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**Collaboration vIa Network (MRNA VACCINE)**

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**Packet 1: "We didn't want MRNA VACCINE but we got it"**

1. **The sisters Maria and Nathalia Milstein theorize that a musical theme in one of this author's novels came from a Gabriel Perne D Minor Sonata. One of this author's characters receives a magic lantern that projects images of children's books and seems to distort his bedroom. The narrator receives habitual goodnight kisses from his mother in an "overture" by this author that begins "for a long time I went to (\*) bed early."** C. K. Scott Moncrief translated the titles of books by this author as *Cities of the Plain* and *Within a Budding Grove*. The narrator remembers his childhood at Combray after biting into a tea-soaked madeleine in this author's book *Swann's Way*. For 10 points, name this French modernist who wrote *In Search of Lost Time*.

ANSWER: Marcel Proust

<Henry Atkins, European Literature>

2. **In a book partially named for Caliban, Silvia Federici argues Marxist historians ignore these events in favor of peasant revolts. In one book, Lyndal Roper uses visual and written depictions of these events in Southern Germany to psychoanalyze the "craze" around them. Innocent VIII issued a bull granting papal authority in these events to Heinrich Kramer. Wolfgang Behringer links the rise of these events to agrarian crises during the (\*) "little ice age." A treatise called the *Malleus Maleficarum* describes torture often used in these events to force women to confess to crimes like sex with the devil. For 10 points, identify these events, widespread in early modern Europe which often ended with victims burned at the stake.**

ANSWER: witch trials [or witch hunts; or witch craze; or answers like witches being burned at the stake before mention; prompt on trials]

<Chandler West, European History>

3. **Since they supposedly gave him migraines, a former governor of this island banned white buildings; that governor of this island conveniently held shares in its only paint company. It's not Jamaica, but the sand-floor "Snoa" in this island's capital is the oldest surviving synagogue in the Western Hemisphere. Pastel facades line St. Anna Bay in this island's Punda district, which is connected to Otrobanda by a wooden pontoon bridge that swings open to accommodate cruise ships. A bitter citrus fruit called the laraha is native to this island, which is the largest whose residents speak the Creole language (\*) Papiamentu. This island's capital of Willemstad is the largest city in the Dutch Caribbean. A distinctive blue liqueur is named for, for 10 points, what constituent country of the Netherlands that makes up the ABC Islands along with Aruba and Bonaire?**  
Answer: **Curaçao** [prompt on Netherlands Antilles or ABC Islands before mention]  
<Jacob Augelli, Other>

4. **The gene E·R·A·F codes for a chaperone for this protein. Crocodile icefish lack this protein as adults, which has a Soret peak at 412 nanometers. Cytochrome b-5 is responsible for reducing this protein; that protein is mutated in the Fugate family of Kentucky, who were treated with methylene blue. The movement of a proximal histidine transitions this protein into a less active form. One allosteric regulator of this protein, 2,3- (\*) B-P-G, helps to facilitate the transition into its T state from the R state, which gives it a sigmoid binding curve. A glutamic acid to valine mutation in this protein causes the sickling of red blood cells. For 10 points, name this protein responsible for the transport of oxygen to the body.**  
ANSWER: **hemoglobin**  
<Zachary Beickman, Biology>

5. **A rejected monument to Christopher Columbus may have been repurposed for a 322 foot-tall statue of this person that depicts them standing atop a stack of ships. Marie-Anne Collot, the daughter-in-law of the primary sculptor, designed the face for a statue of this person that stands atop a trampled snake. A massive sledge run on bronze spheres was built to transport a 1500 ton granite monolith for a statue of this person. The (\*) Thunder Stone is the base for a statue of this person designed by Étienne Falconet. This ruler financed the artists Andrew Matveev and John Nitkin to travel to Europe, just as he had done in his "Grand Embassy." For 10 points, *The Bronze Horseman* is an equestrian statue of what Russian tsar, who founded the city in which it stands?**  
ANSWER: **Peter the Great** [or Peter I; or Pyotr Alekséyevich; accept Pyotr in place of "Peter"; prompt on Peter alone]  
<Henry Atkins, Painting/Sculpture>

6. **This thinker foreshadowed logical positivists like Carnap in an essay section titled "Abuse of Words," which criticizes metaphysics for using words that don't signify anything. In one book, this thinker argues ideas like beauty and theft are "mixed modes" that rely on many different concepts to define. This thinker argued that sound and smells were only subjective (\*) secondary qualities of an object. An essay by this thinker distinguishes between simple ideas gained from sensation and complex ideas formed by reflection; that essay also argues against the existence of innate ideas and in favor of the mind being an empty slate, or a "tabula rasa." For 10 points, name this English thinker who wrote *An Essay Concerning Human Understanding*.**  
ANSWER: John **Locke**  
<Erik Christensen, Philosophy>

7. **This character says that to banish them would be to banish “all the world” during a mock interview that switches roles halfway through. This character gives a speech saying “the better part of valor is discretion” before stabbing a corpse in the leg. This character visits Justice Shallow on a recruiting mission and reminisces “we have heard the (\*) chimes at midnight.” This character receives the rebuke “I know thee not old man” after traveling to London with Pistol. This character plays dead at the Battle of Shrewsbury and falsely claims to have killed Hotspur. This patron of the Boar’s Head Inn disrupts the coronation of his former drinking companion. For 10 points, name this obese knight, a friend of Prince Hal in both parts of *Henry IV*.**

ANSWER: **Falstaff** [or Sir John **Falstaff**; or “Jack” **Falstaff**]

<Henry Atkins, British Literature>

8. **This phenomenon causes a liquid mixture containing alpha-cyclodextrin and 4-methylpyridine to freeze when heated. The chemical shift of groups displaying this phenomenon strongly varies depending on the concentration and temperature, making those groups hard to identify with N-M-R. Two parts of Lipinski’s rule of five limit the number of sites that participate in this phenomenon. In I-R spectroscopy, this phenomenon broadens the absorption peak of (\*) alcohols. Gas-phase carboxylic acids strongly deviate from the ideal gas law because of this phenomenon, which causes them to dimerize. This phenomenon causes the high boiling points of ammonia and hydrofluoric acid. For 10 points, water ice forms hexagonal lattices because of what attraction between an electronegative atom and an atom of a namesake element?**

ANSWER: **hydrogen bonding** [or **H bonding**; prompt on bonding]

<Gerhardt Hinkle, Chemistry>

9. **A sacred site in this country contains a “triangle rock” consisting of a natural triangular passageway formed by a huge stone leaning against a vertical stone surface. One ethnic group from this country, which has a mana-like concept called mabui and whose holiest site is the aforementioned Seefa-utaki, has religious rituals conducted by noro priestesses and believes that the gods crossed the ocean from Nirai Kanai. Another ethnic group from this country practices a “sending-off” ceremony in which they sacrifice a (\*) bear. In this country, salt is traditionally used to ward off evil spirits. Another form of ritual purification in this country uses a wand with attached paper streamers. In this country, sacred spaces are bounded by thick hemp ropes, while shrines’ entrances consist of vermilion gates called torii. For 10 points, name this home country of Shinto.**

ANSWER: **Japan** [or **Nihon**; or **Nippon**]

<Gerhardt Hinkle, Religion>

10. **A ruler of this empire banned talking to trees as part of conservation efforts on Kulen Mountain. This empire contained 121 “Houses of Fire” that were rest stations for travelers. This empire’s collapse was followed by periods named for the cities of Chaktomuk and Longvek. A king of this empire was syncretized with the bodhisattva Avalokiteshvara [“UH-vuh-loh-kih-TAYSH-ver-uh”] and revived Buddhism with sites like Ta Prohm and Neak Pean. This empire relied on massive (\*) reservoirs called *baray* for irrigation and fell due to invasions from the Ayutthaya [“ah-yoo-tah-YAH”] Kingdom. The world’s largest religious complex is a Buddhist site built by this empire which had earlier been led by Jayavarman the Great. For 10 points, name this empire whose ruler Suryavarman II constructed Angkor Wat in modern-day Cambodia.**

ANSWER: **Khmer** Empire [accept **Angkorian** Empire before “Angkor” is read; prompt on the Cambodian Empire before “Cambodia” is read]

<Vikshar Athreya, World History>

11. **The long line, unlike the real line, lacks the “second” type of this property, because it fails to have a basis with this property. A space has the Lindelöf property, which is weaker than compactness, if every open cover has a subcover with this property. If a space has a dense subset with this property, it is said to be separable. Sigma-algebras are defined as being closed under unions and intersections with this property. The power set of the (\*) integers does [*emphasize*] not have this property by Cantor’s Theorem. Sets with cardinality aleph-null are the largest sets with this property, which the integers have but the real numbers do not. For 10 points, name this property, which sets have if they are in bijection with a subset of the natural numbers.**

Answer: countability [or word forms like being countable]

<Beni Keown, Other Science>

12. **A jazz standard named after this country, which descends chromatically from D flat major seven to A flat major seven using ii-V [“two-five”] progressions in its B section, was first recorded by the Miles Davis Quintet in 1954. Drummer Tony Allen is often credited with co-founding a genre in this country that fused jazz, funk, rock, and a nearby country’s genre of highlife. Sonny Rollins wrote a standard whose name is this country spelled backwards. An artist from this country wrote the song (\*) “Coffin for Head of State” after the fatal defenestration of his grandmother, which was in response to his criticism of its military with the lyrics “attention, quick march, slow march, left turn, right turn” on the album *Zombie*. The songs “Expensive Shit” and “Water No Get Enemy” were recorded in this country with the Afrika ‘70 band. For 10 points, name this country where Fela Kuti developed Afrobeat.**

ANSWER: Nigeria [or Federal Republic of Nigeria]

<Aidan Fein, Other Fine Arts>

13. **On hearing of this person’s death, Holly Near composed the song “Singing for Our Lives.” Harry Britt was chosen to replace this person in one position instead of the campaign manager Anne Kronenberg. This person helped prepare Sally Gearhart to debate John Briggs on a ballot measure removing certain teachers from public schools. This person’s camera shop ownership inspired the title of a biography by Randy (\*) Shilts. Cleve Jones organized a march after hearing this person’s murderer received a lesser charge due to the Twinkie Defense. The White Night Riots erupted after the killer of this “Mayor of Castro Street” and George Moscone was charged with manslaughter. Dan White assassinated, for 10 points, what openly gay member of the San Francisco Board of Supervisors?**

ANSWER: Harvey Milk

<Eric Mukherjee, American History>

14. **In a novel titled in reference to this other [*emphasize*] novel, an author creates the fictional character Ismail Smile, who travels to America after becoming obsessed with a New York-based Bollywood star. This book, which inspired the title of a 2019 Salman Rushdie novel, appears in the title of a story about a character whose literary output includes a series of feigned diatribes against Paul Valéry. In that story, the narrator praises an (\*) incomplete version of this novel produced by a French symbolist without any reference to the original. This novel, which Pierre Menard is the “author of” in a Borges story, follows a character who wears a barber’s basin as a helmet and dreams of fighting giants at an inn. For 10 points, name this novel about a deranged knight by Miguel Cervantes.**

ANSWER: Don Quixote [or Quichotte; or “Pierre Menard, Author of the Quixote]

<Henry Atkins, World Literature>

15. A 2016 Daniel A. Bell book titled for this country argues for political meritocracy and representing future generations in decision making. Julia Lovell discussed the ideas of people like Bob Avakian and Charu Majumdar in her “global history” of a school of thought from here. Theda Skocpol compares this country’s history to that of Russia and France in *States and Social Revolutions*. Kenneth Pomeranz argues that a lack of coal resources caused this country to fall behind in capital accumulation in the title (\*) *Great Divergence*. Graham Allison coined the term “Thucydides Trap” to describe the situation that makes war likely between this country and the United States. A thinker from this country justified violence with the quip “political power grows out of the barrel of a gun.” For 10 points, name this country whose classical schools of thought include Legalism and Confucianism.

ANSWER: China

<Henry Atkins, Social Science>

16. The reader is told to labor around the wheel of this goddess in the Chaldean Oracles, which say that this goddess gave birth to the World Soul. According to the *Catalogue of Women*, Iphigenia was saved from being sacrificed by becoming this goddess. The *Theogony* unusually describes this goddess as having privilege over earth, sky, and sea since Zeus honored her above all. This goddess's main cult center was Lagina [“LAH-jina”]. This goddess, whose companions included the (\*) *lampades* and the *empousai*, carried a pair of torches while helping Demeter search for Persephone. This underworld goddess was accompanied by a black dog and was often depicted with three faces. For 10 points, name this Greek goddess of crossroads and magic.

ANSWER: Hecate (“HECK-uh-tee”)

<Gerhardt Hinkle, Mythology>

17. This kingdom’s predominant ethnic group erected many “cross-stones,” steles [“stel-uh”] with crosses decorated with elaborate interlace patterns, which are also called *khachkars*. In a popular medieval legend from this kingdom, Saint Acacius led a group of ten thousand Roman soldiers who converted to Christianity and were subsequently martyred. A ruler of this kingdom abandoned the worship of deities like Anahit [“AH-na-heet”] in favor of (\*) Christianity to curb Sassanian influence and built the world’s oldest cathedral in Etchmiadzin [“ETCH-mee-ad-zin”]. This country’s ruler Tiridates [tee-ruh-DAY-teez] III was converted to Christianity by Gregory the Illuminator, who founded its namesake Apostolic Church. For 10 points, name this first officially Christian country, which formerly contained its national symbol Mount Ararat.

ANSWER: Armenia [or Havastan]

<Gerhardt Hinkle, Other History>

18. Inclusions of calcium silicate perovskite were recently discovered in this material, which can be used to create a 1240 [“one thousand two hundred and forty”] nanometer Raman laser. Two rare defects in this material recently shown to contain titanium are denoted O-K-1 and N-3. More common defects in this material are classified depending on their configuration as A, B, or C. Optically active defects in this material, called color centers, are being researched for use as qubits, with the best-characterized being (\*) nitrogen-vacancy centers. Traces of boron turn this material blue, while nitrogen defects make it yellow or brown. This material is used in namesake high pressure “anvil cells” and is often made by the high-pressure high-temperature process or by chemical vapor deposition. For 10 points, name this transparent allotrope of carbon, the hardest naturally-occurring material.

ANSWER: diamond [prompt on carbon or C before mentioned]

<Gerhardt Hinkle, Physics>

19. The main theme of one work for this instrument was based on two trios titled *Christe* by André Raison. One composer's *Praeludia* for this instrument includes one in F-sharp minor that he likely played using a nonstandard tuning. The *stylus fantasticus* originated from music for this instrument, whose technique had North and South German schools. The opening of one work for this instrument builds up a diminished seventh chord one note at a time after a (\*) descent in parallel octaves that has led some to dispute its attribution. One virtuoso of this instrument walked over 400 kilometers to Lübeck to hear the playing of another, Dieterich Buxtehude. For 10 points, *Toccatà and Fugue in D minor* is among J.S. Bach's works for what instrument commonly found in churches?

ANSWER: organ [or pipe organ; or church organ]

<Gerhardt Hinkle, Classical Music>

20. Tobias Wolff recalls changing his first name in honor of this author in his memoir *This Boy's Life*. An autobiographical novel by this author includes the first recorded use of hallucinating pink elephants, a stereotypical trope for alcoholism, and discusses "white logic." This author owns a place across the valley from Frank Martin's "drying out" facility in Raymond Carver's story "Where I'm Calling From." In a story by this author of *John Barleycorn*, a character repeatedly remembers the advice of a man from (\*) Sulphur Creek. In that short story by this author, a man dies after snow falling from a tree causes him to fail to perform the title action while living in the Yukon. For 10 points, name this author of "To Build a Fire" and *The Call of the Wild*.

ANSWER: Jack London [or John Griffith Chaney]

<Andrew Hanna, American Literature>

1. Testing for these conditions can be done via RAST, or via prick or scratch testing on the skin. For 10 points each:  
[10e] Name these exaggerated immune reactions usually treated by antihistamines. Ragweed and pollen often cause the “seasonal” form of these reactions.

ANSWER: **allergies**

[10m] Severe allergic reactions like anaphylaxis are often mediated by this rarest antibody isotype. The monoclonal antibody omalizumab [“OH-muh-LIZ-oo-mab”] binds to antibodies of this isotype.

ANSWER: IgE [or immunoglobulin E]

[10h] People who are allergic to this compound can anaphylax in response to mRNA-based COVID vaccines. This compound is also used as an osmotic laxative.

ANSWER: **polyethylene glycol** [or **PEG**; or **polysorbate**; do NOT accept or prompt on “ethylene glycol”]

<Eric Mukherjee, Biology>

2. This phenomenon arises from cognitive interference, and errors made as a result of it can show up as error-related negativity on an EEG. For 10 points each:

[10m] Name this phenomenon where incongruent stimuli like the word “green” printed in red ink elicit a delayed response.

ANSWER: **Stroop** effect

[10h] Error-related negativity is a component of these stereotyped electrophysiological responses that are time-locked to a stimulus. Another component of them is P-300, which is elicited in the “oddball” paradigm.

ANSWER: **event-related potentials** [or **ERPs**]

[10e] Stroop tasks can aid diagnosis of this condition, whose inattentive form is more commonly diagnosed in girls. Amphetamines like Ritalin and Adderall are often used to treat it.

ANSWER: **ADHD** or [**attention-deficit/hyperactivity disorder**; accept **ADD** or **attention-deficit disorder**]

<Vishal Puppala, Social Science>

3. The Hothead and Glasses get in a fight in a play by this author that is now banned from being performed in his country. For 10 points each:

[10h] Name this author who was inspired by a false lung cancer diagnosis to write a novel which depicts the journeys of the travelers “I” and “You” and was translated into English by Mabel Lee.

ANSWER: **Gao** Xingjian [accept names in either order] (The novel is *Soul Mountain*.)

[10m] The aforementioned Gao play depicts the Old Man, Girl, Mother, and Carpenter discussing their reasons for traveling into the city and has this English title. Cherie and Bo Decker take shelter in Grace Hoylard’s diner in a William Inge play with this title.

ANSWER: *The **Bus Stop***

[10e] Gao translated much of the work of this author into Chinese. Vladimir and Estragon await the arrival of the title character, who never appears, in this Irish Absurdist’s play *Waiting for Godot*.

ANSWER: Samuel Barclay **Beckett**

<Chandler West, World Literature>

4. The first movement of this work consists entirely of the note A in various octaves except for the resolution to D at the final note. For 10 points each:

[10h] Name this eleven-movement György Ligeti [“JURJ LIH-geh-tee”] work for solo piano where each movement uses one more pitch class than the preceding one, with the final movement using all twelve notes.

ANSWER: Musica ricercata (“riss-ur-kah-tuh”)

[10e] The last movement of *Musica ricercata* is a ricercar, which is a specific type of this genre. Preludes are paired with pieces in this genre of imitative counterpoint in J. S. Bach’s *Well-Tempered Clavier*.

ANSWER: fugue [or fuga]

[10m] The fugal subject of that ricercar is one of these constructs, which use each note of the chromatic scale exactly once. They were used by Second Viennese School composers like Arnold Schoenberg since they avoid tonality.

ANSWER: tone rows

<Gerhardt Hinkle, Classical Music>

5. Jean-Henri Dunant wrote an account of this battle, which inspired his creation of the Red Cross. For 10 points each:

[10m] Name this battle in which an allied Franco-Sardinian force defeated Franz Joseph I. The Armistice of Villafranca was signed after this battle leading the Count of Cavour to resign.

ANSWER: Battle of Solferino

[10e] This French emperor allied with Sardinia during the Second Italian War of Independence. This emperor, who was deposed after the Franco-Prussian war, was a nephew of an earlier French emperor with the same name.

ANSWER: Napoleon III [or Charles Louis Napoléon Bonaparte; prompt on Napoléon or Louis-Napoléon Bonaparte or Bonaparte]

[10h] This agreement between Cavour and Napoleon III led to French intervention during the Second Italian War of Independence. In this agreement, the French and Piedmontese agreed to divide up Italy after a victory against Austria.

ANSWER: Plombières Agreement [or the Treaty of Plombières; or Accordi di Plombières; or Accordi di Plombières; or Entrevue de Plombières]

<Vikshar Athreya, European History>

6. In a book called *After [this concept]*, Alasdair MacIntyre criticizes the Enlightenment’s focus on the individual and argues that modern ethics had become disconnected from society. For 10 points each:

[10m] Name this concept, which names a school of ethics that argues that morality is derived from the character of a person rather than their actions.

ANSWER: virtue [or *After* Virtue; or virtue ethics]

[10e] A major foundation of virtue ethics is this dialogue, which argues philosopher kings must have the virtues of wisdom, courage, justice and temperance. This dialogue also includes the Allegory of the Cave.

ANSWER: Plato’s Republic

[10h] Part of the revival of virtue ethics during the 20th century included this thinker’s collection *Virtues and Vices*. This thinker argues in *Natural Goodness* that people who commit vices ignore reasons to make good actions because of a flawed will.

ANSWER: Philippa Foot

<Erik Christensen, Philosophy>



7. The Clarity Act was passed to make sure any further referenda regarding this cause would have a clear and concise question on its ballots. For 10 points each:

[10m] Identify this cause, which lost a referendum in 1995 by less than one percent. This cause became more popular after the failure of the Meech Lake Accord.

ANSWER: **Quebec independence** [accept any answer involving **sovereignty** for **Quebec**; or **Quebec's separation** from Canada]

[10e] The first referendum on Quebec independence was won by the *Non* side, partly due to the support of this Québécois Prime Minister, who governed Canada during the 1970s and the October crisis.

ANSWER: **Pierre Elliot Trudeau** [or **PET**; prompt on **Trudeau**]

[10h] *Two answers required.* In a speech after the 1995 referendum, Yes campaigner Jacques Parizeau ["pa-ree-zo"] controversially blamed their loss on these two things, one of which has contributed to the perception of Quebec nationalism as xenophobic.

ANSWER: **money** AND the **ethnic vote** [or **l'argent** AND le **vote ethnique**]

<Erik Christensen, Other History>

8. In this country, the dissolution of the Future Forward Party triggered protests demanding the resignation of Prayut Chan-o-cha. For 10 points each:

[10e] Name this country, where a hashtag meaning "We Are Grown-Up Now and Can Choose for Ourselves" trended in response to King Rama X asking citizens to elect "good people" to office.

ANSWER: **Thailand**

[10m] During the 2020-21 Thai protests, the group Free Thoey advocated legalizing this practice. Taiwan was the first Asian country to legalize this practice in 2019, which is often conducted at a facility honoring the Rabbit God.

ANSWER: **same-sex marriage** [or equivalents such as **gay marriage**; prompt on **marriage**]

[10h] The protests adopted this 2007 K-pop song as an anthem. This debut song of Girls' Generation was also the anthem of the 2016 Ewha women's university protests and the movement to overthrow Park Geun-Hye ["goon hay"].

ANSWER: "**Into the New World**" [or "**dashi mannan segye**"]

<Eric Mukherjee, Other>

9. In a common lab test named for these features, they turn a bright yellow color when exposed to sodium. For 10 points each:

[10e] Name these regions of superhot gas that are commonly produced in labs by a device named for Robert Bunsen.

ANSWER: **flames** [or **fires**]

[10m] Flame tests often use a wire made of this alloy to introduce the analyte to the flame. This alloy is commonly used to make resistor wires due to its low electrical conductivity.

ANSWER: **nichrome** [or **NiCr**; or **nickel-chromium**; or **chromium-nickel**]

[10h] More precise versions of atomic emission spectroscopy use these plasmas instead of flames. These plasmas can be produced by exposing a gas to a rapidly oscillating magnetic field and introducing a spark.

ANSWER: **inductively coupled** plasmas [or **ICPs**]

<Beni Keown, Chemistry>

10. George Lamming wrote *In the Castle of My Skin* while living in this city, and fictionalized a journey to this city in *The Emigrants*. For 10 points each:

[10m] Name this city where the radio program *Caribbean Voices* helped popularize the work of Kamau Brathwaite and Una Marson during the 1950s. In one novel, Archie Jones meets Clara at a New Year's Party in this city.

ANSWER: **London**, U.K.

[10e] This future Nobel Laureate spent time as a presenter on *Caribbean Voices*. This Trinidadian author wrote *A Bend in the River* and *A House for Mr. Biswas*.

ANSWER: V. S. **Naipaul** [or Sir Vidiadhar Surajprasad **Naipaul**]

[10h] This author of *A Brighter Sun* was another regular on *Caribbean Voices*. This Trinidadian-born author used a creolised "nation language" to write the experimental novel *The Lonely Londoners*.

ANSWER: Sam **Selvon**

<Henry Atkins, British Literature>

11. One country celebrates Children's Day to honor child soldiers killed at the Battle of Acosta Ñu during this conflict. For 10 points each:

[10e] Name this 1860s conflict in which Brazil, Argentina, and Uruguay formed a namesake numerical coalition, which devastated the population of Paraguay.

ANSWER: War of the **Triple Alliance** [prompt on the Paraguayan War]

[10m] The Duke of Caxias ["kah-SHEE-ahss"] ordered a massive road to cut through this region to flank Paraguayan defenses. Quechua and Guarani armies fought with tanks in a later war between Bolivia and Paraguay over part of this oil-rich region.

ANSWER: **Chaco** [or **Gran Chaco**; or Dry **Chaco**; or the **Chaco** Plain; or Paraguayan **Chaco**]

[10h] Divers attempted to lodge torpedoes in the banks of the Paraguay River around this fort to destroy Brazilian ironclads. The fall of this "Gibraltar of South America" is considered the turning point in the war.

ANSWER: Fortress of **Humaitá**

<Vikshar Athreya, World History>

12. Solutions to the Dirac equation can be interpreted as the product of one of these constructs and a plane wave. For 10 points each:

[10h] Name these constructs. Unlike vectors, these constructs become their negatives under a full rotation.

ANSWER: **spinors** [or Dirac **spinors**]

[10m] Dirac spinors are used to describe fundamental particles of this type. These particles' wavefunctions are antisymmetric under exchange.

ANSWER: **fermions**

[10e] Because spinors must be rotated twice to return to their original orientation, one can think of spinors as rotating along one of these shapes. These non-orientable shapes can be made by putting a twist in a strip of paper.

ANSWER: **Möbius strips** [or **Möbius bands**]

<Beni Keown, Physics>

13. In a recent essay, Jesse McCarthy wrote about wanting more out of this artist's paintings. For 10 points each:  
[10h] Name this artist who appears on the cover of McCarthy's collection *Who Will Pay Reparations on My Soul?* He's not Caravaggio, but this artist included a self portrait holding a piece of paper with his signature on it on the far left of his *The Calling of Saint Matthew*.

ANSWER: Juan de **Pareja** ("puh-RAY-huh")

[10e] Juan de Pareja spent much of his life enslaved by this Spanish artist. This artist freed Pareja in 1650, shortly before beginning work on his masterpiece *Las Meninas*.

ANSWER: Diego **Velázquez** [or Diego Rodríguez de Silva y **Velázquez**]

[10m] One of the few surviving paintings by Pareja depicts the flight into Egypt. This early renaissance master included a depiction of the flight into Egypt as part of his fresco cycle of the life of Christ in the Arena Chapel.

ANSWER: **Giotto** di Bondone [or **Giottus**]

<Chandler West, Painting/Sculpture>

14. While exempt from many religious laws, Jewish children are still involved in certain religious rituals. For 10 points each:

[10m] If you are the youngest child in your family, during a Passover seder you may take part in making these statements. These statements all start with Ma Nishtana and are part of a call and response tradition.

ANSWER: asking the **Four Questions**

[10e] In the eyes of Jewish law, after this event you officially become an adult. During these events, which take place at age 13, you read a specific Torah portion. The afterparties, while common, are not required by halakha.

ANSWER: **bar mitzvah** [or **bat mitzvah**, or **b'nai mitzvah**]

[10h] After a bar or bat mitzvah, one is required to follow the *mitzvot*, which is a list of this many commandments. Most of them can no longer be followed due to the destruction of the Second Temple.

ANSWER: **613**

<Liam Thompson, Religion>

15. Answer the following about gold in Colonial American poetry, for 10 points each:

[10m] *Description acceptable*. This person's love is prized above "all the riches that the East doth hold" and "whole mines of gold" in a poem. That poem addressed to this person begins "If ever two were one, then surely we."

ANSWER: Anne **Bradstreet's husband** [or **Simon Bradstreet**; prompt on **husband** alone or answers mentioning Anne Bradstreet's **lover** or similar; do NOT accept or prompt on "Anne Bradstreet" alone] (The poem is "To My Dear and Loving Husband.")

[10e] Phillis Wheatley describes a goddess's "golden hair" in a poem titled for this man, which calls him "his Excellency." Parson Weems wrote a famous biography of this man that contained many popular stories about him.

ANSWER: George **Washington** [or "His Excellency General **Washington**"]

[10h] This author described his heart being "Full of thy golden altar's fire" in "The Ebb and Flow." This author wrote "Make me, O Lord, thy Spining Wheele compleate" in his poem "Huswifery."

ANSWER: Edward **Taylor**

<Chandler West, American Literature>

16. In an installation piece, viewers are encouraged to take pieces of this substance until the 175-pound pile of it eventually disappears. For 10 points each:

[10h] Name this substance, which Cuban-American artist Felix Gonzalez-Torres used in installations such as *Untitled (Portrait of Ross in L.A.)*.

ANSWER: **candy** [or Chupa chups **lollipops**]

[10e] *Untitled (Portrait of Ross in L.A.)* is an “allegorical portrait” of Ross Laycock’s death from this disease, which caused a 1980s epidemic and was the subject of a poster with a pink triangle reading “Silence = death.”

ANSWER: **AIDS** [or **acquired immunodeficiency syndrome**; prompt on **HIV** or **human immunodeficiency virus**]

[10m] This other artist who died from AIDS-related complications used his art to raise AIDS awareness, creating the captions “Safe sex” and “Ignorance = fear.” This artist’s *Radiant Baby* features his trademark faceless figures.

ANSWER: Keith **Haring** [or Keith Allen **Haring**]

<Aidan Fein, Other Fine Arts>

17. Philippa tells this character “In Paradise you will be the great artist that God meant you to be!” For 10 points each:

[10m] Name this character, who in an Isak Dinesen short story explains how a feast she prepared by spending her lottery winnings was not a “proof of loyalty and self-sacrifice,” but rather a last expression of her artistry as a chef.

ANSWER: Madame **Babette** Hersant [or Babette **Hersant**]

[10e] “Babette’s Feast” is a short story by Isak Dinesen, an author from this country, which was also home to Hans Christian Andersen.

ANSWER: **Denmark** [or **Danmark**]

[10h] Philippa’s promise of divine artistry to Babette is echoed earlier in the story by Achille [“ah-SHEEL”] Papin, who taught Philippa this activity.

ANSWER: opera **singing** [prompt on **music**]

<Lia Rathburn, European Literature>

18. *Description acceptable.* Högni and Heðinn [“HEH-thin”] battle endlessly because Högni’s sword Dáinsleif has this curse, which causes him to reject Heðinn’s attempt to reconcile. For 10 points each:

[10h] Describe this curse, the first of three curses Dvalinn and Durinn place when making the sword Tyrfing for Svafrlami [“suh-VAF-lami”]. The other two curses are that it will cause three great evils and kill Svafrlami himself.

ANSWER: it has to **kill** someone whenever it’s drawn [or it can’t be sheathed **without killing** someone; or anything that’s reasonably equivalent]

[10e] Dáinn and Dvalinn introduced these things to the elves and dwarves. Odin hanged himself from Yggdrasil for nine days to learn this writing system.

ANSWER: **runes** [or **rúnar**; or **rúnir**]

[10m] Dáinn and Dvalinn are also the names of two of these animals, who live in Yggdrasil and eat its leaves along with Dúneyrr and Duraþrór [“DU-ra-thror”]. That group of these animals may represent winds, elements, or seasons.

ANSWER: **stags** [or **hirtir**; or **hjörtr**; or **harts**; or red **deer**]

<Gerhardt Hinkle, Mythology>

19. This group of minerals makes up about 41% of the earth's crust. For 10 points each:

[10e] Name this class of tecto-silicate minerals that makes up the continuous branch of Bowen's reaction series. The plagioclase variety of this mineral are all triclinic in structure.

ANSWER: **feldspars** [or plagioclase **feldspar**]

[10h] This term refers to the mineral at its most pure state for a specific element or chemical. Feldspar has three; one of them, orthoclase, is the most pure feldspar in terms of its potassium content.

ANSWER: **endmember**

[10m] Goldich's dissolution series, which mirrors Bowen's reaction series, states that the minerals which crystallize first also undergo this process first. Sedimentary rock is formed from the products of this process.

ANSWER: **weathering**

<Zachary Beickman, Other Science>

20. IBM Founder Herman Hollerith filed his first patent for a punch card tabulator for usage for this event in 1890.

For 10 points each:

[10e] Name this survey used to count the United States population every 10 years.

ANSWER: U.S. **Census**

[10m] The Second War Powers Act repealed census confidentiality, allowing FBI agents to identify these people. Failing a "loyalty questionnaire" given to these people could lead to relocation to the Tule Lake camp.

ANSWER: **Japanese**-Americans [or **Nikkei**; or **Nisei**; or **Issei**]

[10h] In this year, census takers discovered that a third of census records since 1790 had been destroyed. Legislation passed in this year ignored the decision in *Johnson v. M'Intosh* ["mackintosh"] and led to the Treaty of New Echota.

ANSWER: **1830**

<Liam Thompson, American History>