

**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 3 Tossups**

1. **These people left the Sacred Mount after being convinced by an “allegory of the belly” that compared them to a body’s limbs. One leader opposed a law expanding these people’s right to intermarry because they would “confound the auspices.” These people’s legal status was ended by the Hortensian Law. That law ended the last of these people’s secessions during the (\*) Conflict of the Orders, an earlier example of which led to the passage of the Twelve Tables. These people’s interests were opposed by the Optimates but championed by the tribunes. For 10 points, name this class of Roman commoners who often feuded with the wealthier patricians.**

ANSWER: **plebs** [or **plebeian**; prompt on descriptions of Roman commoners by asking “what is the specific name for these people?”] (DS)

2. **The line, “Good morning, daddy!” opens a poem by this man which tells the father to “Listen closely / You’ll hear their feet.” In that poem by this poet, the speaker asks “Ain’t you heard / the boogie-woogie rumble” of a certain concept, and is later interrupted by a voice in italics which asks “*You think / It’s a happy beat?*” This poet describes a concept that can (\*) “stink like rotten meat” or “sugar over - like a syrupy sweet.” One poem by this man asks “Or does it explode?” to end a poem about a thing that can “dry up / like a raisin in the sun.” For 10 points, *Montage of a Dream Deferred* was written by what Harlem Renaissance author?**

ANSWER: Langston **Hughes** [or James Mercer Langston **Hughes**] (MGS)

3. *Note to players: Type of work AND artist required.* **Animals like Fulang-Chang in these works are often interpreted as surrogates for the children the artist did not have. The central figure of another of these works holds a letter signed “with all my love” for Leon Trotsky. One of these paintings features a nail-embedded body cracked open to reveal the title (\*) “Broken Column.” In one of these works, surgical scissors rest in the lap of a figure linked to another by a blood vessel between their hearts. Another of these paintings depicts a figure wearing a thorn necklace, from which a lifeless hummingbird dangles. For 10 points, name these paintings by and of their Mexican painter and her distinctive unibrow.**

ANSWER: **self-portraits** of Frida **Kahlo** [accept **autorretrato** for “self-portrait”]; prompt on portraits or paintings of Frida **Kahlo**] (HK)

4. **John Hall and Theodor Hänsch generated a high-precision “comb” of values for this quantity by passing lasers through nonlinear crystals. A lock-in amplifier identifies a signal among noise by comparing it to a reference value for this quantity. Pairs of these scalar quantities are added and subtracted in heterodyning, a process that may produce (\*) beats when their difference is small. The value of this quantity for the first harmonic is twice its value for the fundamental. This quantity, whose “angular” type is denoted with an omega, is the reciprocal of a wave’s period. For 10 points, name this rate at which an event happens in time, usually measured in hertz.**

ANSWER: **frequency** [accept angular **frequency**; accept **frequency** comb; prompt on f or nu or omega] (SE)

5. **After ripping off a necklace, this character destroys an ACE Chemicals plant by running a stolen truck into it. This character sneers “Run piggy, run!” at a fleeing policeman before shooting him in the back. This character is immune to various poisons thanks to an ecoterrorist lover who, with her and another woman, forms part of the (\*) Sirens. This character’s iconic costume was rebooted to a controversial red and blue ensemble matched with dip-dyed hair. This former psychiatrist at Arkham Asylum’s skin was bleached after a love interest kicked her into a vat of acid. For 10 points, name this villain played by Margot Robbie in *Suicide Squad* and *Birds of Prey*.**

ANSWER: Harley Quinn [or either underlined part of Dr. Harleen Frances Quinzel; prompt on Quinn] (HK)

6. **These events can be referred to as “the dance of Inanna.” The “garden of the Badb” was used as an epithet for sites of these events, which were frequented by a triple goddess whose aspects include Macha and Nemain. That goddess often appears at these events in the form of a hoarse-voiced bird. Enyo is said to be “supreme” in this event, whose outcomes are prophesied by the (\*) Morrigan. Eris can also often be found near these events. A lost statue depicted Nike in the hand of a wise goddess of this domain, who is often shown holding her *aegis* and spear. For 10 points, name this domain governed by goddesses like Bellona and Athena.**

ANSWER: wars [accept descriptive answers like warfare, battles, violence, or bloodshed; prompt on discord or strife by asking “what does it lead to?”] (HK)

7. **While fleeing a queen’s wrath, this man prayed to die under a juniper tree until an angel touched him and showed him bread. A chair is set aside for this man to witness all *brit milah* ceremonies, and a hymn urging him to return concludes Havdalah services. After this man humiliates some false prophets by calling down God’s (\*) fire on a bull, those prophets of Baal are slaughtered. This prophet then fled from rulers he cursed to be eaten by dogs; those rulers are Ahab and Jezebel. Jews open the door and pour a fifth cup of wine for this man on Passover. For 10 points, name this prophet who gave his mantle to his similarly-named disciple, Elisha, before ascending to Heaven in a chariot of fire.**

ANSWER: Elijah [or Elias; or Eliyahu; or Ilyas; do **NOT** accept or prompt on “Elisha”] (DR)

8. **In the complex plane, the residue theorem can be used to simplify this operation. A simple method for numerically approximating this operation involves interpolating roots of the Legendre polynomials and is known as Gaussian quadrature. This operation can be defined as the limit as the partition width goes to zero of a (\*) Riemann sum. When the bounds of this operation are infinite, this operation is said to be “improper.” A form of this operation that “undoes” the chain rule is known as *u*-substitution. According to the fundamental theorem of calculus, this operation is equivalent to antidifferentiation. For 10 points, name this operation that gives the area under a function’s graph.**

ANSWER: integration [or word forms like integral; accept contour integration; accept antiderivative or word forms until “antidifferentiation”] (MG)

9. **Fatima al-Fihri founded the University of al-Qarawiyyin, the world’s oldest, in this Darija-speaking country in 859 CE. This country’s Ouarzazate province contains the Mansour Eddahabi dam on the Drâa River and the popular filming site Ait Benhaddou. The last of this country’s national animals, the Barbary (\*) lion, was shot in 1922 in the Atlas Mountains, which contain this country’s highest peak, Jbel Toubkal. Marinid rule brought about a golden age for this country’s city of Fez, and Sephardic Jews have a long history in this country’s largest city, Casablanca. For 10 points, name this country separated from Spain by the Strait of Gibraltar with capital at Rabat.**

ANSWER: Morocco [or Kingdom of Morocco; or al-Mamlaka al-Mağribiyya] (HK)

10. A warrior and an old man from this country describe witnessing historic negotiations from a tree and under some floorboards in a Stephen Sondheim musical. In an opera set in this country, a wordless “Humming Chorus” bridges Acts II and III. In one operetta, a man in this country describes people who won’t be missed in the patter song “As some day it may happen.” That man received his post as (\*) executioner due to a ban on flirting. The protagonist of an opera set in this country imagines “Un bel di” when her absent husband will return, and kills herself when Pinkerton arrives with an American wife. For 10 points, name this country, the setting of *The Mikado* and *Madama Butterfly*.

ANSWER: **Japan** [or **Nihon**; or **Nippon**] (The first clue refers to Sondheim’s *Pacific Overtures*.) (MG)

11. A poem titled for one of these places was published under the alias C.3.3. and describes the death of a man who “looked / With such a wistful eye / Upon that little tent of blue.” The speaker of another poem set in this type of place declares he “shall sing / The... glories of [his] King,” and compares himself to “Angels alone, that soar above” and (\*) “Fishes that tipple in the deep.” A poem set in one of these places notes that “The coward does it with a kiss, / the brave man with a sword,” but “each man kills the thing he loves.” Richard Lovelace tells Althea that “stone walls do not” make, for 10 points, what type of location from which Oscar Wilde wrote after being convicted of gross indecency?

ANSWER: a **prison** [or a **jail**; or Reading **Gaol**; accept “The Ballad of Reading **Gaol**” or “To Althea, from **Prison**”] (DS)

12. These objects took the place of the earlier *aes rude* [“ICE RU-deh”]. The earliest Roman examples of these objects were produced near a temple of Juno on the Capitoline Hill. Athenian examples of these objects were known as “owls” and composed of material from Laurium. Diocletian reformed these objects and introduced the *solidus* to replace the (\*) *aureus*. These objects were continually made smaller in a process known as “debasement.” These objects, which are studied in the discipline of “numismatics,” include the Roman *denarius* and the Greek *obol*. For 10 points, name this portable unit of currency that is often composed of precious metals.

ANSWER: **coinage** [or **coins**; accept specific types of mentioned coins before they are mentioned; prompt on money, currency, or bullion] (JS)

13. In an early example of systematic desensitization, this man and Mary Cover Jones moved a rabbit in a cage progressively closer to a boy who feared them. To test kinesthetic response transformation, this man trained rats to run an alley-like maze and found that shortening the maze led rats to run into the wall, making a (\*) “kerplunk” sound. This psychologist’s most famous study demonstrated stimulus generalization when its subject began to fear things like sealskin and Santa masks, instead of just furry white rats. For 10 points, name this founder of behaviorism who unethically conditioned an 11-month old child in his “Little Albert” experiment.

ANSWER: John (Broadus) **Watson** (DS)

14. Kehr’s sign of left shoulder pain indicates a trauma-induced tear in the capsule of this organ. Basophilic nuclear remnants called Howell–Jolly bodies indicate decreased function of this organ. The T1 and T2 stages of B-cell maturation take place in this organ’s follicles. This organ’s (\*) marginal zone is also home to a population of CD9 and CD1 positive B cells. Half the body’s monocytes are stored in this organ’s Cords of Billroth. This organ may be “sequestered” in patients with sickle cell anemia and is notably enlarged in patients with mononucleosis. For 10 points, name this lymphoid organ consisting of red and white pulp that filters out old red blood cells and platelets.

ANSWER: **spleen** [accept **splenic** rupture or **splenomegaly**] (HK)

15. **One of this author's characters tells the same story every night about arriving at a fence on the road to Paris, though he says Paris collapsed 400,000 years before. The stage directions in a work by this author specify an "English fire" burning, an "English clock" ticking, and a moment of "English silence." Another of his plays ends with the deaf-mute Orator alone on stage after the suicide of the (\*) Old Man and Woman, who had set up the title *Chairs* for invisible guests. The Smiths and the Martins switch places at the end of an absurdist play by this author. Mention of the title hairstyle triggers a storm of meaningless clichés in, for 10 points, what author's *The Bald Soprano*?**

ANSWER: Eugène **Ionesco** (MGS)

16. ***Ignis Fatuus* transfers the right hand part from one of this composer's works to the left hand. That piece appears in Leopold Godowsky's 53 arrangements of pieces by this composer. A dissonant "D, G, and E-flat" chord closes the arpeggiated first inversion Neapolitan sixth opening of a G minor composition by this composer. The lento third movement of this man's second piano sonata features a notable (\*) funeral march. A repeating A-flat in another of this composer's pieces represents rain. This composer's music features frequent rubatos, especially pronounced in his mazurkas. For 10 points, name this Polish composer of ballades, preludes, and etudes for piano.**

ANSWER: Frédéric (François) **Chopin** [or Fryderyk Franciszek **Chopin**] (NM/AY)

17. **Alleged links between this organization and Italian prime minister Romano Prodi were investigated by the Mitrokhin Commission. The SVR is a modern-day successor to this organization. Members of the "Cambridge Five" like Guy Burgess fled the U.K. after they were accused of working for this organization. In 1978, Georgi Markov was (\*) assassinated by one of this organization's agents with a ricin pellet shot from an umbrella gun. Yuri Andropov, a long-time leader of this organization, later succeeded Leonid Brezhnev as leader of its home country. For 10 points, name this former employer of Vladimir Putin, the state intelligence agency of the USSR.**

ANSWER: **KGB** [or **Komitet Gosudarstvennoy Bezopasnosti**; or **Committee for State Security**; prompt on **Russian** or **Soviet secret police**, **spy agency**, **counter-intelligence agency**, or equivalents] (MGS)

18. **When carried out on polymers, one type of this technique produces a peak at the glass transition temperature. The change in enthalpy is proportional to the area under the curve in the "differential scanning" type of this technique, which detects phase changes. A thermometer is immersed in the water around a metal combustion chamber in the constant-volume (\*) "bomb" type of this technique. In the classroom, this technique is usually carried out in nested Styrofoam cups to thermally insulate the reaction of interest. For 10 points, name this technique for measuring the heat of a chemical reaction, which has a similar name to a unit of energy provided by food.**

ANSWER: **calorimetry** [accept **calorimeter**; accept differential scanning **calorimetry** or bomb **calorimetry**; prompt on **DSC**; prompt on **calorie** or **kilocalorie**] (MP)

19. **This politician instituted a widespread ban on the sale, display, and possession of artichokes in response to mob price manipulation. After Jimmy Walker's ouster, this politician was elected over John O'Brien and Joseph McKee with help from the "Fusion" party. This politician ordered that thousands of Frank Costello's slot machines be destroyed. This politician, who was dubbed the (\*) "Little Flower," co-sponsored a bill with a Nebraska senator banning yellow-dog contracts. This politician and Robert Moses implemented New Deal construction projects such as the Triborough Bridge and Brooklyn Battery Tunnel. For 10 points, what Italian mayor names a New York City airport?**

ANSWER: Fiorello (Henry) **La Guardia** (JS)

20. At the end of a play this man co-authored with John Kani and Winston Ntshona, a man rips a wig off another's head and shouts, "Gods of Our Fathers! My Land! My Home!" The impending visit of Ethel Lange strains the relationship between two brothers, one white-passing and one not, in a play by this author. "A World Without (\*) Collisions" is compared to ballroom dancing in a play by this man set in a tea room. In that play by this man, the news that his alcoholic father is returning causes Hally to abuse Willy and Sam after insisting that Sam call him by the title honorific. For 10 points, name this South African playwright of *Blood Knot* and "*Master Harold*" ...and the Boys.

ANSWER: Athol **Fugard** [or Harold Athol Lanigan **Fugard**] (MGS)

*Tiebreaker*

A political cartoon depicts this party's most influential member as a contorted donkey wearing a scarf that reads "revolutionary resolutions to ruin this nation's credit." James Field ran on a ticket for this party, which had previously incorporated the "Ocala Demands" into its ideas. A Georgia senator named Thomas Watson was a vice presidential candidate for this party. This party achieved its greatest success under the (\*) Omaha Platform. Former Greenback James Weaver led this party, which collapsed after its endorsement of William Jennings Bryant. For 10 points, name this late-19<sup>th</sup>-century party of farmers and blue-collar workers.

ANSWER: **Populist** Party [accept **People**'s Party; accept **Greenback** Party until "James Field" is read] (MP)

### Packet 3 Bonuses

1. This element was once called “quicksilver.” For 10 points each:

[10] Name this only liquid metallic element at standard temperature and pressure. Its chemical symbol is Hg.

ANSWER: **mercury**

[10] Mercury dissolves other metals to form alloys known by this term. One of these alloys called the “dental” variety is used to fill cavities and consists of silver, tin, and copper dissolved in mercury.

ANSWER: **amalgam**

[10] Other amalgams, particularly those of sodium, are useful as these kinds of reagents that donate electrons to recipients in certain chemical reactions.

ANSWER: **reducing agents** [or **reductants**; or **reducers**] (HK)

2. The most devastating flood of this body of water occurred on the night of January 31st, 1953 and extended into the morning of the following day. For 10 points each:

[10] Name this body of water. The 1953 flood killed over 1800 people in the most heavily affected country and displaced another 32,000, after which the Delta Works were made to prevent future flooding.

ANSWER: **North Sea**

[10] This country was most devastated by the North Sea Flood of 1953 due to being mostly below sea level. Last-minute heroics in Nieuwerkerk likely prevented its cities of Rotterdam and the Hague being destroyed as well.

ANSWER: **Netherlands** [or **Nederland**; or Kingdom of the **Netherlands**; or Koninkrijk der **Nederlanden**]

[10] The flood was devastating because the Netherlands’ land largely consists of these areas of low-lying reclaimed land protected only by dikes. A namesake Dutch “model” of making decisions by consensus is named for them.

ANSWER: **polders** [accept **polder** model] (DM)

3. Name some investing terms that you may have encountered on r/WallStreetBets [“R-Slash-Wall-Street-Bets”] during the “Great Gamestop Rally” of 2021, for 10 points each.

[10] This term means to borrow a stock and sell it immediately in hopes of buying it back at a lower price. Redditors were aiming to “squeeze” hedge funds like Melvin Capital that engage in this practice for large profits.

ANSWER: **short** selling [or **shorting**; or going **short**; or **short** squeezing]

[10] Melvin’s short position reflected a pessimistic stance towards Gamestop described by this term, in contrast to r/WallStreetBets’ heavily bullish attitude. Markets described by this animal term expect prices to fall.

ANSWER: **bear**ish [accept **bear** market]

[10] The subreddit insisted the Gamestop rally was *not* one of these schemes, in which fraudsters make misleading positive statements to inflate a bad stock’s price before selling high and leaving their victims “holding the bag.”

ANSWER: **pump-and-dump** [accept **P&D**] (DS)

4. A single drummer accompanies singers with a distinctive raspy sound recounting traditional stories in a genre from this peninsula known as *pansori*. For 10 points each:

[10] Name this peninsula, where many consider the folk song “Arirang” an unofficial national anthem. Groups like Seo Taiji and Boys from this peninsula pioneered its modern form of pop, which today features groups like BTS.

ANSWER: **Korea** [or **Korean Peninsula**]

[10] A popular postcolonial genre of Korean music takes its name from this dance, with which it shares little else. A couple performs this dance after one of them, a former starlet, crashes a banquet in the third act of one opera.

ANSWER: **foxtrot** [accept **teuroteu**] (That opera is *Nixon in China*.)

[10] Western classical music is also popular in South Korea, with soprano Sumi Jo gaining recognition for her work in this operatic style employed by composers like Bellini. This style’s name means “beautiful singing” in Italian.

ANSWER: **bel canto** (AY)

5. Troops from this country are suspected of aiding Ethiopian forces in a civil war against the Tigray People's Liberation Front. For 10 points each:

[10] Identify this country which signed a 2018 peace treaty with Ethiopia to end a border conflict dating back to this country's independence in 1993.

ANSWER: **Eritrea** [or State of **Eritrea**]

[10] Until Eritrea's independence, Ethiopia had a coastline on this sea which Eritrea now borders. This sea is connected by the Suez Canal to the Mediterranean Sea.

ANSWER: **Red** Sea [or al-Bahr al-**Ahmar**; or al-Bahr al-**Qalzam**; or **Oeyyih** Bahri; or Yam **Suph**; or Yam **Adom**]

[10] Eritrea's independence came with ownership of the Dahlak Archipelago in the Red Sea, which has been famed since Roman times for this industry. The city of Muharraq was also once a center of this industry.

ANSWER: **pearl** fishing [or **pearling**; or **pearl** hunting; or **pearl** diving; prompt on **fishing** or **diving**; prompt on **oysters** or **oyster diving**] (HK)

6. Ludvik Jahn is expelled from this country's Communist Party for writing, "Optimism is the opium of mankind... Long live Trotsky!" on a postcard. For 10 points each:

[10] Name this country, the setting of *The Joke*. Showing great self-awareness, this country quickly banned *The Joke*'s film adaptation upon the end of its 1968 Prague Spring.

ANSWER: **Czechoslovakia** [or **Československo**; prompt on the **Czech** Republic or **Czechia**]

[10] In this novel by the author of *The Joke*, a surgeon returns to Soviet-occupied Prague to be with his wife Tereza and his dog Karenin, thereby ending his longtime affair with the kitsch-hating Sabina.

ANSWER: *The **Unbearable Lightness of Being*** [or ***Nesnesitelná lehkost bytí***] (The author is Milan Kundera.)

[10] Ironically, Sabina inspires her ex-lover Franz to join an undeniably kitschy—and ultimately futile—"Grand March" protesting communism in this Asian country.

ANSWER: **Cambodia** [or People's Republic of **Kampuchea**] (DS)

7. In this play, Louis Ironson leaves his partner Prior Walter after he learns that Prior has been diagnosed with AIDS. For 10 points each:

[10] Name this "Gay Fantasia on National Themes." In it, both Prior and arch-conservative lawyer Roy Cohn learn that Heaven looks a lot like San Francisco.

ANSWER: ***Angels in America: A Gay Fantasia on National Themes***

[10] Many characters in *Angels in America* are either Mormons or members of this faith, also the religion of author Tony Kushner. This is also the religion of Elie Wiesel, the author of *Night*.

ANSWER: **Jewish** [accept **Judaism**]

[10] In the play, the name of Prior's lost cat, Little Sheba, references a work by this closeted gay "Playwright of the Midwest" who also wrote *Bus Stop* and *Picnic*.

ANSWER: William (Mottet) **Inge** (DS)



8. Thailand does not recognize women as these people, leading many to instead become *maechi*. For 10 points each:  
[10] Name these people. Mahāpajāpati was the first woman to become one of these people, who follow proscriptions of the *Vinaya Piṭaka*.

ANSWER: **Buddhist nuns** or **Buddhist monks** [accept **bhikkunīs** or **bhikkunīs** or **bhikkus** or **bhikkus**; accept **Sangha**; accept **Buddhist priests**; prompt on **nuns** or **monks** or **priests** or **Buddhists**]

[10] A Buddhist nun founded Japan's Tokeiji Temple, where abused women could stay for three years in order to undergo this procedure that ends a marriage.

ANSWER: **divorce**

[10] Nuns from the Drukpa lineage in this country have gained fame for their self-defense kung fu training. Māyā gave birth at Lumbinī in this country.

ANSWER: **Nepal** [or Federal Democratic Republic of **Nepal**; or Saṅghīya Loktāntrik Gaṇatantra **Nepāl**] (AY)

9. *It's Gonna Rain* contains a prominent example of this technique. For 10 points each:

[10] Name this technique, in which instruments play at slightly different tempi and get gradually more and more misaligned in their rhythm until they finally beat-lock again after one gets a full beat behind.

ANSWER: **phasing** [accept word forms]

[10] This composer of *It's Gonna Rain* and *Clapping Music* prominently used phasing. This composer's *Different Trains* pairs a string quartet with tape recordings of interviewees discussing the years surrounding World War II.

ANSWER: Steve **Reich** [or Stephen Michael **Reich**]

[10] Reich, as well as fellow composers Philip Glass and John Adams, worked in this repetitive style of music that intends to strip classical music to its most basic parts and uses very few musical elements.

ANSWER: **minimalism** (DM)

10. This state's namesake "idea" applied the ideas of its university professors to enact progressive political reforms, contributing to its reputation as a "laboratory of democracy." For 10 points each:

[10] Name this state once governed by Robert "Fighting Bob" La Follette, the Progressive Party candidate for president in 1924.

ANSWER: **Wisconsin**

[10] La Follette espoused methods of direct democracy, including the initiative, referendum, and this process for removing an elected official. They differ from impeachments in that the result is decided directly by the voters.

ANSWER: **recall** election [or **recall** referendum; or **recall** petition]

[10] Another Wisconsin Progressive, Victor Berger, led a Socialist movement in Milwaukee that was mockingly nicknamed for its focus on these public facilities.

ANSWER: **sewers** [or obvious equivalents; accept **sewer** socialism] (DS)

11. This university's basketball teams play home games at Cameron Indoor Stadium. For 10 points each:

[10] Name this college basketball powerhouse located in Durham, North Carolina. Christian Laettner, Kyrie Irving, and JJ Redick were coached at this university by Mike Krzyzewski [shuh-SHEV-skee].

ANSWER: **Duke** University [accept either underlined part of **Duke Blue Devils**]

[10] This Canadian-born player recorded Duke's first triple-double in 13 years in a 2019 game against North Carolina State. He went on to be selected third in the 2019 NBA Draft by the New York Knicks.

ANSWER: RJ **Barrett** [or Rowan Alexander **Barrett** Jr.]

[10] This other Blue Devil was picked first in the same draft by the New Orleans Pelicans. Nike's market cap dropped by more than a billion dollars after one of this player's shoes broke in a game against North Carolina.

ANSWER: Zion (Lateef) **Williamson** (JD)



12. Saddle-node bifurcations occur when two of these mathematical objects overlap and cancel out. For 10 points each:

[10] Identify these features of dynamical systems, which may be termed stable if they are “attracting.” They can be found by iterating repeatedly, or by setting a system of differential equations equal to zero.

ANSWER: **fixed** points [accept **equilibrium** points]

[10] A stable fixed point is known by this word if a system returns to it under all possible perturbations. A function’s local minimum may not coincide with the absolute minimum described by this geographically-inspired word.

ANSWER: **global** [accept **globally** stable or **global** stability or **global** minimum]

[10] The Lorenz equations have a globally stable orbit whose shape sometimes resembles this animal. Large effects caused by small changes in initial conditions are analogized to this animal flapping its wings.

ANSWER: **butterfly** [accept **butterfly** effect] (DR)

13. Answer the following about Old Kingdom pharaohs. For 10 points each:

[10] Name this pharaoh who unified Upper and Lower Egypt and is depicted on a namesake palette wearing the crowns of both parts. Alternatively, name the legendary unifier of Egypt who is often identified with him.

ANSWER: **Narmer** [accept **Menes**]

[10] The 3rd Dynasty Pharaoh Djoser commissioned his architect Imhotep to build the first known ones of these structures made of stacked mastabas. More famous versions of these structures are located at Giza.

ANSWER: **pyramids**

[10] Manetho states that the final Old Kingdom pharaoh, Pepi II, reigned for 94 years; he probably ruled for at least 60. That long reign preceded the collapse of the Old Kingdom and beginning of the first of *these* periods of disunity.

ANSWER: **Intermediate** Periods (DM)

14. In the *Shahnameh*, after receiving kisses from Ahriman, Zahhak grew a pair of snakes that consumed these organs from his shoulders. For 10 points each:

[10] Name these organs. In popular culture, zombies also enjoy eating these organs.

ANSWER: **brains**

[10] Athena refused to grant immortality to Tydeus, the father of this hero, after Tydeus devoured Melanippus’ brain during the Seven Against Thebes. This hero wounded Aphrodite and Ares on the same day during the Trojan War.

ANSWER: **Diomedes**

[10] Cet mac Mágach attempted to assassinate this king of Ulster by slingshotting a calcified brain into his head. This uncle of Cu Chulainn, who survived for the next seven years, forced Deirdre of the Sorrows to marry him.

ANSWER: **Conchobar** mac Nessa (AY)

15. A sculpture on this fountain features four cherubs representing Temperance, Purity, Health, and Peace, and its name references the Biblical story of a healing pool. For 10 points each:

[10] Name this Central Park fountain, located on a terrace that shares its name. Emma Stebbins modeled the *Angel of the Waters* sculpture at this fountain’s center on her partner, Charlotte Cushman.

ANSWER: **Bethesda** Terrace and Fountain

[10] This sculptor created *Mercury Fountain* for the 1937 International Exhibition, in order to memorialize the siege of Almadén during the Spanish Civil War. This artist used his namesake red for sculptures like *Flamingo*.

ANSWER: Alexander **Calder**

[10] *The Women’s Table*, a granite fountain located at Yale University inscribed with the number of female students attending the college every year, was sculpted by this artist. She also designed the Vietnam Veterans’ Memorial.

ANSWER: Maya (Ying) **Lin** (SL)

16. This play begins with a character unlocking a desk drawer, taking out a large banana, peeling it, dropping the peel, tripping on it, pushing the peel offstage, and finishing the banana before taking out a second one. For 10 points each:

[10] Name this play. The title 69-year-old man celebrates his birthday in this play by listening to past recordings of his younger self, getting more and more worked up over his shattered dreams.

ANSWER: ***Krapp's Last Tape***

[10] *Krapp's Last Tape* was written by this author and premiered as a curtain-raiser for another of his plays which features Hamm and his servant Clov.

ANSWER: Samuel (Barclay) **Beckett** (The second play is *Endgame*.)

[10] *Krapp's Last Tape* is known for having this theatrical quality. Plays with this characteristic are often called performance monologues.

ANSWER: **one-man** play [accept reasonable descriptions that mention having only a **single performer**] (MGS)

17. This experiment modified an earlier experiment by using an interferometer whose two arms were of different lengths. For 10 points each:

[10] Name this 1932 modification to the Michelson–Morley experiment. It showed that the speed of light is independent of a reference frame's velocity and indirectly verified time dilation.

ANSWER: **Kennedy–Thorndike** experiment

[10] Like the Michelson–Morley experiment, the results of the Kennedy–Thorndike experiment were inconsistent with the existence of this hypothetical medium through which light was once thought to travel.

ANSWER: luminiferous **aether**

[10] The Ives–Stilwell experiment yielded more direct evidence of time dilation by measuring a transverse type of this effect. This shift in the frequency of a traveling wave is demonstrated by the pitch of a passing vehicle's siren.

ANSWER: **Doppler** effect [accept **Doppler** shift or transverse **Doppler** effect] (HK)

18. Answer the following about postcolonial reworkings of canonical Western texts that “talk back” against empire, for 10 points each.

[10] This founding member of the Négritude movement reimagined Shakespeare's *Tempest* in *Une tempête*, which recenters the narrative on Caliban and Ariel, the original inhabitants of the island Prospero later took over.

ANSWER: Aimé **Césaire** [or Aimé Fernand David **Césaire**]

[10] In a more distant echo of Homer's *Odyssey* and *Iliad*, this author's *Omeros* depicts Hector and Achilles's competition for Helen. He also wrote “A Far Cry from Africa.”

ANSWER: Derek (Alton) **Walcott**

[10] Jean Rhys' *Wide Sargasso Sea* reimagines the story of Bertha Mason, “the madwoman in the attic” from this Charlotte Brontë novel. This novel's title protagonist ultimately tells readers she married Mr. Rochester.

ANSWER: ***Jane Eyre*** (HK)

19. This compound alters the arrangement of cortical microtubules, resulting in short, fat plant cells. For 10 points each:

[10] Name this gaseous plant hormone with formula  $C_2H_4$ , whose effects include promotion of leaf abscission and fruit ripening.

ANSWER: **ethylene** [or **ethene**]

[10] Ethylene also promotes this cellular state characterized by the loss of the ability to divide, explaining why cut flowers come with salts that inhibit ethylene production. Shortening of telomeres also induces this phenomenon.

ANSWER: cellular **senescence** [prompt on **aging**]

[10] Independent of telomere length, cells senesce when they detect accumulated oxidative damage by this group of compounds including superoxides and peroxides. These compounds are implicated in aging.

ANSWER: **reactive oxygen species** [or **ROS**; prompt on free **radicals**] (HK)

20. A group of refugees fleeing this city in 1654 were allowed to stay in New Amsterdam only after governor Peter Stuyvesant was ordered not to interfere. For 10 points each:

[10] Name this northeastern city now nicknamed “Brazilian Venice,” an early slave port in the New World as the capital of Dutch Brazil. The Portuguese expelled its Jewish community, the first in the Americas.

ANSWER: **Recife** [accept **Mauritsstad**]

[10] Slavery was abolished in Brazil only after it passed the Golden Law in 1888 under this last Brazilian emperor, who was overthrown the following year by disaffected army officers despite his great popularity.

ANSWER: **Pedro II** [prompt on **Pedro**]

[10] This crop was the primary one grown by slaves in Brazil as well as the Caribbean, and Brazil remains its largest producer in the world today. It was sold in namesake “loaves” after molasses was removed during refinement.

ANSWER: **sugarcane** (MGS)

### *Tiebreaker*

This character opens Act 1 by declaring “Good morning to the day; and next, my gold.” For 10 points each:

[10] Name this greedy character, who learns from his servant Mosca that an inheritance-seeking sycophant has inscribed his name on a huge gold plate.

ANSWER: **Volpone**

[10] *Volpone* was written by Ben Jonson, who also wrote a play in which the title conman Subtle pretends to use this art to transmute Sir Epicure Mammon’s base metals into gold.

ANSWER: **alchemy** [accept *The Alchemist*]

[10] Mosca daringly tells Volpone that this woman, Corvino’s wife, is “lovely as your gold.” Jonson asks a woman with this name to “leave a kiss but in the cup” in a popular English song.

ANSWER: **Celia** [accept “To **Celia**”] (DS)