

## Detroit Country Day Academic Regular Tournament

### Packet 9

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1. **The rate of change of this quantity is given by the dominant eigenvalue of the Leslie matrix, and Watterson's estimator is equal to four times the mutation rate and this quantity. This quantity can be estimated with the Lincoln-Petersen method. Genetic diversity decreases during this quantity's namesake (\*) bottlenecks, where it sharply plummets. This quantity is assumed to be infinitely large in Hardy-Weinberg equilibrium, and this quantity increases exponentially before it approaches the carrying capacity, where it levels out. For 10 points, name this quantity denoted capital N, the measure of the number of individuals in a region.**

ANSWER: **population** size [accept capital **N** before mention] <Biology, Sun>

One ruler of this dynasty sent the Duke of Alba to the Netherlands, for 10 points each.

[10] Name this dynasty, whose Spanish rulers included Philip II. Due to long-term inbreeding, they developed a pronounced namesake jawline.

ANSWER: **Hapsburgs** [or **Habsburgs**]

[10] Philip II's forces won this decisive battle against the forces of Ottoman Sultan Selim II in the Gulf of Patras. The victor of this battle was Philip's half-brother, John of Austria.

ANSWER: Battle of **Lepanto**

[10] Philip II signed the treaty of Cateau Cambresis with a ruler who had this name. Another ruler who had this name won the Battle of the Spurs.

ANSWER: **Henry** [accept **Henry II**; accept **Henry VIII**] <European History, Pavlou, Ed.>

2. **The name of the afterworld for the righteous in Islam, *Jannah*, means this kind of place. After spending 12 days in one of these places, Baha'u'llah founded Bahai, an event annually celebrated during the Festival of Ridvan. Immediately after the Last Supper, Jesus went to one of these places named (\*) Gethsemane ["geth-SEH-muh-nee"]. Many Zen temples contain these places filled with rocks. One of these places contained the Tree of Life and the Tree of the Knowledge of Good and Evil. For 10 points, Genesis recounts the Fall of Man from what kind of place named Eden?**

ANSWER: **gardens** [accept **paradise**] <Religion, Suh>

Answer the following about a crime you would hopefully never commit. For 10 points each,

[10] Being convicted of these crimes, contrasted with misdemeanors, leads to loss of freedoms. This type of crime is by definition punishable by at least a year of jail time, and examples include arson and murder.

ANSWER: **felony**

[10] Say the murderer is arrested and forced to appear before court, however they can't afford a lawyer. By law, the state must appoint one of these lawyers to defend them in court regardless.

ANSWER: **Public Defender**

[10] Repeat offender laws known by this baseball metaphor often give people with criminal records huge sentences for small crimes. *Ewing v. California* infamously upheld a 25-to-life sentence for the theft of three golf clubs under one of these laws.

ANSWER: **three-strike** laws [accept answers that describe any aspect of a **strikeout**]  
<Social Science, Gayden>

3. **This author created a narrator who asks questions like “Whence does the Earth procure its food?” and earlier sees seven dogs who are also great musicians. This author of *Investigations of a Dog* wrote of another character who is condemned to “death by drowning” by his father. In a short story by this author, the Officer is stabbed by a machine which should’ve inscribed the words (\*) “Be Just.”** This author of *In the Penal Colony* wrote a story in which Grete gives the main character milk and scraps to eat. In that story, the main character wakes up to find that he has transformed into an insect. For 10 points, name this Czech author of *The Metamorphosis*.

ANSWER: Franz **Kafka** <European Literature, Siddiqui>

Answer the following questions about music education, for 10 points each.

[10] This musician designed a system of music education that encourages students to learn music by ear. His philosophy of “Talent Education” is based on the premise that musical talent can be developed in any child.

ANSWER: Shinichi **Suzuki**

[10] Students learning to play this instrument in the Suzuki method commonly start by practicing Suzuki’s “Variations of Twinkle Twinkle, Little Star”. Suzuki himself played this highest-pitched string instrument in the orchestra.

ANSWER: **violin**

[10] This German composer’s namesake “Schulwerk” is an approach of music education that sees music as an innate language that every child is born with. He also composed *Carmina Burana*.

ANSWER: Carl **Orff** <Auditory Fine Arts, Sun>

4. **A dispute over contraband cigarettes triggered the 228 incident against this leader’s government. This leader cut levees to stop an opponent’s advance from Kaifeng, resulting in nearly 1 million deaths, and he was responsible for the White Terror. This leader toppled Zhang Zuolin’s Beiyang Government during the (\*) Northern Expedition. An encirclement campaign led by this leader forced his enemy’s Long March. This “generalissimo” succeeded Sun Yat Sen For as leader of the Kuomintang.** 10 points, name this leader of the Republic of China who fled to Taiwan after losing the Chinese civil war to Mao Zedong’s communist forces.

ANSWER: **Chiang** Kai-Shek [or **Jiang** Jieshi; or **Jiang** Zhongzheng or **Chiang** Chung Cheng] <World History, Gayden, Ed.>

Answer the following questions about “universal” substances in chemistry, for 10 points each.

[10] Water is widely considered the universal one of these substances, in which solutes are dissolved to produce solutions.

ANSWER: **solvents**

[10] Britton and Robinson name a universal one of these substances. An example of these substances is the bicarbonate system in the human blood, and they usually consist of a weak acid and its conjugate base.

ANSWER: **buffers**

[10] The universal one of these substances was patented by Yamada in 1933. Natural varieties of this type of substance can be found in red cabbage and certain lichens.

ANSWER: pH **indicators** <Chemistry, Sun>

5. **In an opera by this composer, the title character sings the aria “Sola, perduta, abbandonata” as she dies in the hands of her lover Des Grieux in the Louisiana Desert. This composer created a painter who is executed by Spoletta’s firing squad after reminiscing of a time when the stars shone in the aria (\*) “E lucevan le stelle.”** This composer of *Manon Lescaut* depicted an “unknown prince” who asserts that no one will guess his name and sings “vincero!” at the end of “Nessun Dorma” as he pursues the title Chinese princess. Baron Scarpia is stabbed by the title singer in *Tosca*, an opera by, for 10 points, what Italian composer of *Turandot*?

ANSWER: Giacomo **Puccini** <Other Fine Arts, Gayden>

*Description Acceptable.* This character frequently debates the West Indian migrant Ras the Exhorter. For 10 points each,

[10] Identify this character who sees his rival, Tod Clifton, selling Sambo dolls.

ANSWER: the **protagonist** of *Invisible Man* [accept just *Invisible Man*; do NOT accept or prompt on mentions of “*The Invisible Man*”]

[10] This prominent African American author of *Invisible Man* also wrote the essay collection *Shadow and Act*. His second novel, *Juneteenth*, was posthumously published.

ANSWER: Ralph **Ellison**

[10] *Invisible Man* inspired *Dreams from My Father*, the 1995 memoir of this man. Another of this man’s memoirs titled *A Promised Land* was published in November 2020.

ANSWER: Barack **Obama** <US Literature, Liu>

6. **A European landowner class called *prazeiros* came to prominence after establishing farms on this river. The Shire [SHEE-ray] and Kafue are among the largest tributaries of this river. This river flows through a landmark whose native name, Mosi-oa-tunya, translates to “the smoke that thunders”. The (\*) Kariba and Cahora Bassa Dams are on this river, which also forms the eastern boundary of the Caprivi Strip in Namibia. This river is the longest that flows into the Mozambique Channel. For 10 points, name this river on the Zambia-Zimbabwe border that flows through Victoria Falls.**

ANSWER: **Zambezi** River <Geography, Sumanth> [Ed.]

This material can be classified into primary deposit or secondary deposit depending on the method in which it is laid down. For 10 points each,

[10] Name this unsorted sediment containing silt, pebbles, and sand, which composes moraines.

ANSWER: **till**

[10] Till originates from the erosion by these large masses of ice. Their “retreat” in conjunction with greenhouse gas emissions is a major indicator of climate change.

ANSWER: **glaciers**

[10] The seasonal movement of glaciers can cause these alternating dark and light bands to form.

ANSWER: **ogives** <Other Science, Siddiqui>

7. **Hector Villa-Lobos’s *Bachianas Brasileiras No. 5* is scored for a soprano and this many cellos. August Ludwig modified a symphony by this number by adding a “Philosopher’s Scherzo” and a “March of Destiny.” In another symphony of this number, a loud E-flat organ chord introduces a setting of the hymn “Veni Creator Spiritus.” That symphony by (\*) Gustav Mahler is titled for the large ensemble required to perform it. Franz Schubert’s symphony of this number only contains two movements, lending it the nickname “Unfinished”. For 10 points, name this number of notes in a standard major diatonic scale and the number of performers in an octet.**

ANSWER: **eight** <Auditory Fine Arts, Sun>

This woman was the first American woman to win the Nobel Peace Prize. For 10 points each,

[10] Name this progressive-era social worker and founder of the Hull House, who wrote about the connections between government work and household work in *Utilization of Woman in City Government*.

ANSWER: Jane **Addams**

[10] Addams helped found this bipartisan nonprofit organization in 1920. Its goal was to protect and preserve individual rights, especially the free speech of anti-World War I protesters at the time.

ANSWER: **American Civil Liberties Union** [or **ACLU**]

[10] Addams founded the Hull House with Ellen Gates Starr, who tirelessly advocated against this practice. This practice was regulated by the Keating-Owen Act, which was struck down by *Hammer v. Dagenhart*.

ANSWER: **child labor** [accept any answers indicating children in the workforce] <US History, Gayden, Ed.>

8. **In an experiment by the EMC, the spin of the individual constituents of this particle did not sum to this particle's total spin, a discovery termed this particle's unresolved spin crisis. These particles combine with an inner atom electron to release a neutrino in electron capture decay. These particles namesake (\*) "chain" reaction is the primary fusion cycle in stars. These particles consist of two up quarks and one down quark, and the number of these particles in an atomic nucleus defines its atomic number. For 10 points, name these positively charged hadrons found in atomic nuclei alongside neutrons.**

ANSWER: **protons** <Physics, Siddiqui>

Arthur B. Davies and Walter Kuhn planned this event. For 10 points each,

[10] Name this 1913 New York art exhibition. One painting showcased at this event, *Nude Descending a Staircase, No. 2*, was described by Julian Street as "an explosion in a shingle factory."

ANSWER: the 1913 **Armory Show** [or the 1913 **Exhibition of Modern Art**]

[10] *Nude Descending a Staircase, No. 2* is a work by this artist. This artist turned a porcelain urinal sideways in his work *Fountain*, one of his readymades.

ANSWER: Marcel **Duchamp**

[10] This artist's *Blue Nude* was also showcased at the 1913 Armory Show and was critiqued for being "distorted". Vivid nudes lounge under colorful trees in this artist's painting *The Joy of Life*.

ANSWER: Henri **Matisse** <Visual Fine Arts, Sun>

9. **This crop was first grown en masse by Lorenzo Dow Baker and Andrew Preston. The Gros Michel variety of this crop was crippled by Panama Disease in the 1960s, leading to its replacement by the Cavendish variety. A company producing mainly this crop known as "El Pulpo" convinced the CIA to launch Operation PBSUCCESS in order to overthrow (\*) Jacobo Arbenz after he pledged to buy back Guatemalan plantations of this crop. Corrupt Latin American governments were dubbed "[this fruit] republics" due to the United Fruit Company's massive influence. For 10 points, name this fruit produced by Chiquita.**

ANSWER: **bananas** [accept **banana** republic] <US History, Gayden, Ed.>

In this novel, the protagonist predicts that he will disintegrate into dust on his 31st birthday. For 10 points each,

[10] In what novel centering on a telepath with a massive nose does Mary Pereira become a pickle factory owner?

ANSWER: ***Midnight's Children***

[10] This author of *Midnight's Children* spent several years in hiding under the pseudonym Joseph Anton after his novel *Satanic Verses* was targeted by an Iranian fatwa.

ANSWER: Salman **Rushdie**

[10] Rushdie also wrote *The Earth Beneath Her Feet*, a rock and roll-based retelling of the story of this legendary musician, who returned to the underworld to rescue his wife, Eurydice.

ANSWER: **Orpheus** <World Literature, Siddiqui>

10. **This novel's protagonist brushes his teeth with soap before revealing his white whale underpants. Charlie Cheswick drowns himself in a swimming pool in this novel. A character in this novel takes a piece of Juicy Fruit, revealing that he is neither deaf nor mute. That character in this noble hypothesizes that fog is part of "the (\*) combine". This novel's characters are divided into "chronics" like Blastic and "acutes" like Billy Bibbitt, who slits his throat after losing his virginity to Candy Starr. Chief Bromden euthanizes Randle McMurphy, who is lobotomized for rebelling against Nurse Ratched in, for 10 points, what novel about a mental asylum by Ken Kesey?**

ANSWER: ***One Flew Over the Cuckoo's Nest*** <US Literature, Gayden, Ed.>

In 2020, the state of Michigan announced it would pay \$600 million to the victims of a crisis centered around this substance. For 10 points,

[10] Name this substance which was tainted with lead during a crisis in Flint.

ANSWER: tap **water** [or **H2O**]

[10] These toxic fluorinated chemicals have been shown by the EPA and CDC to pollute drinking water and impair the immune system. Their nickname is inspired by their tendency not to break down. ANSWER: “**Forever**” chemicals [or **perfluorochemicals** or **polyfluorinated** substances; accept **PFAS** or **PFCs**]

[10] One Forever chemical, teflon, was first invented by this chemical company headquartered in Wilmington, Delaware. This company also invented Kevlar.

ANSWER: **DuPont** <Current Events, Gayden, Ed.>

11. **This thinker’s first work, *Thoughts on the True Estimation of Living Forces*, attempted to mediate the Leibnizian and Newtonian arguments for the measurement of force. This philosopher faced censorship from the Prussian king after publishing *Religion Within the Boundaries of Mere Reason*. This thinker created (\*) 4 Paralogisms of the Soul and replied to Benjamin Constant that a lie should never be told even to stop a murder. This philosopher declared “sapere aude” [“sah-PEH-reh OW-day”] to argue that ending self-imposed tutelage answers the question “What is Enlightenment?” For 10 points, name this German author of *Critique of Pure Reason*, who created the categorical imperative.**

ANSWER: Immanuel **Kant** <Philosophy, Zhou>

When activated, this material’s only ore can produce a faint light. For 10 points each,

[10] Name this material, which can be used to create repeaters and comparators. Solid blocks of this substance may be used as constant power sources.

ANSWER: **redstone** dust

[10] Redstone ore drops dust when mined, unless a pickaxe with this enchantment is used. This enchantment allows some blocks to drop themselves.

ANSWER: **Silk Touch** I [do NOT accept or prompt on “Silk Touch II” or any other levels]

[10] In October 2020, Mojang announced an upcoming update named for cliffs and these landforms. Wardens will be found in the “deep dark” versions of these landforms, which will also include “lush” and “dripstone” varieties.

ANSWER: **caves** [accept **Caves and Cliffs**] <Popular Culture, Gayden>

12. **This artist painted a cycle of murals for the Boston Public Library, and he also painted a portrait of Robert Louis Stevenson lounging on a wicker chair. Several men play the guitar behind a Spanish dancer in one painting by this artist, and two children in white hold Chinese lanterns in this artist’s painting (\*) *Carnation, Lily, Lily, Rose*. Another painting by this artist of *El Jaleo* aroused controversy for a displaced shoulder strap. That painting depicts Virginie Gautreau in a black dress leaning against a circular table. For 10 points, name this artist of *Portrait of Madame X*.**

ANSWER: John Singer **Sargent** <Visual Fine Arts, Sun>

In this novel, the protagonist witnesses debates between an Italian named Settembrini and a Jewish Jesuit named Naphtha. For 10 points each,

[10] Name this novel in which Hans Castorp stays in a Swiss sanatorium for seven years.

ANSWER: *The **Magic Mountain*** [or *Der **Zauberberg***]

[10] This author of *The Magic Mountain* also wrote of Gustav von Aschenbach in his *Death in Venice*.

ANSWER: Thomas **Mann**

[10] Mann wrote another novella in which this title character kills a magician named Cipolla.

ANSWER: **Mario** [accept **Mario and the Magician**] <European Literature, Siddiqui>

13. **When this ruler’s body was examined by Pierre Ceccaladi, it was discovered that this ruler had “wavy, ginger hair”. During one military campaign, this ruler crossed the Dog River and besieged Dapur. This ruler signed the Silver Treaty with a northern neighbor. Before a battle, this ruler gained information from two Shashu (\*)**

Nomads. This ruler, whose father was Seti I, celebrated fourteen Sed festivals and he claimed victory over his enemy, Muwatalli II. For 10 points, name this “Great” Egyptian pharaoh who fought the Battle of Kadesh against the Hittites.

ANSWER: **Ramses II** [or **Ramses the Great**; accept **Ozymandias**; prompt on **Ramses**] <Ancient/Other/Mixed History, Pavlou, Ed.>

Italian scientist Luigi Galvani is known for his really cool experiments with frogs. Answer the following questions about the experiments, for 10 points each.

[10] Galvani observed twitching in frogs when they were electrically stimulated via current from these devices, which consist of a glass container wrapped with tin foil.

ANSWER: **Leyden jars**

[10] While Galvani believed that electricity is intrinsic to animals, this scientist discovered that it is actually created by two metals. This scientist also names the derived unit of electric potential.

ANSWER: Alessandro **Volta** [accept **volt**]

[10] Despite being proved wrong, Luigi Galvani’s work served as the basis of these devices that can both store and supply power. Common types of these devices include the “alkaline” and “lithium ion” varieties.

ANSWER: **batteries** [prompt on **electrochemical cell** or **voltaic cell**] <Physics, Sun>

14. **The speaker of a poem by this author describes a place “where the old flotilla lay,” where a woman plays her banjo, and sings “kulla-lo-lo” by the Moulmein Pagoda. In another poem, this man remembers a “far-flung battle-line” before the refrain “Lest we forget- lest we forget.” This poet of *Recessional* wrote about a “Lazarushian-leather” (\*) water-carrier who he describes as a “better man than I am.” The line “send forth the best ye breed” encourages imperialists to take up the title concept in a work by, for 10 points, what poet of “Mandalay”, “Gunga-Din” and “The White Man’s Burden.”**

ANSWER: Rudyard **Kipling** <British Literature, Gayden>

This ballet opens with the miller trying to teach a blackbird to correctly tell the time. For 10 points each,

[10] Name this ballet adapted from a novella by Pedro de Alarcón. The magistrate lusts for the miller’s wife throughout this ballet.

ANSWER: *The **Three-Cornered Hat***

[10] *The Three-Cornered Hat* is a ballet by Manuel de Falla, a composer from this country. Isaac Albéniz musically depicted this home country of his in the suite *Iberia*.

ANSWER: **Spain**

[10] In *The Three-Cornered Hat*, the Miller’s Wife dances one of these traditional Andalusian dances. These dances are typically accompanied by guitars and castanets, and they usually have a 12-beat cycle.

ANSWER: **flamenco** <Other Fine Arts, Sun>

15. **An intermediate of the Wittig Reaction named oxaphosphetane has this many members in its ring. According to Huckel’s Rule, a molecule cannot be aromatic unless the number of pi electrons in the conjugated system is 2 more than a multiple of this number. The lightest alkane with the prefix “iso” contains this many carbon atoms; that alkane is also the lightest to contain a (\*) tertiary carbon. This is the number of carbon atoms in butanoic acid and the number of hydrogen atoms in one molecule of methane. For 10 points, give the number of chlorine atoms in carbon tetrachloride.**

ANSWER: **four** <Chemistry, Siddiqui>

This commodity experienced a boom in the late 19th and early 20th centuries. For 10 points each,

[10] Name this commodity whose pursuit by the Belgians in the Congo Free State led to millions of deaths and whose vulcanized form is frequently used in car tires.

ANSWER: **rubber**



[10] This king's *Force Publique* notoriously committed such atrocities as cutting off the hands of workers to enforce collection quotas of rubber. As he had no heir, this longest-ruling Belgian emperor was succeeded by his nephew, Albert I.

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

[10] This Brazilian city in the Amazon Rainforest prospered due to its local rubber industry, even becoming known as the "Paris of the Tropics" during the late 19th century.

ANSWER: **Manaus** [or **Manáos**] <World History, Gayden, Ed.>

16. **This artist sings, "I only hate on her 'cause I want you" in a 2019 hit song that opens, "you got me some type of way, ain't used to feelin this way." This artist sang "so, lock the door and throw out the key" in a song inspired by the COVID-19 lockdowns with Justin Bieber. As a child, this singer starred as Cat Valentine in the series (\*) *Victorious*. In one song, this singer reflected on her past partners, remarking that "one taught me love, one taught me patience." In that song, this singer repeatedly expressed her gratitude for her exes. The 2020 album *Positions* was by, for 10 points, what singer behind *thank u, next*.**

ANSWER: Ariana **Grande**-Butera <Popular Music, Gayden>

One character in this play reads about a truck running over an elderly man and a girl who kills a cat. For 10 points each,

[10] Name this play in which the two protagonists receive instructions on notes such as "Light the kettle" and "Scampi."

ANSWER: *The **Dumbwaiter***

[10] *The Dumbwaiter* is an example of this British playwright's signature "comedies of menace." Other examples of his work include *Betrayal* and *The Birthday Party*.

ANSWER: Harold **Pinter**

[10] Later in life, Pinter famously used his Nobel Prize acceptance speech to attack Britain's involvement in this conflict. The speech singled out Tony Blair and George W. Bush for criticism.

ANSWER: **Iraq** War [or **Second Gulf** War; prompt on Gulf War] <British Literature, Myers>

17. **At the end of WW2, thousands of people attempted to migrate to Austria from this country during the Bleiburg repatriations. This country's monarchy was established by the Corfu declaration. During the Tehran conference, the allies started funding this country's partisans instead of the royalist Chetniks. This country was the only founding member of the Non-Aligned (\*) Movement to be located in Europe. This country was expelled from the Comintern after Stalin got into a disagreement with this country's leader. This country eventually split up after a series of wars during the 90s. For 10 points, name this former country whose leader was Josip Broz Tito.**

ANSWER: **Yugoslavia** <European History, Pavlou, Ed.>

The Hijaz Mountains span the east coast of this body of water. For 10 points each,

[10] This body of water contains the Dahlak Archipelago. The Saudi Arabian city of Jeddah is the largest port on this colorfully-named body of water.

ANSWER: **Red** Sea

[10] This other body of water, which is southeast of the Red Sea, separates Yemen from Somalia to its south. This body of water shares its name with a Yemeni port city.

ANSWER: Gulf of **Aden**

[10] This strait connects the Red Sea to the Gulf of Aden. The Bridge of the Horns is a proposed bridge that would span this body of water whose name is Arabic for "Gate of Tears."

ANSWER: **Bab el-Mandeb** <Geography, Gayden> [Ed.]

18. **Multiples of numbers in this set are used to create a Beatty sequence. Apéry proved that the Riemann zeta function at three is this type of number. Dedekind cuts act on this set's complement to create this set of numbers, which when inputted into Thomae's function returns a value of 0. Hippasus was supposedly drowned for discovering this (\*)** uncountable set of numbers, which includes all transcendental numbers. For 10 points, name this set of numbers including the square root of two that cannot be expressed as a fraction of two integers.

ANSWER: **irrational** numbers [anti-prompt on specific irrationals like pi or square root of 2 by asking for a type of number; prompt on transcendental numbers] <Math, Siddiqui>

This mythological figure created the Hippocrene fountain when he struck the earth. For 10 points each:

[10] Name this brother of Chrysaor, a winged horse who was born after Perseus beheaded Medusa.

ANSWER: **Pegasus**

[10] Zeus sent a gadfly to attack Pegasus to prevent this man from ascending Mount Olympus. The Lycian King Iobates ["eye-AH-buh-teez"] refused to kill this man, and instead sent him on a series of seemingly impossible quests.

ANSWER: **Bellerophon** [or **Bellerophontes**]

[10] Bellerophon almost caused the total destruction of Lycia by bringing this type of disaster, but relented and withdrew. Another instance of this event occurred after Lycaon tried to trick Zeus.

ANSWER: **flood** [or **deluge**] <Mythology, Siddiqui>

19. **This man helped manage the hostage crisis at the Talladega prison, leading him to be appointed to his first term in his highest role in 1991. In 2019, this man was held in contempt of Congress due to his defiance of a subpoena regarding the 2020 census. In June 2020, this man issued the order to clear (\*) Lafayette Square during the Black Lives Matter protests, leading to chemical irritants being used on the protestors. The Mueller report was selectively redacted by this man, who refused calls to recuse himself from his oversight role. For 10 points, name this former Attorney General under Presidents H.W. Bush and Trump who succeeded Jeff Sessions.**

ANSWER: William Pelham **Barr** [or Bill **Barr**] <Current Events, Nori>

Different species of bumblebees exhibit this phenomenon, since all females have stings and similar coloration. For 10 points each,

[10] Name this phenomenon, where two noxious species evolve similar appearances in order to deter predators.

ANSWER: **Müllerian** mimicry [prompt on mimicry]

[10] One well-known example of Mullerian mimicry is the resemblance between the viceroy and monarch types of these insects. Both of them have orange and black wings with white spots.

ANSWER: **butterflies**

[10] Mullerian mimicry is an example of this symbiotic relationship where both organisms benefit.

ANSWER: **mutualism** <Biology, Sun>

20. **One character in this novel almost dies in an eating contest with a woman called the Elephant. Yellow flowers rain from the sky after the death of a character in this novel who was tied to a chestnut tree. A disease of insomnia that also causes amnesia affects characters in this novel, one of which eats (\*) dirt and whitewash. New technologies like flying carpets, daguerreotypes, and ice are introduced by the leader of a group of gypsies named Melquiades in this novel. The history of Macondo is chronicled in, for 10 points, what magical realist novel about the Buendia family by Gabriel García Márquez?**

ANSWER: **One Hundred Years of Solitude** [or **Cien Años de Soledad**] <World Literature, Siddiqui>

Charles Finney preached during the second of these events. For 10 points each,

[10] Name this series of religious revivals in American history. Jonathan Edwards delivered the fiery sermon "Sinners in the Hands of an Angry God" during the first one of these events.



ANSWER: **Great Awakenings** [accept First **Great Awakening** or Second **Great Awakening**]

[10] This New York area of religious revival during the Second Great Awakening was home to the “Great Disappointment” after Jesus failed to return to Earth in 1844.

ANSWER: **burned-over** district [or **burnt-over** district]

[10] This new church grew out of the Millerite movement after the “Great Disappointment.” This Christian denomination founded by Ellen White is named after the Sabbath day.

ANSWER: **Seventh-Day Adventist** Church <US History, Cheriyan and Gayden>

Tiebreaker: **An early one of these devices designed by Harold Lyons was based on the absorption of microwaves of ammonia, and the Hafele-Keating experiment used four of these devices to test the theory of special relativity. These devices typically operate based on the transition between two ground states of cold rubidium-87 or (\*) cesium-133.** The combined measurements from hundreds of these devices around the world define the TAI, and GPS satellites contain multiple of these devices to synchronize wireless telephone and data networks. For 10 points, name these devices which, in 1967, replaced the rotation of the Earth in defining the official standard of time.

ANSWER: Atomic **Clocks** <Chemistry, Sun>