

Bulldog High School Academic Tournament 2021 (XXX): “I feel like ACF Regionals 2021 is a confusing subtitle for a set that’s not ACF Regionals 2021.”

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Packet 8 Tossups

1. **This body of water is notable for only having only one bridge over its main section, at Matadi. This body of water lends its name to a subspecies of dwarf crocodile, and it’s also home to the predatory goliath tigerfish. This river’s catfish-rich Pool Malebo was once named after the English explorer Henry Morton (*) Stanley.** After Boyoma Falls, the Lualaba becomes this river, and its longest tributary is the Chambeshi that flows from Zambia. Lakes Mweru and Tanganyika feed this second-deepest river in the world. Kinshasa and Brazzaville are separated by this river and are the capitals of two countries which share the name of, for 10 points, what river formerly known as the Zaire?

ANSWER: Congo River [or Zaire River before it is read] (DR)

2. **Adding an L1 regularizer when performing this technique can result in feature sparsity, making the results of this procedure more interpretable. A variant of this procedure used to perform binary classification relies on a sigmoidal activation function and is known as its logistic form. The Gauss–Markov theorem states that, when performing the (*) linear type of this procedure, the optimal method is to minimize the squared residual error. The effectiveness of this procedure is quantified by the coefficient of determination, denoted *R*-squared.** For 10 points, name this statistical procedure that, in its simplest case, is equivalent to finding the line of best fit.

ANSWER: regression [accept specific terms like logistic regression, binary regression, linear regression, or least-squares regression; accept classification before mention; accept machine learning before “logistic” is read, and prompt on machine learning afterwards; prompt on least squares] (MG)

3. **Laika specializes in films made with this technique. The corrupt mayor Kobayashi appears in one of two films created with this technique by a director who shot those films “on twos.” Button-eyed figures appear in a film made with this technique, which Wes Anderson employed in *Isle of Dogs*. This technique was also used to (*) animate a green burlap sack called Oogie Boogie and a tall, thin skeletal figure. Tim Burton produced several films with this technique, including *The Nightmare Before Christmas*.** For 10 points, name this animation technique used for *Coraline*, which entails assembling shots of incrementally adjusted figurines to create the appearance of motion.

ANSWER: stop motion [accept clay animation or claymation or cutout animation; accept chronophotography; prompt on animation before mention by asking “what specific method?”; prompt on photography before “shots” is read by asking “what technique is the photography used for?”] (AY)

4. **The real existence of multiple entities of this type is denied by “ersatzism,” one of the views criticized in David Lewis’s book “On the Plurality of [these entities].” The first two statements of Ludwig Wittgenstein’s *Tractatus Logico-Philosophicus* claim that this entity is the “totality of facts” and is (*) “all that is the case.”** Modal logic deals with “possible” types of these entities. The principle of sufficient reason was used in Gottfried Leibniz’s argument that the “best of all possible” of these entities exists. For 10 points, Arthur Schopenhauer argued that what place, the physical universe, is made up of “Will and Representation”?

ANSWER: the world [or worlds; or possible worlds; or welten; prompt on universes or reality or realities] (DS)

5. The Akazu clique, led by Agathe Kayinda, was nicknamed the “Zero Network” for promoting this event against “ibytso” traitors and “inyenzi” rebels. The magazine *Kangura* published propaganda fueling this conflict, including a new “Ten Commandments.” Robert Kajuga led the extremist Interahamwe militia group during this conflict, which began after President Juvénal Habyarimana’s (*) plane was shot down while landing in Kigali. A 2004 film about this event features hotelier Paul Rusesabagina protecting 1,268 refugees in it. For 10 points, name this 1994 genocide of over 70% of the Tutsis by extremist Hutus in a small African country.

ANSWER: **Rwandan genocide** [accept **Rwandan** after “genocide”; accept reasonable descriptive answers for “genocide”; accept answers describing a **Tutsi genocide** before “Tutsi” is read; prompt on Rwandan Civil War] (ZA)

6. This author’s handmade manuscript books were given the name “fascicles” by an early editor. This author wrote a poem about an object with “the power to kill, / Without – the power to die –”. The title figure of a poem by this author “notes the Chariots – pausing – / at her low Gate” and closes “the (*) Valves of her attention – / Like Stone –”. In another poem, this author of “My Life had stood – a Loaded Gun” and “The Soul Selects her own Society” exclaims “How dreary – to be – Somebody!” after telling the reader “I’m Nobody! Who are you?” A liberal use of dashes marks the poetry of, for 10 points, what reclusive “Belle of Amherst”?

ANSWER: Emily (Elizabeth) **Dickinson** (MGS)

7. The player is misled to believe that this is the name of Sean, a robot-headed boy, in the game *Zero Time Dilemma*. In the Department of Energy only, this is the highest level of security clearance, equivalent to the more general “Top Secret.” John de Lancie played a mysterious being of this name from a namesake “Continuum” who puts humanity on trial in the pilot of *Star Trek: The Next Generation*. When asked about an individual with this name, whose real identity may be (*) 8chan site administrator Ron Watkins, Donald Trump responded, “I do know they are very much against pedophilia.” For 10 points, a cultish far-right conspiracy theory is known as what letter followed by “Anon”?

ANSWER: **Q** [accept **Q** clearance or **Q** access authorization; accept **Q** Continuum; accept **QAnon**] (In QAnon lore, Q’s name derives from their claim to possess Q security clearance.) (DS)

8. The interaction of these particles with vibrations in solids is called Brillouin [“BREE-wen”] scattering. These particles are fired at a crystal to measure its angle-resolved energy levels in ARPES [“AR-peez”] spectroscopy. When these particles donate an amount of energy larger than the direct band gap, an exciton may be formed. These particles lose energy proportional to one minus the cosine of their deflection angle in (*) Compton scattering. The letter gamma is used to denote these massless, neutral bosons, which are the force carriers of electromagnetism and always move at the speed of light. For 10 points, name these quantized packets of light.

ANSWER: **photons** [prompt on light before “speed of light” is read; do **NOT** accept or prompt on “phonons”] (SE)

9. A lawyer in this novel points out the scar-covered wrists of his maid Molly, calling them the strongest he has ever seen. A character stops going “on the Rampage” after she is attacked in this novel, repeatedly drawing a T shape on a slate to represent Orlick’s hammer. This novel’s antagonist jumps off a prison ship to escape a man who receives a (*) file and “wittles” from a young boy raised by Mr. and Mrs. Joe Gargery. In this novel, it is not the occupant of Satis House, but the convict-turned-sheep-farmer Abel Magwitch, who is the protagonist’s secret benefactor. For 10 points, Miss Havisham appears in what novel about Pip’s coming-of-age by Charles Dickens?

ANSWER: **Great Expectations** (MGS)

10. At Japanese Buddhist funerals, one of these things called a *kaimyō* is conferred upon the deceased. One of these things is hailed in a chant known as the *nembutsu*, or *niānfó*. One hadith explains that “he who has memorized all of [these things] by heart will enter Paradise.” One of these things belonging to (*) Amida Buddha is repeatedly invoked to be reborn in the Pure Land. After initiation into Khalsa, Sikh women and men adopt variants of these things meaning “princess” and “lion.” The Tetragrammaton refers to one of these things, comprised of the letters “Y-H-W-H.” Yahweh is one of, for 10 points, what identifiers for the Hebrew God?

ANSWER: **names** [accept posthumous **names**; accept Buddhist or Dharma **names**; accept **names** of Allah or God; accept Sikh **names**; anti-prompt on Amida or Amitabha or Buddha or Yahweh or YHWH or God before mention by asking “what general type of noun are these?”] (AY)

11. One source reports that this man instituted a “sky-tax,” which was probably a duty on tall buildings. This man faced an uprising from groups called the *Veneti* and *Prasini*. This man fought in Kartvelian land in the Lazic War and Iberian War. One of this man’s generals won the battles of Tricamarum, Dara, and Ad Decimum. This man negotiated a short-lived (*) “Eternal Peace” with Khosrau I and ordered the *Corpus Juris Civilis* to be compiled. This man, who was the subject of the *Secret History* by Procopius, put down a hippodrome-based revolt called the Nika Riots. For 10 points, name this Byzantine Emperor, the husband of Theodora and the builder of the Hagia Sophia.

ANSWER: **Justinian I** [or **Justinian the Great**; prompt on Justinian] (LL)

12. The last work in a series by this sculptor consists of a striated blue-gray marble oblong on a limestone base, recalling the motion of a fish. This man also used bronze and marble to create sculptures of an egg-shaped head with large almond eyes and sinuous arms, representing a Hungarian painter. This artist of *Mademoiselle Pogany* stacked seventeen (*) rhomboids and set hourglass-shaped seats around a table for a World War I memorial in his hometown of Targu Jiu. In addition to *Endless Column* and *Table of Silence*, this artist sculpted a series of slim elliptical planes portraying the title creature’s flight. For 10 points, identify this Romanian sculptor of *Bird in Space*.

ANSWER: Constantin **Brâncuși** [bran-COOSH] (SL)

13. In one of these instrumental works, a soft, repeating dotted quarter, eighth rhythm on a D-minor chord in the strings follows dramatic opening chords also in D-minor. The modern symphony developed from 18th century Italian ones of these pieces called “sinfonia.” Mozart wrote another of these works the night before its premiere using material from the (*) Commendatore’s theme. Since “The Ride of the Valkyries” opens *Die Walkure*, it might be considered one of these works. “March of the Swiss Soldiers” appears in Rossini’s one of these pieces for *William Tell*, and they often begin operas. Tchaikovsky composed a concert example of, for 10 points, what kind of piece on *The Year 1812*?

ANSWER: opera **overtures** [accept opera **overtures** by Mozart before “Italian” is read; accept 1812 **Overture**] (DM)

14. Mrs. Bhave is asked to comfort an immigrant community living in this country after a plane bombing in the story “The Management of Grief.” Patrick Lewis helps a thief from this country escape prison in the novel *In the Skin of a Lion*. That thief, Caravaggio, reappears in a sequel titled for the burned (*) Count László de Almásy written by a Sri Lankan-born author from this country. In another novel from this country, the *Tsimtsum*’s shipwreck forces a triply-religious zookeeper’s son immigrating here to share a lifeboat with Richard Parker, a Bengal tiger. For 10 points, name this home country of Michael Ondaatje, who wrote *The English Patient*, and Yann Martel, who wrote *Life of Pi*.

ANSWER: **Canada** (“The Management of Grief” is by Bharati Mukherjee.) (DS)

15. A paste made of this ingredient and brine is added to *gochujang*, sesame oil, and garlic to make *ssamjang*; that *doenjang* paste can also be used in a stew whose English name refers to this ingredient. Karashi mustard greens can be used to top a fermented and slimy dish made from this ingredient, *nattō*. Another umami paste made with this ingredient comes in (*) white and red varieties and is used in a seaweed-containing soup. After being ground and strained into a sort of milk, this ingredient can be processed into a food which comes in “silken” and “firm” varieties, tofu. For 10 points, name these legumes eaten as *edamame* or processed into a salty namesake sauce.

ANSWER: soybeans [or soya beans; accept daizu or kong; prompt on soy alone; prompt on beans alone; prompt on doenjang, tofu, or miso before mention by asking “what main ingredient is used to make that?”] (HK)

16. *Warning: two answers required.* A three-atom functional group made of these *two* elements is a meta-director in electrophilic aromatic substitution. In catalytic converters, hydrocarbons are oxidized while compounds of these two elements are reduced. A class of smog-producing pollutants are denoted by the symbols of these two elements followed by the letter (*) “x.” These two elements disobey the usual trend in ionization energy because they have three and four electrons, respectively, in their *2p* subshells. These two elements and fluorine can serve as hydrogen bond donors. For 10 points, name these elements from groups 15 and 16, the two most abundant elements in Earth’s atmosphere.

ANSWER: nitrogen AND oxygen [accept in either order; prompt on N and O] (MP)

17. The closest known linguistic relative of Etruscan was spoken on this body of water. “Frying pans” and simplified “folded-arm figurines” of smoothed marble were made by one culture on this body of water whose cultural center was later destroyed in the Thera eruption. The Luwian city of Wilusa was excavated by (*) Heinrich Schliemann on this body of water. The Cycladic culture on this body of water was succeeded by one that made the bull-leaping fresco at its southern end in a palace “of the double axe” at Knossos. That culture was the Minoan culture of Crete. For 10 points, name this sea, a branch of the Mediterranean between Turkey and Greece.

ANSWER: Aegean Sea [prompt on Mediterranean Sea] (DM)

18. An attempt to extract the “latent content” of this genre resulted in a story about a British soldier riding a bicycle who happens upon a Tarot-obsessed Countess’ chateau. In a spin on a work in this genre, a girl who “[fears] nothing” seduces her grandmother’s killer after betting him a kiss. Angela Carter’s (*) *The Bloody Chamber* adapts works in this genre, which is governed by Vladimir Propp’s “rule of three.” Charles Perrault collected works in this genre, including one that warns against trusting men using the allegory of a girl eaten by a wolf in her grandmother’s bed. For 10 points, name this genre of stories collected by the Brothers Grimm that includes “Little Red Riding Hood.”

ANSWER: fairytales [accept folk tales or folklore] (MGS)

19. Pitted surfaces in this tissue are one adaptation to avoid cavitation, a problem often associated with freeze-thaw cycles. Perforation plates cap the ends of “tubes” consisting of one kind of cell in this tissue. Entry to this tissue’s endoderm is blocked by the (*) Casparian strip. Cohesion-tension theory describes how transpirational pull provides negative tension to drive ascent of this tissue’s namesake sap. Vessel elements in this tissue are elongated, lignified, and dead upon functional maturity, as are other cells in this tissue called tracheids. For 10 points, name this water-transporting plant tissue contrasted with phloem.

ANSWER: xylem (HK)

20. **The Guffey–Vinson Act was passed to regulate this industry during the New Deal. The Baldwin-Felts Detective Agency perpetrated the “Matewan massacre” of workers in this industry. The U.S. Army had to intervene in the Battle of Blair Mountain after a strike in this industry. Workers in this industry were killed at (*) John D. Rockefeller, Jr.’s instigation in the Ludlow Massacre. The Molly Maguires were known for activism in this industry. In 1902, Teddy Roosevelt served as an arbitrator in a Pennsylvanian strike in this industry. For 10 points, name this industry in which the United Mine Workers advocate for those who suffer from black-lung.**
ANSWER: coal mining [prompt on mining] (MGS)

Tiebreaker

The report of Lamond, a French horseman, inspires an event of this sort. The mother of a participant in one of these events calls him “fat, and scant of breath.” That woman drinks from a cup with a pearl in it during one of these events. In another play, Abraham twice asks Sampson if he “bites [his] (*) thumb at us,” prompting one of these events. In that play, a participant in one of these events shouts “a plague o’ both your houses!” Fortinbras becomes King of Denmark after one of these events, while another leads to Paris’ death in the Capulet crypt. Claudius and Laertes poison Hamlet during, for 10 points, what type of struggle requiring actors to wield prop swords?
ANSWER: sword fights [accept equivalents like a brawl or scuffle; accept duels] (DS)

Packet 8 Bonuses

1. This former activist for coca leaf farmers was the first indigenous president of his country. For 10 points each:
[10] Name this former South American president whose 2019 reelection campaign resulted in allegations of fraud. Despite resigning, his *Movement for Socialism* party still won by large margins in the subsequent 2020 election.

ANSWER: Evo **Morales** [or Juan Evo **Morales** Ayma]

[10] Morales was president of this South American country until November protests in its capital of La Paz forced his resignation, spurring a political crisis.

ANSWER: **Bolivia** [or Plurinational State of **Bolivia**; or Estado Plurinacional de **Bolivia**]

[10] This political organization sparked the 2019 Bolivian political crisis by releasing a report alleging fraud. This organization's stated purpose is to promote democracy and collective security in the Western Hemisphere.

ANSWER: **Organization of American States** [or **OAS**] (MGS)

2. In *Bella figlia dell'amore*, a quartet from Act III of this opera, the title character and his daughter watch as a womanizing duke seduces Maddalena. For 10 points each:

[10] Name this opera. An offstage chorus imitates the winds of a storm before Gilda enters a tavern to be killed by the assassin Sparafucile in this opera.

ANSWER: **Rigoletto**

[10] The Duke of Mantua sings this aria before seducing Maddalena, comparing fickle women to "feather[s] in the wind." This tenor aria is reprised as Rigoletto realizes that his daughter Gilda has been killed in place of the duke.

ANSWER: "**La donna è mobile**"

[10] This Italian composer wrote *Rigoletto*, and also created a lively brindisi performed by Violetta and Alfredo in *La Traviata*. This composer wrote about an Ethiopian princess who chooses to die with Radamès in *Aida*.

ANSWER: Giuseppe **Verdi** [or Giuseppe Fortunino Francesco **Verdi**] (SL)

3. The *undoing* of this process "reeks of violence," according to one theorist. For 10 points each:

[10] Name this process. *The Wretched of the Earth* reflects on the psychological fallout of this process, wherein one country forcibly settles and economically exploits another.

ANSWER: **colonization** [accept word forms like **colonialism**; prompt on **imperialism** or equivalents]

[10] This Martinican psychiatrist drew on his experiences as a member of the Algerian National Liberation Front to write *The Wretched of the Earth*.

ANSWER: Frantz (Omar) **Fanon** [or Ibrahim Frantz **Fanon**]

[10] In a work titled for people with this trait and their "masks," Fanon psychoanalyzed the lived experiences of people with this trait, who he claims live in a "zone of non-existence."

ANSWER: **black** skin [accept any equivalent indicating **blackness** or being **black**; accept **Black Skin**, *White Masks*] (HK)

4. The character of Sally Bowles was partly inspired by this author's friend, the actress Jean Ross. For 10 points each:

[10] Name this British author who declared "I am a camera" in the opening page of his semi-autobiographical story *Goodbye to Berlin*, included in his book *Berlin Stories*.

ANSWER: Christopher **Isherwood** [or Christopher William Bradshaw **Isherwood**]

[10] *Goodbye to Berlin* inspired this 1966 musical centered on the sordid Kit Kat Club. In this musical's title number, Sally Bowles sings "life is a [title institution], old chum, come to the [title institution]!"

ANSWER: **Cabaret**

[10] Isherwood's final novel, *Christopher and His Kind*, details his experience as part of this community in Berlin. Isherwood fled Berlin when the Nazis began persecuting this "deviant" non-Jewish community.

ANSWER: **gay** community [accept equivalents like **LGBT+** or **LGBTQ+** or **queer** communities] (MGS)

5. These conflicts ended with the Treaties of London and Bucharest. For 10 points each:

[10] Name these conflicts, the first of which was begun by a namesake “league” and the second of which was begun due to that league’s breakup by Ferdinand I. That league’s enemy recaptured Edirne in the second of them.

ANSWER: **Balkan** Wars

[10] The enemy of the Balkan League was this Turkish empire based in Constantinople, called the “Sick Man of Europe” for its decaying economic and military strength.

ANSWER: **Ottoman** Empire [or Sublime **Ottoman** State; or Devlet-i ‘Alīye-i ‘**Osmāniye**; prompt on Turkey]

[10] An Ottoman sultan of this name lost the First Balkan War and was succeeded in 1918 by the last Ottoman sultan, also of this name. A previous sultan of this name conquered Constantinople and made it his capital.

ANSWER: **Mehmed** [accept **Mehmed** V or **Mehmed** II or **Mehmed** the Conqueror] (DM)

6. Before microbiologists could just sequence an organism’s genome, they had to perform a battery of tests to identify microorganisms. For 10 points each:

[10] The simplest way to classify bacteria is by this attribute easily visible under light microscopy. Generally, this attribute stratifies organisms into cocci, bacilli, or spirochaetes [“SPY-ro-keets”].

ANSWER: **shape**

[10] Similarly-shaped *Streptococci* and *Staphylococci* [“STAFF-ill-oh-COK-eye”] can be differentiated by testing for the presence of this enzyme, which breaks down hydrogen peroxide into water and oxygen gas. It’s abundant in the liver.

ANSWER: **catalase**

[10] Another way to differentiate some species of *Streptococci* and *Staphylococci* is to plate them on blood agar and determine whether they can induce either the alpha or beta form of this process.

ANSWER: **hemolysis** [prompt on anything involving “breakdown of red blood cells” or “breakdown of hemoglobin”] (HK)

7. This man made a point of correcting Ellen Degeneres’ pronunciation of his name on national television. For 10 points each:

[10] Name this man who criticized Netflix for pulling an episode of his show criticizing Mohammad bin Salman in Saudi Arabia. Netflix cancelled this man’s show in 2020, prompting speculation about retaliation for that criticism.

ANSWER: Hasan **Minhaj** [accept *Patriot Act with Hasan **Minhaj***]

[10] Despite Netflix’s ire with *Patriot Act*, it also airs Minhaj’s special titled for this school event that occurs in the fall. In the special, Minhaj recounts his white date’s parents saying he wasn’t “a good fit” for pictures of this night.

ANSWER: **homecoming** dance [accept *Homecoming King*; prompt on school dance]

[10] *Patriot Act*’s episode on Indian elections featured an uncle telling Minhaj that, as one of these people, he was unqualified to comment on Indian politics. This term insultingly refers to American diaspora of the subcontinent.

ANSWER: **ABCD** [or **American Born Confused Desi**; prompt on Desi] (HK)

8. “End” varieties of these geological features are produced when internal ice movement carries rocks and debris to the snout of a glacier, creating a ridge of unsorted sediment. For 10 points each:

[10] Identify these earthen features that are formed from the accumulation of glacial till. “Lateral” varieties of these landforms are deposited parallel to the direction of ice movement.

ANSWER: **moraines**

[10] These rocks were displaced by glaciers for long distances and deposited when the glacier retreated. Unlike dropstones, which are cemented in place, these loose rocks are found as pebbles or boulders in glacial till.

ANSWER: glacial **erratics**

[10] Since it is transformed by intense pressure from the weight of overlying snow, glacial ice is sometimes regarded as this type of rock. Igneous or sedimentary rocks transform to form these rocks.

ANSWER: **metamorphic** rocks [accept **metamorphism**] (SL)

9. This site’s decline likely arose from its environmental exhaustion of local lumber, pasture, or gold, allowing the Kingdom of Mutapa to take its place. For 10 points each:

[10] Name this ancient southern African city constructed out of stone with no mortar but with five-meter-high walls. It contains the Great Enclosure and the Hill Complex, the latter of which had many soapstone bird sculptures.

ANSWER: **Great Zimbabwe**

[10] Great Zimbabwe was constructed by the ancestors of people of this ethnic group. This ethnic group and the Ndebele are the largest ethnic groups in modern Zimbabwe.

ANSWER: **Shona**

[10] The Shona traded substantially in this commodity, which can be used to make milk, leather, and beef. The Fulani of West Africa are the world’s largest nomadic traders of this commodity.

ANSWER: **cattle** [or **cows**] (ZA)

10. This play’s protagonist, Leo Gala, wears a chef’s cap, beats eggs, and represents reason. For 10 points each:

[10] Name this play staged by the Manager. This play-within-a-play’s leading man is later cast to play a father who encounters his own stepdaughter in Madame Pace’s brothel.

ANSWER: **Mixing It Up** [or *The Rules of the Game*; or *Il giuoco delle parti*; prompt on answers describing the play from *Six Characters in Search of an Author*]

[10] The Manager claims that “nobody understands anything” in the plays of this Italian author who supposedly wrote *Mixing it Up*. He also wrote *Six Characters in Search of an Author*, the play in which the Manager appears.

ANSWER: Luigi **Pirandello**

[10] The Manager complains that they must stage Pirandello’s incomprehensible work since this country doesn’t send good comedies anymore. He likely refers to playwrights from this country like Moliere, the author of *Tartuffe*.

ANSWER: **France** [or **French** Republic; or République **française**] (DS)

11. A monk, a clown, and a harlequin are thought to represent Max Jacob, Guillaume Apollinaire, and this artist himself in his Synthetic Cubist work *Three Musicians*. For 10 points each:

[10] Name this artist. During his Rose Period, he frequently depicted characters from the commedia dell’arte and circus performers, such as in his painting *Family of Saltimbanques*.

ANSWER: Pablo **Picasso** [or Pablo Ruiz y **Picasso**]

[10] An emaciated blind man wearing threadbare clothing plays the title instrument in this Picasso painting, a masterpiece of his Blue Period.

ANSWER: *The Old Guitarist*

[10] Picasso was a cofounder of Cubism, whose name was coined by this art critic in response to Georges Braque’s *Houses at l’Estaque*. This critic coined the term Fauvism with a remark about “Donatello amongst the wild beasts.”

ANSWER: Louis **Vauxcelles** (SL)

12. A *luópǎn*, or geometric compass, is used to assess the direction that a structure should face under this system. For 10 points each:

[10] Name this system, which has a name meaning “wind-water” and is based upon architecture with auspicious flow of *qì*.

ANSWER: **fēng shuǐ**

[10] Techniques of *qìgōng*, which employs meditative movements and breathing, are employed in this slow martial art.

ANSWER: **T'ai chi** ch'üan [or **Tàijí** quán]

[10] Understanding and manipulating the flow of *qì* is also essential to this discipline, traditional examples of which include moxibustion and acupuncture. Some alternative forms of this discipline employ crystals.

ANSWER: **medicine** [accept **healing**] (AY)

13. This Greek writer of the second century BCE was taken as a hostage from the Achaean League by Rome. For 10 points each:

[10] Name this historian who chronicled the rise of Rome in his *Histories*, naming the Republic as an example of ideal mixed government. He also wrote of a namesake 5 by 5 “square” used to express letters as numbers.

ANSWER: **Polybius**

[10] Polybius found a patron in an aristocrat named Aemilianus from this family, who was the brother-in-law of Tiberius Gracchus. The victorious general at the Battles of Ilipa and Zama was also from this family.

ANSWER: **Scipio** [or Corneli **Scipiones**; prompt on Gens **Cornelius** or **Cornelii**]

[10] Polybius accompanied Scipio Aemilianus while the latter led the final Roman siege of this African city in 146 BCE, after which it was cursed to be forever abandoned.

ANSWER: **Carthage** (LL)

14. A hag called the Cailleach [“CALL-ekh”] summons winter by performing this action on the coast of Scotland for three days. For 10 points each:

[10] Name this action utilizing a person’s possessions, which the bean nìghe [“peh-NYEE-uh”] might be seen performing soon before that person dies. One of the Morrigan’s epithets refers to her performing this action.

ANSWER: **washing clothes** [accept equivalents like **washing armor**]

[10] Another hag is this Slavic one, who attempted to eat a merchant’s son and gave light to Vasilisa the Fair. She lives in a hut on chicken legs when she isn’t flying around in her giant mortar.

ANSWER: **Baba Yaga** [or **Yaga Baba**, **Baba Jaga**, **Jaga Baba**, or **Jezebaba**]

[10] The boo-hag is a vampiric skin-stealing creature of nightmares from the lore of this African American people with a namesake creole language. These people live on and around South Carolina and Georgia’s Sea Islands.

ANSWER: **Gullah** people [or **Geechee** people] (AY/HK)

15. One G minor piece for this ensemble features a “Scotch snap” rhythm in a second movement scherzo marked “Tempo di minuetto.” For 10 points each:

[10] Give this chamber ensemble. A Dvořák composition for this ensemble is nicknamed for its six movements recalling Slavic folk songs known as *dumky*.

ANSWER: **piano trio** [accept any ordering of **piano**, **violin**, and **cello**; prompt on **trio**]

[10] The aforementioned G minor piano trio written by this composer influenced her husband Robert’s D minor work in the same genre. This virtuoso pianist popularized the practice of performing from memory.

ANSWER: **Clara** (Josephine) **Schumann** [accept Clara **Wieck**; prompt on **Schumann**]

[10] Clara Schumann also composed *Three Romances* dedicated to this musician. This man’s motto, “Frei aber Einsam,” appears as a musical cryptogram in several pieces composed by his friends.

ANSWER: Joseph **Joachim** (AY)

16. Answer the following about an underappreciated form of transportation in literature, for 10 points each.

[10] Name this vertically-oriented form of transport. After giving Charlie his chocolate factory, Willy Wonka takes the Bucket family up to space in a “Great Glass” example of this apparatus.

ANSWER: Great Glass **Elevator** [accept **lift**]

[10] In a short story by this man, Seymour Glass calls a woman a “sneak” for looking at his feet in an elevator. The elevator operator Maurice punches the teenage protagonist for calling him a moron in this man’s only novel.

ANSWER: J. D. **Salinger** [or Jerome David **Salinger**]

[10] This author’s debut novel *The Intuitionist* follows a psychic elevator inspector, while the Griffin Building features an elevator and other anachronisms in his 2016 novel *The Underground Railroad*.

ANSWER: Colson **Whitehead** [or Arch Colson Chipp **Whitehead**] (DS)

17. Oscar de Andrade’s [“ahn-DRAH-jeez”] *Cannibal Manifesto* heavily influenced this country’s modernist literature. For 10 points each:

[10] Name this country. Macabea struggles to survive in this country’s rural Northeast in *The Hour of the Star* by Clarice Lispector, another author from this country.

ANSWER: **Brazil** [or Federative Republic of **Brazil**; or República Federativa do **Brasil**]

[10] Machado de Assis, another Brazilian author, wrote *Quincas Borba*, often translated as *Philosopher or [this animal]*. A different novel opens and closes by saying that one of them named Barrabas “came to us by sea.”

ANSWER: **dog**

[10] Lispector, Andrade, and Assis all wrote in this sole national language of Brazil.

ANSWER: **Portuguese** [or **português**; or língua **portuguesa**] (HK)

18. At constant pressure, the change in this quantity equals the heat absorbed or released by a reaction. For 10 points each:

[10] Name this thermodynamic quantity that describes the heat content of a system. It is symbolized *H*.

ANSWER: **enthalpy**

[10] Enthalpy is held constant in this throttling process, in which a change in pressure results in a dramatic temperature change. Cooling via this process is used to liquefy gases like oxygen and nitrogen.

ANSWER: **Joule–Thomson** effect [or **Joule–Kelvin** effect; accept names in either order; accept **process** for “effect”]

[10] The Joule–Thomson effect, however, can’t liquefy this other gas until it’s cooled below its inversion temperature of 45 kelvins. More generally, this gas liquefies at 4 kelvins and may exhibit superfluidity.

ANSWER: **helium** [or **He**] (HK)

19. Some scholars believe that Benjamin Franklin brought these people’s institutionalization of liberty, established in the Great Law of Peace, into America’s Constitution. For 10 points each:

[10] Name these people, whose leader received the title *tadohado*. Handsome Lake led a revival of these people’s traditional religion in the 18th century.

ANSWER: **Iroquois** Confederacy [or **Haudenosaunee**; anti-prompt on Oneida, Mohawk, Onondaga, Cayuga, Seneca or Tuscarora]

[10] The Iroquois’ original Great Law of Peace was detailed on belts made of this material, which is a type of bead made from white and purple shells. Colonists sometimes used these beads as money while trading.

ANSWER: **wampumpeag**

[10] The Iroquois were centered in this state at Onondaga, the site of the Grand Council. This state’s current capital, Albany, was near the border between the colonial land and Iroquois land at the time of independence.

ANSWER: **New York** (DM)

20. In the mechanical–electrical analogy, this quantity corresponds to the reciprocal of capacitance. For 10 points each:

[10] Name this mechanical quantity, whose square root is divided by the square root of an object’s mass to obtain a certain kind of angular frequency.

ANSWER: **spring constant** [prompt on stiffness; prompt on k]

[10] The spring constant is the k in this law usually written as “ F equals negative kx ,” which describes the restoring force in springs that produces simple harmonic motion.

ANSWER: **Hooke’s law**

[10] The x in Hooke’s law, meanwhile, stands for this specific kind of position. This vector quantity is the difference between an object’s final and initial positions.

ANSWER: **displacement** [prompt on relative position] (SE)

Tiebreaker

Some of these enzymes have proofreading capabilities due to their exonuclease domains. For 10 points each:

[10] Name this class of enzymes. A heat-stable “Taq” version of these enzymes is often used in a namesake “chain reaction” procedure.

ANSWER: DNA **polymerases** [or Taq **polymerase**; do **NOT** accept or prompt on “RNA polymerase”]

[10] DNA polymerase is one of the enzymes vital for performing this process, which duplicates a cell’s genome during the S phase of the cell cycle.

ANSWER: DNA **replication** [prompt on DNA synthesis or equivalent answers; do **NOT** accept or prompt on “transcription”]

[10] These structures form as a result of polymerase slippage during replication and name a class of disorders like Huntington’s disease. More than 36 of them in the *HD* gene yield a poly-Q tract when the protein is translated.

ANSWER: **trinucleotide repeats** [accept **trinucleotide repeat disorders**; accept **triplet repeats** or **triplet repeat disorders**; prompt on partial answers; prompt on CAG repeats or CAGs by asking “what kind of structure is CAG?”] (HK)