

# Saturnalia: Packet 14

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THESE TOSSUPS ARE PAIRED WITH BONUSSES. IF A TOSSUP IS NOT CONVERTED, SKIP THE PAIRED BONUS AND MOVE ON TO THE NEXT TOSSUP. DO **NOT** COME BACK TO THE SKIPPED BONUS.

1. A fashion collection from this country called **Body Meets Dress, Dress Meets Body** is often referred to as the “lumps and bumps” show. Street fashion in this country was photographed for the magazine **FRUiTS**. A subculture from this country wears Victorian-inspired clothing featuring dark colors, petticoats, and lace. The label *Comme des Garçons* is from this country, as are the “kogal” and “lolita” street cultures. The brands (\*) BAPE (“bape”) and Uniqlo are from this country. A traditional garment from this country literally means “thing worn” and is worn with a sash called an *obi*. For 10 points, name this country that originated the kimono.

ANSWER: **Japan**

<Misc. Art — French> [Edited]

1. In final-offer arbitration, two parties submit proposals to a neutral third party whose decision is legally binding. For 10 points each:

[M] Final-offer arbitration can be implemented as part of this practice in which organized labor negotiates contracts with an employer.

ANSWER: **collective bargaining**

[E] Final-offer arbitration is used to resolve salary disputes in this sport’s Major League. Boston Red Sox pitcher Jonathan Papelbon, a competitor in this sport, received an 806% raise through final-offer arbitration.

ANSWER: **baseball** [prompt on **MLB**]

[H] A party involved in final-offer arbitration who exhibits a higher degree of this phenomenon may submit an offer which is less favorable for themselves, but which reduces the uncertainty involved in arbitration.

ANSWER: **risk aversion** [accept **risk premium**]

<Other — Condron> [Edited]

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2. In “A Slight Sound at Evening,” E. B. White compared himself and an animal living near his boathouse to this author, whom White claimed “prepared himself for his great ordeal by eating a woodchuck.” White also compared a fire alarm to this author’s cry of “Simplicity, simplicity, simplicity.” This author wrote about considering “every spot as the possible site of a house” and quickly selling back Hollowell farm in a chapter titled (\*) “Where I Lived, and What I Lived For.” This author described building a wooden hut near Concord along the edge of a pond that titles a book by him. For 10 points, name this Transcendentalist author who described “Life in the Woods” in *Walden*.

ANSWER: Henry David **Thoreau**

<Other Literature — Condron> [Edited]

2. This leader was targeted in the September Conspiracy, which he barely escaped by jumping out of a window. For 10 points each:

[E] Name this Latin American independence leader nicknamed “The Liberator.” Along with his trusty lieutenant Antonio José de Sucre (“SOO-cray”), this leader liberated much of northern South America from the Spanish in battles such as Boyacá (“boh-yah-CAH”) and Carabobo (“cah-rah-BOH-boh”).

ANSWER: Simón **Bolívar** [or Simón José Antonio de la Santísima Trinidad **Bolívar** y Palacios Ponte-Andrade y Blanco]

[M] Bolívar was the first president of this short-lived state, whose territory included modern-day Colombia, Venezuela, and Ecuador. New Granada broke off from this state in 1831.

ANSWER: **Gran Colombia** [do NOT accept or prompt on “Colombia”]

[H] This political leader of New Granada from 1832 to 1837 was known as “The Man of the Laws”. Along with José Antonio Anzoátegui (“ahn-so-AH-teh-ghee”), he served as a brigadier general under Bolívar at the Battle of Boyacá.

ANSWER: Francisco de Paula **Santander**

<World History — Laurence Li> [Ed. Iyer]

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3. **Masanao Ozawa proved that the original formulation of this statement is not derivable from Robertson’s inequality and is actually false. This statement implies that the zero-point energy of a system must be non-zero. An analog of this statement applies to any pair of variables that satisfies a canonical commutation relation, such as (\*) energy and time.** This statement was originally derived from a thought experiment in which a microscope observes an electron. According to this statement, the product of two standard deviations is greater than or equal to  $h$  over four pi. For 10 points, name this statement which restricts the simultaneous measurement of position and momentum.

ANSWER: **uncertainty** principle [or **Heisenberg** uncertainty principle or position-momentum **uncertainty** relation]

<Physics — Ye> [Ed. French]

3. The overthrow of this government and the abolition of private property was advocated for by radical journalist Gracchus Babeuf. For 10 points each:

[M] Name this short-lived French government that succeeded the Reign of Terror and preceded the Consulate. This government’s ruling five-member council included Paul Barras.

ANSWER: The **Directory** [or **Directorate** or *le Directoire*]

[E] This artillery officer defended the Directory from a royalist uprising during the Coup of 13 Vendémiaire. He would later overthrow the Directory and crown himself the first Emperor of France.

ANSWER: **Napoleon** Bonaparte

[H] The Directory was overthrown during this coup, named for its date in the French Revolutionary calendar. Although Abbé Sieyès had originally planned this coup, Napoleon was eventually able to take full power.

ANSWER: Coup of **18 Brumaire**

<European History — Louis Li> [Ed. Laurence Li]

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4. **This thinker wrote that sociology filled in the holes in studying human action that are left by political economy in the essay “A Program for a Sociological Society.” This thinker opened one book by asking “how does it feel to be a problem?” before describing life “within the Veil” in chapters like “Of the Dawn of Freedom.” In the essay “Of Our Spiritual Strivings,” this thinker explored the issue of (\*) seeing one’s self through European eyes, which he termed “double consciousness.” This sociologist debated about African-American activism with Booker T. Washington. For 10 points, name this sociologist and early Black rights activist who wrote *The Souls of Black Folk*.**

ANSWER: W.E.B. **Du Bois** (“doo-BOYZ”) [or William Edward Burghardt **Du Bois**]

<Other Social Science — Ashbrook> [Edited]

4. This organ releases bicarbonate ions to neutralize stomach acid as food moves into the small intestine. For 10 points each:

[M] Name this organ whose islets of Langerhans contain alpha cells that secrete glucagon along with beta cells that secrete amylin.

ANSWER: **pancreas**

[E] Pancreatic beta cells also secrete this peptide hormone that stimulates cells to take up glucose from the bloodstream. Type 1 diabetes is commonly treated with injections of this hormone.

ANSWER: **insulin**

[H] Instead of insulin, type 2 diabetes is usually treated with metformin, which acts by suppressing this pathway. This glucagon-stimulated pathway produces a certain molecule from non-carbohydrate precursors like lactic acid.

ANSWER: **gluconeogenesis** [or **GNG**]

<Biology — Yin> [Edited]

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5. **The Battle for Hill 3234 was fought as part of this war's Operation Magistral. This war was prompted by the overthrow of Mohammad Daoud Khan in the Saur Revolution. Representative Charlie Wilson implemented the CIA's Operation Cyclone during this war. Historians dispute the number of Mi-8 and Mi-24 helicopters shot down during this war by (\*) Stinger Missiles provided to Jalaluddin Haqqani.**

Sixty-six countries staged a boycott of the 1980 Summer Olympics to protest this conflict. For 10 points, "the Soviet Union's Vietnam" was what Cold War-era proxy conflict fought against the mujahideen?

ANSWER: **Soviet-Afghan** War [or **Russian-Afghan** War; accept descriptive answers mentioning both countries such as **Soviet** invasion of **Afghanistan** or **Russian** invasion of **Afghanistan**]

<World History — Rollin> [Edited]

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5. When a beam of light undergoes this process, it undergoes a lateral displacement called the Goos-Hänchen shift. For 10 points each:

[H] Name this process, which results in an evanescent wave propagating along an interface. This process is called "frustrated" if part of the evanescent wave leaks across the interface.

ANSWER: **total internal reflection** [or **TIR**; accept frustrated **total internal reflection** or **FTIR**; prompt on **reflection**]

[E] Total internal reflection occurs when the beam reaches the interface at a value greater than the critical value for this quantity. This quantity can be measured in degrees or radians.

ANSWER: **angle** [accept critical **angle**]

[M] These devices use total internal reflection to confine light within a core surrounded by cladding. These waveguides are often used to transmit signals, encoded as light, over long distances.

ANSWER: **optical fibers** [or **fiber optics** or **fiber optic** cables; prompt on **fibers**]

<Physics — Condron> [Ed. French]

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6. **This quantity equals four pi times a length scale times Avogadro's number times an effective diffusion constant for diffusion-controlled processes. The steric factor equals an experimental value for this quantity divided by a value predicted from collision theory. The natural logarithm of this quantity equals "minus (\*) activation energy over quantity R times temperature."** The units of this quantity depend on the reaction's order. The temperature dependence of this quantity is given by the Arrhenius ("uh-REE-nee-us") equation. For 10 points, name this constant that describes the "speed" at which a reaction proceeds.

ANSWER: reaction **rate** constant [prompt on **k**]

<Chemistry — Ye> [Edited]

6. According to legend, Moses Rose was the only man to desert before this battle. For 10 points each:

[E] Name this battle where folk heroes Jim Bowie and Davy Crockett were killed. Outnumbered Texans made a last stand against Mexican forces at the namesake San Antonio mission during this 1836 battle.

ANSWER: Battle of the **Alamo**

[H] James Fannin attempted to send reinforcements to the Alamo, but his forces stopped in this town. Shortly after The Alamo, over four hundred of Fannin's men were executed by firing squad in this town.

ANSWER: **Goliad** [or **Goliad** Massacre]

[M] Texan soldiers shouted "Remember the Alamo" and "Remember the Goliad" at the Battle of San Jacinto, which ended with the capture of this general. This general led the Mexican government on eleven separate occasions.

ANSWER: Antonio López de **Santa Anna** [or Antonio de Padua María Severino López de **Santa Anna** y Pérez de Lebrón]

<U.S. History — Louis Li> [Edited]

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7. **A woman in this play chides her son for never falling in love with anyone younger than forty-five years old. That discussion in this play is interrupted by the entrance of three characters who had struggled to find a cab on a rainy night. In this play, a character exclaims, "Not bloody likely," to her eventual husband, (\*) Freddy Eynsford Hill.** A character in this play throws her slippers at a phonetics professor she dislikes for treating her like a flower girl. For 10 points, name this play in which Colonel Pickering and Henry Higgins teach Eliza Doolittle to behave and speak like a lady, written by George Bernard Shaw.

ANSWER: **Pygmalion**

<Drama — Condrón> [Ed. Mayers]

7. This poet lamented that one friend "had sent me not one sign from your exile / Till you came to me last night in a dream." For 10 points each:

[H] Name this poet who wrote about parents who lament how their sons will be "buried among the grass" and described dust obscuring a bridge in his poem "Song of the Wagons."

ANSWER: **Du Fu** [or **Zimej** or **Du Shaoling** or **Du Gongbu**; prompt on **Du** or **Shaoling Yelao** or **Shisheng**]

[E] Du Fu wrote in the classical form of this language. Li Bai used this syntactically flexible language to describe how "The River Merchant's Wife" "came by on bamboo stilts."

ANSWER: Classical **Chinese** [or **Zhongwen**; do NOT accept or prompt on "Mandarin" or "Cantonese"]

[M] In one poem, Du Fu described how this object "scatters restless gold across the waves." Li Bai wrote, "I raise my head to view" this object, to which he also "lifts the cup to invite" in another poem.

ANSWER: the **Moon** [or **yuè**]

<Poetry — Condrón> [Edited]

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8. **The army of one side of this conflict had to mobilize right after the Uskok War, but managed to win the Battle of Sablat. Twenty-seven leaders of one side during this conflict were put to death during the Old Town Square Execution. Rebels during this conflict supported Frederick V ("the fifth"), making him the "Winter King." Utraquist Hussite nobles were defeated at the battle of (\*) White Mountain, which crushed the Bohemian phase of this conflict. This conflict, which was ended by the Treaty of Westphalia, began after the Third Defenestration of Prague.** For 10 points, name this conflict between Protestants and Catholics in the Holy Roman Empire that lasted from 1618 to 1648.

ANSWER: **Thirty Years' War** [accept **Bohemian Revolt** until "Bohemia" is mentioned]

<European History — Athreya> [Edited]

8. A character claims that a blow from one of these weapons feels like leaves falling on his head, although he later reveals that he had blocked the blow with a mountain. For 10 points each:

[M] Name this type of weapon. One of these weapons must be wielded with iron gauntlets, because a fly bit the craftsman pumping the bellows while it was being forged.

ANSWER: **hammer** [accept Thor's **hammer** or **Mjölknir**]

[E] The fly that bit Brokk while he was pumping the bellows may have been this Norse trickster god, who bet his head that Brokk and Eitri ("AY-tree") could not forge better gifts than the Sons of Ivaldi.

ANSWER: **Loki**

[H] Loki made that bet after he commissioned the Sons of Ivaldi to craft a replacement for this thing. Loki cut off this thing as a prank, but Thor threatens to kill him for it.

ANSWER: **Sif's hair** [or the **hair of Sif**; prompt on **hair**]

<Mythology — Kim> [Ed. French]

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9. A temple in Malta is dedicated to a syncretization of this character and the Phoenician god Melqart. In a fight over a cask of wine, this character accidentally kills his mentor with poisoned arrows. Those arrows also kill the centaur Pholus, who this hero visits during his quest to capture a (\*) boar on Mount Erymanthos. While an infant, this hero kills a pair of snakes that terrify his half-brother Iphicles ("IF-ih-cleez"). This hero dies after wearing a robe poisoned with blood that the dying centaur Nessus gave to this hero's wife, Deianira ("day-uh-NYE-ruh"). For 10 points, name this hero who killed the Lernaean ("ler-NEE-in") Hydra for the second of his twelve labors.

ANSWER: **Hercules** [or **Heracles**; accept **Hercules**-Melqart or **Heracles**-Melqart]

<Mythology — Condrón> [Ed. French]

9. These objects contain layers named for gnocchi, spaghetti, lasagna, and Swiss cheese that are collectively known as "nuclear pasta." For 10 points each:

[M] Name these extremely dense stellar remnants which include magnetars and pulsars. Like black holes, these objects form when a red supergiant undergoes a core-collapse supernova.

ANSWER: **neutron stars**

[E] Neutron star mergers are powerful sources of these waves, which are modeled by general relativity as ripples in spacetime. LIGO ("LYE-goh") first detected these waves from a black hole merger in 2015.

ANSWER: **gravitational** waves [or **gravitational** radiation; do NOT accept or prompt on "gravity waves"]

[H] Neutron star mergers are also the source of the "short" type of these phenomena. The "long" type of these phenomena originate from extremely energetic supernovae called hypernovae.

ANSWER: **gamma ray bursts** [or **GRBs**]

<Astronomy — Yin> [Edited]

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10. In a novel by this author, the protagonist and Father Jacobus ("yah-COH-bus") discuss the philosopher Johann Albrecht Bengel, whom the protagonist attempts to write a biography about while living in a monastery at Mariafels. The protagonist of that novel by this author drowns in a mountain lake while swimming with his student Tito Designori (tee-toh deh-seen-YOH-ree"). The protagonist of that novel by this author is a (\*) Castalian Magister Ludi named Joseph Knecht ("YOH-zehf k'nesht"). This author presented a novel as a manuscript subtitled "For Madmen Only" in which Hermine is killed in the Magic Theatre by Harry Haller. For 10 points, name this German author of *The Glass Bead Game* and *Steppenwolf*.

ANSWER: Hermann **Hesse**

<Long Fiction — McAvoy-Bickford> [Ed. Condrón]

10. Wilhelm von Lenz helped popularize the idea of dividing Beethoven's compositional output into three distinct periods. For 10 points each:

[E] Lenz identified this symphony as the starting point of Beethoven's middle "Heroic" period. This E-flat major symphony is appropriately nicknamed "*Eroica*."

ANSWER: Symphony No. 3 in E-flat Major [or **Opus 55**]

[H] Lenz described this later Beethoven symphony as depicting peasant dances and a wedding. The oft-excerpted A minor second movement of this symphony is grounded in a long-short-short-long-long rhythm.

ANSWER: Symphony No. 7 in A Major [or **Opus 92**]

[M] This composer characterized Beethoven's seventh symphony as "the apotheosis of dance" and styled his own Symphony in C Major after Beethoven. He is better known for introducing the idea of *Gesamtkunstwerk* in operas he premiered at the Bayreuth ("bye-ROYT") theater.

ANSWER: Richard **Wagner**

<Classical Music — Daniel Ma> [Ed. Jeffrey Ma]

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11. **This city's Gardens by the Bay park has solar-powered "supertrees." This city's Chinatown contains its oldest Hindu temple, which is devoted to Mariamman. The petrochemical industry in this city is centered on its artificial Jurong Island, while its largest prison and airport are both in Changi. This city, a member of the Straits Settlements, was founded by (\*) Stamford Raffles and is south of the Strait of Johor. In a *Wired* article, William Gibson referred to this city as "Disneyland with the Death Penalty" due to its technocracy and harsh penal code, which includes canings. For 10 points, name this city-state, an "Asian Tiger" on the tip of the Malay Peninsula.**

ANSWER: **Singapore** [or Xīnjiāpō or Sin-ka-pho or Sān'gabō or Sīn-kâ-phô or Sīng-gǎ-pǒ or Singapura or Cīnkappūr; accept Xīngzhōu or Seng-chiu or Xīngguó or Seng-kok or Xīngzhōu or Shīchéng or Sai-siâ or Sernghakborey or Xin Ga Po or Tân Gia Ba or Tân Gia Pha or Singaporeu]

<Geography — Athreya> [Ed. Daniel Ma]

11. Bower and Wishart tested when people developed this skill by turning off the lights on subjects in a 1972 experiment. For 10 points each:

[M] Name this skill that develops over the course of the sensorimotor stage, according to one psychologist. That psychologist tested for this skill using a blanket.

ANSWER: **object permanence**

[E] Jean Piaget believed that humans develop object permanence when they are this type of person, alongside discovery of basic knowledge like how enjoyable it is to suck on a pacifier.

ANSWER: **babies** [or **infants**; prompt on children]

[H] This other psychologist associated an improper development of object permanence to the potential development of separation anxiety as part of her object relations theory. This woman engaged in many feuds with Anna Freud.

ANSWER: Melanie **Klein** [or Melanie **Reizes**]

<Psychology — Ashbrook> [Edited]

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12. **Many city-states of this civilization were ruled by leaders known as *ajaws* and fought each other in conflicts known as "star wars." A temple built by this civilization honored a serpent deity who supposedly returned every equinox. The history of this civilization is chronicled in the books of Chilam Balam. The city of (\*) Palenque became a major regional power in this civilization under Pacal the Great. This civilization's rival cities of Tikal and Calakmul fought each other in multiple wars during its Classic period, which ended in 900 CE. This civilization's Long Count calendar featured a shift in its *baktun* in 2012. For 10 points, name this civilization that built the pyramids at Chichen Itza.**

ANSWER: **Mayan** civilization [or **Maya** peoples]

<World History — Athreya> [Ed. Laurence Li]

12. A common joke states that mathematicians in this field cannot tell the difference between a coffee cup and a donut. For 10 points each:

[E] Name this branch of mathematics that studies the properties of objects under continuous deformations, such as stretching or bending.

ANSWER: **topology**

[H] A donut is said to be topologically equivalent to a coffee cup because there exists one of these functions from one to the other. These functions are continuous bijections between two topological spaces.

ANSWER: **homeomorphisms** [accept word forms such as **homeomorphic**; prompt on topological **isomorphism**; do NOT accept or prompt on “homomorphism”]

[M] A major result in topology, Poincaré’s (“pwann-cah-RAY’s”) conjecture, states that every closed, simply-connected 3-manifold is homeomorphic to one of these shapes. In the geometry named for these shapes, all lines intersect at two antipodal points.

ANSWER: **spheres** [accept *n*-**sphere** or 3-**sphere**]

<Math — Ye> [Ed. French]

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13. A poem by this author dubbed an “envoi” (“EN-voy”) had its last two lines omitted and replaced by parentheses. Seventeen “procreation” poems by this author begin a collection dedicated to Mr. W.H. A poem by this author declares its subject to be an “ever-fixed mark” that does not “alter when it alteration finds.” A figure whose “breasts are (\*) dun” and with “black wires” for hair is the Dark Lady addressed in a group of poems by this author. A poem by this author declares the addressee “more lovely and more temperate” than a summer’s day. For 10 points, name this author of a quarto of 154 sonnets.

ANSWER: William **Shakespeare**

<Poetry — Laurence Li> [Edited]

13. This architect’s design for the Beijing Daxing International Airport looks like a starfish when viewed from above. For 10 points each:

[H] Name this architect whose double-pebble design for an opera house in Guangzhou was inspired by its riverside setting.

ANSWER: Zaha **Hadid**

[M] Hadid won this prestigious architecture prize six years before she designed the Guangzhou Opera House. The founder of this prize also names a pavilion designed by Frank Gehry in Millennium Park.

ANSWER: **Pritzker** prize [or **Pritzker** pavilion]

[E] Hadid designed an aquatics centre located within Queen Elizabeth Olympic Park in this city, where the 2012 Olympic Games were hosted.

ANSWER: **London**

<Architecture — Athreya> [Ed. Bowman]

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14. A type of this substance called turbel (“TER-bull”) is characterized by extensive cryoturbation. This substance is termed “residual” if it remains at the site of its formation. The precipitation of calcium carbonate within this substance can create an impermeable layer of it known as hardpan. A type of this substance whose name means “under-ash” forms from the leaching of iron and aluminum ions. The formation of this substance is called (\*) pedogenesis. This substance is divided into layers called horizons, and its uppermost O horizon is primarily composed of organic matter. For 10 points, the breakdown of bedrock creates what substance in which plants grow their roots?

ANSWER: **soil** [or **pedolith**; accept **gelisol** or residual **soil** or **podzol**; prompt on earth or dirt or permafrost or regolith]

<Earth, Atmospheric, and Ocean Sciences — McAvoy-Bickford> [Ed. Yin]

14. The title character of this novel tricks a blind man into bashing his head against a stone pillar in retaliation for an earlier prank. For 10 points each:

[H] Name this picaresque novel that was published anonymously in 1554. The protagonist of this novel serves as an apprentice to characters such as a friar, a pardoner, and a squire.

ANSWER: Lazarillo de Tormes (“lah-zah-ree-yoh deh tor-mehs”) [or *The Life of Lazarillo de Tormes and of His Fortunes and Adversities* or *La vida de Lazarillo de Tormes y de sus fortunas y adversidades*]

[M] This author wrote the collection *Exemplary Novels* in the same genre of *Lazarillo de Tormes*. Marcela defends her rejection of the deceased shepherd Grisóstomo in a novel by this author with picaresque elements.

ANSWER: Miguel de Cervantes Saavreda

[E] The title character of this Miguel de Cervantes novel obsessively reads chivalric romances. In this novel, the title “man of La Mancha” is accompanied on his journeys by the peasant Sancho Panza.

ANSWER: Don Quixote [or *El ingenioso hidalgo don Quixote de la Mancha* or *The Ingenious Gentleman Don Quixote of La Mancha*]

<Long Fiction — Orr> [Edited]

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15. Prior to this event, one person was warned “you won’t live to get 65” unless he kept silent. William Bradford Huie (“H’YOO-ee”) wrote a history of this event after its perpetrators sold their story to *Look Magazine*. At a trial after this event, Moses Wright testified “thar he” before two men were acquitted. Mamie Elizabeth showed the victim of this event in an (\*) open coffin at his funeral. Carolyn Bryant claimed the victim of this event had “wolf-whistled” at her. This event, which was carried out by Roy Bryant and J.W. Milam, ended with its victim’s body washing up in the Tallahatchie River. For 10 points, name this 1955 event where a Black teen from Chicago was killed in Money, Mississippi.

ANSWER: lynching of Emmett Till [accept synonyms in place of “lynching” such as killing or murder; prompt on lynching or killing by asking “of whom?”]

<US History — Iyer> [Edited]

15. This sculptor’s *The Mature Age* shows a young woman pleading for a man who is drawn away by an older woman. For 10 points each:

[H] Name this sculptor who depicted the carnal dance of a nude man and woman in *The Waltz*.

ANSWER: Camille Claudel

[E] Claudel was both pupil and lover to this French sculptor, who created *The Thinker* as part of his sculptural group *The Gates of Hell*.

ANSWER: Auguste Rodin (“roh-DAN”)

[M] Claudel represented the end of her relationship with Rodin in the sculpture *Perseus and the Gorgon*, which may have been inspired by this Mannerist sculptor’s *Perseus with the Head of Medusa*.

ANSWER: Benvenuto Cellini

<Painting and Sculpture — Zhou> [Ed. Bowman]

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16. The missionary Hudson Taylor was known for adopting the cultural customs of the people of this country when preaching there. The Nestorian missionary Alopen (“ah-loh-bun”) ended his mission in this country, to which he was the first to spread Christianity. A term for “heaven” by the people of this country was used to describe the Abrahamic God by (\*) Matteo Ricci (“REE-chee”). Clement VI (“the sixth”) issued a papal bull that forbade the Jesuits from supporting ancestral worship in the rites of the people of this country. A rebellion in this nation saw the massacre of Christian missionaries by the Righteous and Harmonious Fists. For 10 points, name this country where the Boxer rebellion took place.

ANSWER: China [or Zhongguo; accept Qing dynasty or Tang dynasty]

<Religion — Dai> [Edited]



16. The adiabatic index gamma is defined as the ratio between the constant-pressure and constant-volume forms of this quantity. For 10 points each:

[M] Name this thermodynamic quantity. A common form of this quantity is given in units of Joules per gram Kelvin or Joules per gram degree Celsius.

ANSWER: **heat capacity** [or molar **heat capacity**; accept **specific heat**]

[H] At constant volume, the molar heat capacity of an ideal gas equals one-half times the ideal gas constant times this quantity, according to the equipartition theorem. This quantity equals three for a monatomic ideal gas.

ANSWER: number of **degrees of freedom** [accept the number of translational and rotational **degrees of freedom** since vibrational degrees of freedom are negligible at STP]

[E] Gas molecules with this number of atoms have five degrees of freedom at standard conditions, meaning they have a molar heat capacity of “five-halves R.” Diatomic gases contain this many atoms per molecule.

ANSWER: **two**

<Chemistry — Yin> [Edited]

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17. Upon being presented the head of his rival, the castrato title character sings “*Empio, dirò, tu sei*” in this composer’s opera *Giulio Cesare*. This composer quoted material from his first opera *Almira* in the soprano aria “*Lascia ch’io pianga*” (“LAH-shah KEE-oh pee-AHN-ga”) for his opera *Rinaldo*, which premiered in London during his stay as part of the court of (\*) King George I (“the first”). In the first part of a choral work by this composer, a pastoral *Pifa* depicts shepard bagpipers. With librettist Charles Jennens, this composer wrote an English-language oratorio that includes the line “he shall reign for ever and ever.” For 10 points, name this German-born Baroque composer of *Messiah*.

ANSWER: Georg Friedrich **Handel**

<Classical Music — Jeffrey Ma> [Edited]

17. The overhaul of one of these institutions in Camden, New Jersey, has been cited as showing that changes to this institution can work. For 10 points each:

[E] Name these institutions. A member of one of these institutions in Minneapolis killed George Floyd.

ANSWER: **police** department [accept **police** force or **police** officers]

[M] Many calls for police reform include banning this technique that Daniel Pantaleo, a New York police officer, used to kill Eric Garner in 2014.

ANSWER: **chokehold** [prompt on **neck restraint**]

[H] Some calls for police reform also include ending this doctrine, in which police officers cannot be sued for violating rights unless the rights were “clearly established.” In practice, this doctrine often forces plaintiffs to find a nearly identical case that has already been tried.

ANSWER: **qualified immunity** [prompt on **immunity**; do NOT accept or prompt on “absolute immunity”]

<Current Events — McAvoy-Bickford> [Edited]

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18. An “endless” mini-game in this series occasionally features red-eyed giants with extremely high health prefixed “giga.” A character in this series responds to his own rhetorical questions by exclaiming, “Because I’m CRAAAZY!!!!!!” A mechanized boss in this game can destroy rows of defense items by firing ice and fire balls during the final (\*) roof level. Weapons in this game like the Melon-pult can be purchased using sun produced by a non-attacking Sunflower. For 10 points, name this mobile game in which a weaponized garden defends against brain-eating monsters.

ANSWER: **Plants vs. Zombies** [or **PvZ**]

<Popular Culture — Condrón> [Edited]

18. For 10 points each, answer the following about the Isles of Scilly.

[H] This military force led by Lieutenant Tromp declared war on the Isles of Scilly in March of 1651, a war that was not officially ended until 1686. This force was later commanded by Michiel de Ruyter during the Raid on the Medway.

ANSWER: **Dutch navy** [or Royal **Netherlands navy**; accept answers which mention the **Dutch** Republic or **United Provinces** and their **navy**; prompt on **navy** with “of what country?”]

[E] Royalist forces occupied the Isles of Scilly during this other war where they fought to reinstate King Charles I. Oliver Cromwell and his Parliamentarians won this war and made its central country a republic for 11 years.

ANSWER: **English Civil War**

[M] Parliamentarian forces known by this name later took back the Isles of Scilly from the Royalists. These soldiers were nicknamed for the Puritan practice of cutting hair short.

ANSWER: **Roundheads**

<European History — Dai> [Ed. Iyer]

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19. **It’s not gene repair, but the first phase of this process involves the creation of double Holliday junctions in the DSBR (“D-S-B-R”) pathway. In that first phase of this process, the synaptonemal complex induces the formation of chiasmata. It’s not puberty, but this process is stimulated by Leydig (“LYE-dig”) cells in response to luteinizing (“LOO-tee-in-eye-zing”) hormone. The second half of this process is arrested in (\*) oocytes, which produce 2 to 3 polar bodies as they undergo this process. During this process, crossing-over occurs between pairs of homologous chromosomes. This process creates four haploid gametes from one diploid (“DIP-loyd”) parent cell. For 10 points, name this type of cell division contrasted with mitosis.**

ANSWER: **meiosis** [accept **meiosis I** or **meiosis II**; accept **spermatogenesis** or **oogenesis** or **gametogenesis**; prompt on **prophase I** or **synapsis** or **crossing-over** or homologous **recombination** or genetic **reshuffling** by asking “which occurs during what broader process?”; prompt on **cell division** before “division”]

<Biology — Yin> [Edited]

19. The narrator of “The Other” contemplates throwing one of these objects into the Charles River to lend his story a “vivid image.” For 10 points each:

[H] Name these objects, one of which an older man receives from his younger self as proof of their meeting. The narrator of another story fixates on one of these objects he calls “the Zahir.”

ANSWER: **coins** [accept **twenty-centavo** coins or **twenty-centavo** pieces or **monedas**; prompt on **money** or synonyms]

[E] “The Other” is narrated by this Argentinian author of “The Garden of Forking Paths,” who also narrates his story about a point in space that contains all other points, “The Aleph.”

ANSWER: Jorge Luis **Borges**

[M] In “The Other,” the younger Borges claims that this poet is “incapable of falsehood” during a discussion of his poem “When I heard at the close of the day.” This poet described a creature that “launch’d forth filament, filament, filament, out of itself” in “A Noiseless Patient Spider.”

ANSWER: Walt **Whitman**

<Short Fiction — Faeder> [Ed. Condrón]

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20. **In a painting by this artist housed in the San Luigi dei Francesi, an angel visits a man in orange robes as he is hunched over writing. An elderly Abra stands next to Judith as she beheads Holofernes in a painting allegedly by this artist. Two paintings by this artist depicting an “Inspiration” and a “Martyrdom” are in the (\*) Contarelli Chapel. This artist employed the tenebrist style in a painting in which Jesus reveals himself to Luke and Cleopas during the *Supper at Emmaus*. In another painting by this artist, a ray of light follows Jesus’ gesture to a saint formerly known as Levi. For 10 points, name this Italian Baroque painter of *The Calling of Saint Matthew*.**

ANSWER: **Caravaggio** [accept Michelangelo **Merisi** da Caravaggio; do NOT accept or prompt on “Michelangelo”]

<Painting and Sculpture — Orr> [Ed. Bowman]

20. In one novel, a stuttering Anthony Blanche describes how some of Mulcaster's friends have come to this location "to see how Aloysius ("AL-oh-ISH-us") was." For 10 points each:

[H] Name this location where a novel's main character meets a teddy-bear owning character who interrupts a dinner party by vomiting through a window.

ANSWER: University of **Oxford** [or **Oxford** University]

[M] After returning from Oxford, Sebastian Flyte's alcoholism worsens at this estate owned by the Marchmains. At the beginning of a novel, Charles Ryder's military company arrives at this title estate during World War II.

ANSWER: **Brideshead** [accept ***Brideshead** Revisited*]

[E] Brideshead Revisited ends with Lord Marchmain making the sign of the cross and receiving the Eucharist as part of his deathbed return to this religion. Evelyn Waugh, the author of *Brideshead Revisited*, converted to this branch of Christianity as an adult.

ANSWER: Roman **Catholicism** [accept word forms like **Catholic**]

<Long Fiction — Condon> [Edited]