**

<Painting/Sculpture>

11. Before his work on the Enlightenment, progressive historian Carl L. Becker proposed a “dual” interpretation of this event.“Radical” levelling effects of this event are assessed in a 1992 book by Gordon Wood. Bernard Bailyn assessed the “ideological origins” of this conflict, whose “Rise, Progress, and Termination” was chronicled by Mercy Otis Warren. Foreign powers used this conflict as a pretext to form the First League of Armed Neutrality. The lead-up to and unfolding of this conflict takes up the last five volumes of George Bancroft’s *History*. Robert Morris rose to prominence by obtaining foreign funding for this conflict, whose end was assisted by the Comte de Grasse’s victory at the Battle of the Chesapeake. For 10 points, name this war whose beginning is chronicled in David McCullough’s *1776*.

ANSWER: **American Revolution** [or **Revolutionary War**; accept any reasonable equivalent involving **American Independence**; accept *History of the* ***Rise, Progress, and Termination of the American Revolution***, *The* ***Ideological Origins of the American Revolution***, or *The* ***Radicalism of the American Revolution***]

<Historio/Archaeo>

12. Examples of the “great” type of these people venerated in Eastern Orthodoxy include Theodore Tyro and Theodore Stratelates. Paul VI recognized Maximilian of Kolbe as one of these people “of charity.” A popular story discusses 10,000 of these people “of Ararat” who were led by Acacius. A “faithful” one named Antipas is mentioned in the Book of Revelation. Tertullian wrote that the “seed of the church” is equivalent to a substance from these people. Paulo Miki was among a group of “Twenty-Six” of them in Japan. An early Protestant history titled *Actes and Monuments* is popularly known as John Foxe’s *Book of* [these people], and discusses Thomas Cranmer and other so-called ones “of Oxford.” Saint Stephen is considered to be the first Christian example of, for 10 points, what people who die for their faith?

ANSWER: **martyr**s [or **martus**; accept **Martyr**s of Nicomedia/Ararat or Twenty-Six **Martyr**s or **Martyr**s of Oxford or “the seed of the church is the blood of the **martyr**s”; prompt on saints]

<Religion>

13. Guanine pentaphosphate inhibits these sequences as part of the stringent response in bacteria. The activity of these sequences can be assessed by repeated mutagenesis in a technique called “bashing.” Sequences of this type derived from simian virus 40 and cytomegalovirus are commonly used in expression vectors. Bidirectional examples of these sequences, which are especially common in mammals, are abundant in CpG islands. The sigma-70 factor recognizes part of this sequence called the Pribnow box. In archaea and eukaryotes, the negative-10 position of these cis-regulatory elements contains a consensus sequence beginning with TATA. Repressors block the attachment of RNA polymerase to these regions. For 10 points, name these regions of DNA that initiate transcription.

ANSWER: **promoter**s [anti-prompt (ask “can you be less specific?”) on TATA boxes and transcription initiation sites and CpG islands until “TATA” and “transcription” and “CpG,” respectively, are read; prompt to be more specific on cis-regulatory elements or CREs until “cis-regulatory elements” are read]

<Biology>

14. Gender scholars like Judith Tick cite this composer’s quip that Impressionism was “easy music for the sissies” and obsessive opposition to “feminine” music as evidence of misogyny. The ending of a piece by this composer was described as strings “quietly prolonging” a G major triad “into eternity.” “The Rock Strewn Hills” is the setting of the second movement of this composer’s Orchestral Set No. 2. In a piece by this composer, flutes play increasing atonal melodies as responses to seven notes played by a trumpet. A pastiche of Civil War songs makes up much of a movement that this composer set at “The Saint-Gaudens,” which is followed by one at “Putnam’s Camp.” For 10 points, name this composer of *The Unanswered Question* and *Three Places in New England*.

ANSWER: Charles **Ives**

<Music>

15. A character in this novella accuses another of being a “blot of mustard” or a “fragment of underdone potato” before threatening to swallow a toothpick. At the end of this novella, that character is described as practicing the “Total Abstinence Principle,” and earlier witnesses Mrs. Dilber and Joe divide a bounty of teaspoons, boots, and “bed-curtains.” In this novella, a giant wearing a green robe and a rusty scabbard without a sword describes a vision of a “vacant seat” and a “crutch without an owner.” Its protagonist is asked “are there no prisons?” and “are there no workhouses?” while being shown two children named Ignorance and Want in this novella’s third “stave.” At the end of this novella, the protagonist sends a prized turkey to the family of his employee Bob Cratchit and becomes a “second father” to Tiny Tim. For 10 points, name this Charles Dickens novella about Ebenezer Scrooge.

ANSWER: *A* ***Christmas Carol***

<Short Fiction>

16. *Description acceptable.* Policies with this objective are the subject of Matthew Connelly’s book *The Fatal Misconception*. A man best known for promoting policies with this objective, Deep Tyagi, was the first to symbolize it with an inverted red triangle. When a policy with this primary goal was too successful, Lee Kuan Yew’s government established the Social Development Unit in Singapore in the 1980s. A policy with this goal resulted in the creation of a group known as *heizhai* (“hey-jye”). In the late 1960s, advocates of policies with this goal cited Paul Ehrlich’s warning of 100 million deaths. The encyclical *Humanae vitae* denounced non-natural methods of accomplishing this goal. Overly successful initiatives of this type produced the “missing women” gap in China. For 10 points, name this socio-political objective accomplished by the One Child Policy.

ANSWER: **population control** [or **birth control** or **contraception** or **family planning** or **population planning** or **reducing fertility**; accept equivalents indicating any initiative to **reduce population** growth; prompt on eugenics or abstinence, but do not accept or prompt on “abstinence-only”]

<Other History>

17. Larry Diamond postulated that a period of time denoted by this adjective beginning with Portugal’s Carnation Revolution may be “Over” in a 1996 paper. “Pluriversal studies” are advocated in a book about the “making and unmaking” of a place described by this adjective, written by Arturo Escobar. A “regional contingency factor” was key to bringing about a late 20th-century period of democratization described by this adjective, according to a book titled for it by Samuel Huntington. This adjective names the sequel to Alvin Toffler’s *Future Shock*. The punk subculture *Riot grrrl* (“girl”) heralded an era of feminism denoted by this adjective. Sociologist Anthony Giddens is a major supporter of politics described as [this adjective] “Way,” which were advocated by Tony Blair. For 10 points, give this adjective that describes a less affluent “world” of non-Communist, non-NATO countries.

ANSWER: **third** [accept **third** wave or **third** world or **Third** Way; accept “Is the **Third** Wave Over?” or *Encountering Development: The Making and Unmaking of the* ***Third*** *World* or *The* ***Third*** *Wave*]

<Social Science>

18. The *Prose Edda* uses such kennings for this place as “wide mouth.” In the *Volsunga Saga*, a goddess who lives in this place gives a gift to Loki so that he can catch the dwarf Andvari. Swedes regarded a god who governs this place as an ancestor because he fathered Yngvi by an unknown sister-wife. Bragi and a god who governs this place discuss poetic language in the *Skáldskaparmál*. Rán lives in this place. In the Utgard-Loki story, Thor has to both lift a cat that is actually an inhabitant of this place in disguise and use a drinking horn that is connected to this place. Since she could only look at feet, Skadi accidentally married a god of this realm instead of Baldr. For 10 points, name this realm ruled by Aegir and Njord and inhabited by the Midgard Serpent.

ANSWER: the **sea** [or the **ocean**; prompt on Midgard]

<Mythology>

19. The protagonist of a novel by this author is too absorbed in thinking about how Keats felt being spurned by Wordsworth to notice that assassins enter the restaurant he’s in and gun down a man at the next table. One of his protagonists swats at nettles that she imagines to be her past selves and her cousins. This author wrote a fictional psychiatric case study as an appendix to a novel in which John Logan falls to his death trying to rescue a child trapped in an unmoored hot air balloon. In his best-known novel, a man mixes up a letter apologizing to a woman with one describing his sexual fantasies for her. That novel by him is styled as the memoir of a 77-year-old woman who as a teenager had falsely accused her family’s gardener Robbie Turner of raping her cousin Lola. For 10 points, name this English author of *Enduring Love* and a novel about the writer Briony Tallis, *Atonement*.

ANSWER: Ian (Russell) **McEwan**

<Long Fiction>

20. In 2002, Duke University lost the right to use one of these devices after losing a patent case against its inventor, former Duke professor John Madey. Bonifacio, Pellegrini, and Narducci proposed that one type of these devices could operate in a single pass using SASE. That innovation was implemented at LCLS, one of these devices found at the Stanford Linear Accelerator, and improves on the earlier method of inducing microbunching by trapping the output in a mirrored cavity. A type of these devices uses a strong, periodic magnetic field inside an undulator to produce synchrotron radiation over a very wide frequency range; that is the “free electron” type of them. These devices, whose first examples used a ruby crystal, work by producing a population inversion in their gain medium. For 10 points, name these devices that produce coherent beams of stimulated radiation.

ANSWER: **laser**s [accept free electron **laser**s]

<Physics>

Bonuses

1. *Note: exact answer required for the first bonus part.* This person is said to know that “I had wrought hard to extirpate from my soul the germs of love there detected; and now, at the first renewed view of him, they spontaneously arrived, green and strong!” For 10 points each:

[10] Identify this person who is told “I married him” at the start of the last chapter of an 1847 novel.

ANSWER: the **reader** [or “**Reader**, I married him”; do not accept or prompt on anything else]

[10] The title character of this Charlotte Brontë novel tells the reader that she married Mr. Rochester.

ANSWER: ***Jane Eyre***

[10] Jane Eyre earlier asks the reader: “do you know, as I do, what terror those cold people can put into the ice of their questions?” when this clergyman, her cousin, asks her if she won’t marry him.

ANSWER: **St. John** (“SIN jun”) Eyre **Rivers** [accept either underlined portion]

<Long Fiction>

2. These quasiparticles are typically introduced to explain the negative effective mass of electrons at the top of a valence band. For 10 points each:

[10] Name these quasiparticles understood as localizations of positive charge with positive mass. They are the primary mode of current flow in p-type semiconductors.

ANSWER: electron **hole**s

[10] Electron holes should not be confused with these antiparticles, which have the same mass and spin as the electron, but a positive rather than a negative charge.

ANSWER: **positron**s

[10] Holes should also not be confused with holons, one of the three quasiparticles that are created when electrons undergo this deconfining process. It occurs in Luttinger liquids and other one-dimensional metallic systems.

ANSWER: **spin–charge separation** (The other two quasiparticles are spinons and orbitons.)

<Physics>

3. Walter Johnson’s *River of Dark Dreams* examines the political economy of this crop and its ties to the rise of a global capitalist system. For 10 points each:

[10] Name this crop whose “empire” is the subject of a “global history” by Sven Beckert. It was called “king” in the Antebellum South.

ANSWER: **cotton** [accept King **Cotton**]

[10] This state’s economic reliance on cotton grown with slave labor led to many boycotts by abolitionists. For example, this state’s Fruitlands utopian community banned the wearing of cotton, wearing only canvas.

ANSWER: **Massachusetts** [accept any reference to **Mass** or **Massholes**]

[10] Most cotton in the US is from the *Gossypium hirsutum* strain, which is thought to have originated in this country and is named as such. The US aimed to avert a conflict in this country through a conference with the “ABC Powers.”

ANSWER: **Mexico** [or **United Mexican States**; accept **Mexican cotton**]

<US History>

4. The “armchair” variety of these structures have equal values for their *m* and *n* indices. For 10 points each:

[10] Name these allotropes of carbon that have a cylindrical microstructure. They are commonly used to create strong yet lightweight materials, such as bicycle frames.

ANSWER: carbon **nanotube**s

[10] The diameter of a carbon nanotube is proportional to the intensity of the radial breathing mode detected in this form of spectroscopy, which measures either the positive or negative shift in energy between the incident and emitted photons of a molecule.

ANSWER: **Raman** spectroscopy

[10] Carbon nanotubes solubilized in aromatic media can experience this non-covalent interaction, which occurs between adjacent phenylalanine, tyrosine, and histidine residues.

ANSWER: pi–pi **stack**ing

<Chemistry>

5. Frank Gillen and Baldwin Spencer coined the common English term for this concept as a translation of the term *altyerrenge* (“all-chuh-RANG-uh”). For 10 points each:

[10] Identify this mythical past in which the sky god Baiame (“by-AH-may”) and the hero Ngurunderi (“ngoo-roon-DEH-ree”) lived and the world was created.

ANSWER: **Dreamtime** [or The **Dreaming**; prompt on any non-English answer by requiring an English word, as there are hundreds of possible non-English answers]

[10] The Dreamtime is a creation period of this loosely-defined group of indigenous inhabitants of Australia.

ANSWER: **Aborigine**s [or **Aboriginal** Australians]

[10] In the creation story of Kakadu National Park, which is set during Dreamtime, the man Ginga turned himself into a huge example of these animals. Makara, the mount of Varuna, is often depicted as one of these real-life animals, whose form was taken by two sons of Neith (“neeth”).

ANSWER: **crocodile** [accept **alligator** due to conflation] (The two sons of Neith are Shemanefer and Sobek.)

<Mythology>

6. A 1906 explosion at Courrières (“koor-YAIR”) claimed the lives of over a thousand miners of this resource. For 10 points each:

[10] Name this fossil fuel. After World War I, France invaded the Ruhr Valley to take advantage of its vast supply of this resource.

ANSWER: **coal** [accept **lignite**, **bituminous**, or **anthracite**]

[10] This French socialist politician honored the dead miners in his newspaper *L’Humanité*. This man, who attempted to organize general strikes across Europe to delay the onset of World War I, was assassinated by the appropriately-named Raoul Villain just before the war began.

ANSWER: Jean **Jaurès** (“zhaw-REZ”) [or Auguste Marie Joseph Jean Léon **Jaurès**]

[10] As Minister of the Interior, this other politician used military force to break up the strikes that followed the Courrières disaster. Earlier, his newspaper published an author’s open letter criticizing Félix Faure (“fay-LEEKS FOR”).

ANSWER: Georges **Clemenceau** [or Georges Benjamin **Clemenceau**]

<European History post-600>

7. The opening sentence of this novel calls its setting “a poem, a stink, a grating noise, a quality of light, a tone, a habit, a nostalgia, a dream.” For 10 points each:

[10] Name this novel whose loose plot concerns the efforts of Mac and his band of misfits to throw a party for the marine biologist Doc.

ANSWER: ***Cannery Row***

[10] This author painted a portrait of his native California in such novels as *Cannery Row* and *The Grapes of Wrath*.

ANSWER: John **Steinbeck**

[10] A significant chunk of the narrative of Cannery Row, such as it is, is spent describing the journey of Mac and the boys to collect these items, which the grocer Lee Chong accepts in exchange for supplies for Doc’s party.

ANSWER: **frog**s

<Long Fiction>

8. An episode after his first appearance, this character fights the criminal mastermind Roman Torchwick with his signature “gun-chucks.” For 10 points each:

[10] Name this mythologically-named character who accompanies Blake Belladonna to Menagerie, an island populated by human-animal hybrids called Faunus, on the show *RWBY* (“ruby”).

ANSWER: **Sun** **Wukong** [accept either name]

[10] This franchise’s protagonist takes his name from the Japanese reading of the name “Sun Wukong.” That protagonist, Son Goku, is capable of going Super Saiyan.

ANSWER: ***Dragon Ball*** [accept ***Dragon Ball Z,*** ***Dragon Ball GT***, or ***Dragon Ball Super***]

[10] Sun Wukong is one of nearly a hundred gods in the multiplayer game *Smite*, whose objective is to destroy the other team’s figure of this name. In another series, Eren Yeager fights beings of this name who breach the massive Wall Maria.

ANSWER: **Titan**s [or **Kyoujin**; accept *Attack on* ***Titan*** or *Shingeki no* ***Kyoujin***]

<Trash>

9. The first of these instruments was built by Bartolomeo Cristofori. For 10 points each:

[10] Name this instrument whose prominent manufacturers include Steinway & Sons. It largely replaced the clavichord and harpsichord.

ANSWER: **piano**forte [or **forte**piano]

[10] Most notes in a piano’s range are produced by having a hammer hit this many strings. This many piano sonatas by Franz Schubert are grouped as his final ones, and weren’t published until over a decade after his death.

ANSWER: **three** [or **3**]

[10] At the request of this performer, John Broadwood produced a piano with a range increased from five-and-a-half to six octaves. This Czech pianist was the first to sit with his right side facing the audience.

ANSWER: Jan Ladislav **Dussek** [or Jan Václav **Dusík**]

<Music>

10. This kind of marriage has many elements in common with the Sunni practice of *misyar*. For 10 points each:

[10] Name this form of temporary marriage that is forbidden in Sunni Islam.

ANSWER: nikah al-**mut‘ah** [or **sigeh**]

[10] *Mut‘ah* is primarily practiced in this branch of Islam, which forms the majority in Iran. Members of this branch believe that Musa al-Kadhim succeeded Ja‘far al-Sadiq as Imam, unlike groups such as the Qarmatians.

ANSWER: **Twelve**rism [or **Twelve**r Islam; or **Athna‘ashariyyah**; prompt on Shi’a Islam or word forms such as Shi’ite Islam; prompt on Imamiyyah]

[10] In defending *mut‘ah*, Twelvers often note that it is permitted by one of these accounts of Muhammad and his companions’ actions, and that Sunnis only forbid *mut‘ah* because caliph Umar banned it.

ANSWER: **hadith** [or **hadiths** or ‘**ahadith**]

<Religion>

11. Like cuneiform, the writing system of this name made heavy use of heterograms; for example, the word for dog would be written as the equivalent of “K-L-B” but was read as *sāg*. For 10 points each:

[10] Give the name for the Aramaic-derived script used to write Middle Persian. A man who took this word as his surname banned the use of the *chador* (“CHUD-er”) cloak.

ANSWER: **Pahlavi** script [accept Reza Shah **Pahlavi** or **Pahlavi** dynasty]

[10] The unrelated Pallava script, also derived from Aramaic, ultimately gave rise to the writing system of this modern-day country, whose invention is legendarily credited to Ram Khamhaeng (“rahm kahm-HANG”). Kings who ruled territory in this modern day country include Naresuan (“nah-ray-SOO-un”) and Chulalongkorn.

ANSWER: Kingdom of **Thailand** [or Ratcha-anachak **Thai**]

[10] This Mauryan king used the Aramaic-derived Brahmi script to write his rock edicts, which advocated non-violence in the wake of his brutal Kalinga campaign.

ANSWER: **Ashoka** the Great [or **Ashoka** Maurya]

<Other History>

12. The “edaphic" form of these entities is affected by local soil moisture. For 10 points each:

[10] Identify this steady-state community that supposedly forms at the end of ecological succession.

ANSWER: **climax** communities

[10] A “catastrophic” climax community, such as the vegetation in the chaparral of Southern California, is just as vulnerable as the initial community to this type of destructive event often triggered by lightning strikes of trees.

ANSWER: wild**fire** [or forest **fire**; or brush **fire**]

[10] Succession is often studied by collecting these sets of soil or other environmental samples, which are assumed to differ only in age.

ANSWER: **chronosequence**s

<Biology>

13. Carol Lawrence, who rose to stardom as the first to play this character, has described how Jerome Robbins employed method acting techniques to foment animosity among the cast. For 10 points each:

[10] Name this character who titles a song that repeatedly uses an E-flat–A tritone to express the singer’s love.

ANSWER: **Maria**

[10] This composer wrote the music for “Maria” and the other songs in *West Side Story*. He directed the New York Philharmonic from 1951 to 1969.

ANSWER: Leonard **Bernstein** (“BURN-styne”)

[10] This composer remade “Maria” into the song “Almost Like Praying” for a Puerto Rico relief concert and created translations for the 2009 Broadway revival of *West Side Story*.

ANSWER: Lin-Manuel **Miranda**

<Other Art (Other Visual)>

14. A short story collection by this author opens with an account of his unsuccessful search for a volume that he read as a child, referred to only as “The Book.” For 10 points each:

[10] Name this author of that collection, *Sanatorium Under the Sign of the Hourglass*. This author of *The Street of Crocodiles* was a Polish Jew who was murdered during World War II.

ANSWER: Bruno **Schulz**

[10] This American author physically cut out sections of Schulz’s *The Street of Crocodiles* to create his 2010 “book sculpture” *Tree of Codes*. This author of *Extremely Loud and Incredibly Close* wrote about a Polish shtetl in his novel *Everything Is Illuminated*.

ANSWER: Jonathan Safran **Foer**

[10] Schulz’s story “Father’s Last Escape” ends with the narrator’s dad turning into a “crablike insect,” in a reference to the opening of this author’s novella *The Metamorphosis*.

ANSWER: Franz **Kafka**

<Short Fiction>

15. Nicholas Kaldor and John Hicks helped develop the “new” type of this field. For 10 points each:

[10] Name this subfield of economics whose two fundamental theorems outline the conditions under which markets will reach a particular Pareto optimal outcome.

ANSWER: **welfare** economics

[10] This theorem is considered to be the third fundamental theorem of welfare economics. It states that no ranked voting system can satisfy three “fairness” criteria.

ANSWER: **Arrow**’s impossibility theorem [or **general possibility** theorem; or **Arrow**’s paradox]

[10] This economist and Martha Nussbaum created the “capabilities” approach to welfare economics. He criticized the assumption that humans are only motivated by self-interest in his essay “Rational Fools.”

ANSWER: Amartya (Kumar) **Sen**

<Social Science>

16. This artist controversially portrayed Marie Bonaparte as a bronze phallus. For 10 points each:

[10] Name this artist who made his American debut at the Armory Show with three oblong-shaped busts and *The Kiss*, a rectangular sculpture of two embracing figures.

ANSWER: Constantin **Brâncuși** (“brin-KOOSH”)

[10] Brâncuși disputed US Customs’ designation of the sculptures in this series as “kitchen utensils” and not art. A court later agreed that the sculptures in this series sufficiently represented flight.

ANSWER: ***Bird in Space***

[10] This painter’s *Distinguished Air* shows two gay sailors and a husband and wife observing Brâncuși’s phallic sculpture *Princess X*. He used text and abstract forms to represent nine of his friends in his “poster portraits.”

ANSWER: Charles **Demuth**

<Painting/Sculpture>

17. The design of the “Celtic” cross used in Ireland was based on high crosses sculpted on this island, which had circles around them. For 10 points each:

[10] Name this island near Britain where Saint Columba founded a mission in the 6th century.

ANSWER: **Iona**

[10] The Synod (“SIN-uhd”) of Whitby rejected the methods of Iona in favor of those of Rome to determine the date of this event. A march on the General Post Office opened a rebellion named for this event.

ANSWER: **Easter** [or **Pascha**; accept **Easter Rising**]

[10] The two main sources on the Synod of Whitby are the *History of Wilfrid* and this 8th-century author’s *Ecclesiastical History of the English People*.

ANSWER: The Venerable **Bede** [or Saint **Bede**]

<British/CW History>

18. This man distinguished “field-dependent” and “field-invariant” modes of reasoning to explain the divergent kinds of argument in different disciplines. For 10 points each:

[10] Name this philosopher who modeled practical arguments as claims with grounds, warrant, backing, possible rebuttals, and qualifiers in his *The Uses of Argument*.

ANSWER: Stephen (Edelston) **Toulmin**

[10] *The Uses of Argument* presents an alternative to the highly formalized, syllogistic form of this discipline. Quantifiers are attached to predicates in its first-order type.

ANSWER: **logic** [accept first-order **logic**; accept more specific types of **logic**]

[10] This much earlier philosopher developed the earliest known formal systems of modal and temporal logic, and he pioneered the use of hypothetical syllogisms. This author of *The Book of Healing* argued for the existence of the soul using his “floating man” argument.

ANSWER: **Avicenna** [or **ibn Sina**; or Abu Ali **Sina**]

<Philosophy>

19. This practice “rusteth the chisel” and also “rusteth the craft and the craftsman.” For 10 points each:

[10] Name this practice denoted by a Latin-language word that ensures no man “hath… a house of good stone” or “a painted paradise on his church wall,” according to Canto XLV (“45”), which mentions it 21 times.

ANSWER: **usura** [or **usury**]

[10] “With usura” is one of the most frequently anthologized sections of this fascist American poet’s *Cantos*.

ANSWER: Ezra **Pound**

[10] The equally popular first section of the *Cantos*, which begins “And then went down to the ship,” is narrated by this man. In an earlier poem, this mythological figure yearns to “follow knowledge like a sinking star, / Beyond the utmost bound of human / thought.”

ANSWER: **Odysseus** [or **Ulysses**]

<Non-Epic Poetry>

20. In an April Fool’s column in 1975, mathematics writer Martin Gardner presented a purported counterexample to this theorem. For 10 points each:

[10] Identify this theorem that gives the minimum number of hues that are needed to distinguish contiguous regions on a map.

ANSWER: **four-color** theorem [or **four-color** map theorem]

[10] Though Francis Guthrie proposed the four-color theorem in 1852, it was only proven in 1976 by Kenneth Appel and Wolfgang Haken, in the first important mathematical proof to have this unique trait.

ANSWER: **computer**-assisted proof [accept any answer mentioning that a **computer** was involved]

[10] This Scottish mathematician tried to prove the four-color theorem, showing that it is equivalent to the statement that no snark is planar. Separately, he incorrectly conjectured that every 3-connected planar cubic graph has a Hamiltonian cycle.

ANSWER: Peter Guthrie **Tait**

<Other Science (Math)>