

Saturnalia: Packet 3

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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. **An etching titled for this painting places a hammer and sickle on the chest of a person in it. That etching by Richard Hamilton is based on a series of forty-five variations of this painting by Pablo Picasso. Two paintings that hang in the back of this painting are based on Rubens' sketches of scenes from Ovid's *Metamorphoses*. After the death of its artist, the patron of this painting allegedly painted the (*) cross of St. James on top of the artist's depiction of himself in it. In the foreground of this painting, a girl steps on a dog, while at its center, a maid offers the Infanta Margarita a cup. For 10 points, name this painting by Diego Velazquez depicting the court of Philip IV ("the fourth").**

ANSWER: ***Las Meninas*** [accept *The Ladies-in-Waiting* or *The Maids of Honor*]

<Painting and Sculpture — Bowman> [Edited]

1. An oft-excerpted one of these pieces from the opera *Cavalleria Rusticana* is played when the main square of the Sicilian village stands empty. For 10 points:

[H] Name these pieces. In *verismo* opera, these pieces were often instrumental sections that acted as connecting pieces between acts.

ANSWER: **intermezzo** [or **intermezzi**]

[M] *Cavalleria Rusticana* is often double-billed with this Ruggero Leoncavallo opera. Like its billmate, this opera also features an instrumental intermezzo that plays after the aria "Vesti la giubba" ("JOO-ba"), in which Canio dons his clown costume.

ANSWER: ***Pagliacci*** ("pah-L'YAH-chee")

[E] Solo cello and viola play over tutti strings to begin the intermezzo from this other *verismo* composer's opera *Manon Lescaut* ("mah-NAWN les-KOH"). He also wrote intermezzi for his operas *Madama Butterfly* and *Turandot* ("TOO-ruhn-dot").

ANSWER: Giacomo **Puccini**

<Classical Music — Jeffrey Ma> [Edited]

2. **In the *Mahabharata* ("muh-ha-BA-ruh-tuh"), a god of this thing restores a woman's virginity after he has sex with her. Kunti accidentally summons that god of this thing by reciting a mantra given to her by the sage Durvasa, leading to the birth of Karna. In East Asian folklore, this thing is represented by a three-legged crow. A goddess of this thing is pulled out of her (*) hiding place when she is dazzled by her reflection in a mirror. Indra strikes Hanuman on the jaw when Hanuman tries to eat this thing, thinking it is a fruit. The Ise ("EE-say") Grand Shrine is dedicated to the Shinto goddess of this thing. For 10 points, Surya and Amaterasu represent what celestial body depicted on the flag of Japan?**

ANSWER: the **Sun**

<Mythology — Athreya, McAvoy-Bickford> [Ed. French]

2. A poem describes the author's desire to be like this person's pet sparrow in a romantic relationship. For 10 points each:

[H] Name this person addressed in a poem beginning, "I hate and I love." In another poem, this person is told, "let us live and let us love."

ANSWER: **Lesbia**

[M] This Roman poet addressed Lesbia in a poem beginning, "*odi et amo*." The name of Lesbia, this poet's lover, may be a reference to the Greek poet Sappho.

ANSWER: **Catullus** [or Gaius Valerius **Catullus**]

[E] Sappho was sometimes called the "tenth" of this group of goddesses from Greek myth, who were considered the source of artistic inspiration. Calliope ("cuh-LIE-uh-pee") and Thalia ("thuh-LIE-uh"), who are two of these goddesses, represent epic and idyllic poetry.

ANSWER: **Muses** [or **Moῦσαι**]

<Poetry — McAvoy-Bickford> [Ed. Condron]

3. A character in a play by this author sings, “You the cream in my coffee. You the salt in my stew,” while he dances to a Count Basie record. In a play by this author, a character calls another a “swartgat” while preparing to meet a pen pal named Ethel Lange. In a play by this author, one character describes beating his dance partner Hilda, and another uses wood from a tomato box to build a (*) kite. In addition to writing about the twins Morris and Zachariah, this author wrote a play featuring two Black employees at the St. George’s Tea Room named Sam and Willie. For 10 points, name this South African author of *Blood Knot* and “*Master Harold*” ...and the Boys.

ANSWER: Athol **Fugard**

<Drama — Karthik> [Ed. Mayers]

3. Ilya Prigogine (“prih-GOH-jeen”) proposed that open systems minimize the production of this quantity, although recent research suggests that they actually maximize it. For 10 points each:

[M] Name this quantity, which is constant for reversible processes. Boltzmann defined this quantity as k times the natural log of the number of microstates.

ANSWER: **entropy** [prompt on **S**]

[E] The change in entropy is always greater than or equal to zero, according to this statement. Classically, this law of thermodynamics was thought to imply an eventual “heat death of the universe.”

ANSWER: **second** law of thermodynamics

[H] The second law of thermodynamics applies to systems with this property. Systems with this property cannot exchange energy or matter with their surroundings, unlike closed systems, which may exchange energy.

ANSWER: **isolated**

<Physics — Ye> [Ed. French]

4. Defeated soldiers in this war turned their coats inside-out so that they would not be recognized after losing the Battle of Fraustadt. A king in this war was killed while inspecting trenches at the Siege of Fredriksten. The losing side of this war entered a period of democracy known as the “Age of Liberty” after signing the Treaty of Nystad. One participant’s navy has always named one of its ships (*) Gangut in honor of a victory in this war. Cossack forces under Ivan Mazepa were on the losing side of this war’s battle of Poltava. St. Petersburg was founded on land gained after this war. For 10 points, name this war in which Peter the Great defeated the Swedish Empire.

ANSWER: **Great Northern** War [accept **Second Northern** War]

<European History — Louis Li> [Edited]

4. This city’s Monumental Axis and Residential Axis intersect to form a cross. For 10 points each:

[M] Name this city, whose urban apartments were based on the plans for Le Corbusier’s Radiant City. This city was planned by Oscar Niemeyer and Lucio Costa as the new capital of its country.

ANSWER: **Brasilia**

[E] Brasilia unseated this city as the capital of Brazil. Oscar Niemeyer was born in this Brazilian city, which is home to the Christ the Redeemer statue.

ANSWER: **Rio** de Janeiro

[H] This Spanish architect designed the Museum of Tomorrow in Rio. This architect’s single-pylon bridges, such as the Alamillo Bridge and Samuel Beckett Bridge, resemble harps.

ANSWER: Santiago **Calatrava** [or Santiago **Calatrava Valls**]

<Architecture — Bowman> [Edited]

5. In one mechanism, this element is successively oxidized by the enzymes AMO (“A-M-O”) and HAO (“H-A-O”) into a product that then gains an oxygen atom. A separate mechanism that oxidizes this element is the main source of energy for anammox bacteria. The oxygen carrier leghemoglobin creates an anaerobic environment in which this element is reduced by a complex iron-molybdenum cofactor. That process is used by (*) diazotrophs (“dye-AZ-uh-trohfs”) to convert this element into biologically usable forms and is known as this element’s “fixation.” For 10 points, name this biologically essential element whose gaseous form comprises seventy-eight percent of the Earth’s atmosphere.

ANSWER: **nitrogen** [or **N**; accept **nitrification** or **nitrogen** fixation or **dinitrogen** or **N₂**] (AMO stands for ammonia monooxygenase; HAO stands for hydroxylamine oxidoreductase.)

<Biology — Daniel Ma> [Ed. Yin]

5. One group of these peoples, the Golasecca culture, adapted an Etruscan alphabet into their Lepontic script. For 10 points each:

[M] Name these peoples. These peoples are believed to have originated from the Hallstatt culture and settled in Ireland, Scotland, Wales, and Brittany.

ANSWER: **Celts** [prompt on **Britons**]

[H] Early Celtic people developed this culture that succeeded the Hallstatt culture. Caesar recorded the oppida towns that were first developed in this culture, which was named for its Swiss Type site north of Lake Neuchatel.

ANSWER: **La Tène** culture (“lah ten”)

[E] Many members of the La Tène culture were buried with these objects, such as in Waldalgesheim. Roman examples of these horse-drawn vehicles included the *triga* and *quadriga* and were used at the Hippodrome.

ANSWER: **chariots**

<European History — McAvoy-Bickford> [Edited]

6. *Description acceptable.* LNG Canada aims to create one of these things westward from Kitimat. The first one of these things in the North Pacific was discovered by Andres de Urdaneta. One of these things, the NSR, lies entirely within Russian authority and begins at Novaya Zemlya (“NOH-vuh-yuh ZEHM-lee-uh”). One of these things between Banks and Ellesmere Islands may become viable due to (*) climate change. Several of these things that follow trade winds and westerlies were made obsolete by powered vehicles. The Northwest Passage is one of these routes, the busiest of which by number of vehicles is the Strait of Malacca. For 10 points, name these routes used by vehicles that traverse the ocean.

ANSWER: **shipping lanes** [or **sea lanes** or **sea roads** or **ship routes**; accept any answers describing a route or path traversed by ships or boats]

<Geography — Daniel Ma> [Edited]

6. This type of function satisfies the differential equation “d-x by d-t equals r times x times quantity one minus x over K.” For 10 points each:

[M] Name this type of function. This type of function is used to model a population that grows quickly at first but levels off as it approaches the carrying capacity.

ANSWER: **logistic** function [or **logistic** growth or **logistic** model or **logistic** equation; prompt on **sigmoid**]

[E] Logistic population models typically fare better than models of this type, which predict that population will increase without bound. A population that doubles every unit of time will exhibit this type of growth.

ANSWER: **exponential** growth [or **exponential** models]

[H] This system of equations adapts the logistic equation to model the growth of two competing populations.

Confusingly, this system shares its name with the predator-prey equations, which are based on an exponential model.

ANSWER: competitive **Lotka-Volterra** equations [or **Lotka-Volterra** model of competition]

<Math — French> [Edited]

7. A character in this story is ignored after claiming that she has “injured an organ.” That character also wears a blue dress with lace so that people could know that she was a lady in case she is found dead. Another character in this story yells that she “wouldn’t live in a broken-down place like this for a million bucks!” while visiting The Tower, a restaurant run by a (*) monkey-owning veteran described as the “fat boy with the happy laugh.” In this story, Bobby Lee and Hiram kill Bailey and John Wesley. The antagonist of this story says, “It’s no real pleasure in life,” after shooting the Grandmother. For 10 points, name this Flannery O’Connor story about the Misfit.

ANSWER: “A **Good Man is Hard to Find**”

<Short Fiction — Louis Li> [Ed. Condron]

7. This religion controversially uses a swastika embedded with a Star of David as their symbol. For 10 points each:

[H] Name this UFO religion founded by French racer Claude Vorilhon (“vore-EE-hone”), who supposedly met a four-foot tall humanoid alien called an Elohim (“eh-LOH-him”).

ANSWER: **Raelism** [or **Raelianism** or International **Raelianism** Movement]

[M] Another UFO religion is this faith, which claims that Ezekiel’s vision of a flaming wheel was actually a UFO sighting. This faith led by Louis Farrakhan (“FAH-ruh-kon”) is often criticized as a “black supremacist” religion.

ANSWER: **Nation of Islam** [or **NOI**; do NOT accept or prompt on “Islam”]

[E] The founder of the Aetherius (“uh-THEE-ree-uhs”) Society, George King, claims that many religious figures such as Jesus and Buddha are actually Cosmic Masters who came from this second planet from the sun.

ANSWER: **Venus**

<Religion — Dai> [Edited]

8. A jar from this island decorated with an octopus exemplifies the Marine Style of this island's pottery. During its restoration, a cat and a crown were added to a ceramic figure found on this island that depicts a bare-breasted woman holding two snakes. Modern archaeologists no longer agree that a civilization on this island collapsed after an eruption of (*) Thera. Most Linear A and Linear B inscriptions were found on this island, where Sir Arthur Evans excavated a palace at Knossos. For 10 points, the Minoan civilization flourished on what Mediterranean island where the labyrinth was said to be?

ANSWER: **Crete** [or **Kriti** or **Krētē**]

<European History — French> [Edited]

8. This character sees “two blank discs instead of eyes” on the face of a man who works in the Fiction Department of the Ministry of Truth. For 10 points each:

[M] Name this character who reads an illegal copy of Emmanuel Goldstein's *The Theory and Practice of Oligarchical Collectivism* in the room he rents above Mr. Charrington's shop.

ANSWER: **Winston** Smith [or Winston **Smith**]

[E] This author created Winston Smith and other residents of Oceania in his novel *1984*.

ANSWER: George **Orwell** [or Eric Arthur **Blair**]

[H] This essay by George Orwell also contains the image of spectacles turning into “blank discs” with “no eyes behind them” and claims that “language can... corrupt thought.” This essay lists examples of “dying metaphors” and provides six rules for writing.

ANSWER: “**Politics and the English Language**”

<Other Literature — Condon> [Edited]

9. The envelope theorem can be used to derive a lemma that expresses a type of this quantity as a partial derivative of the expenditure function. One function for this quantity is obtained by maximizing utility subject to budget constraint, while another is obtained by minimizing expenditure subject to utility constraint. Those uncompensated and compensated types of this quantity are named for (*) Marshall and Hicks. For inferior goods, this quantity decreases when income increases. The graph of this quantity is usually downward-sloping, since for ordinary goods this quantity decreases as price increases. For 10 points, name this economic quantity contrasted with supply.

ANSWER: **demand** [accept uncompensated **demand** or compensated **demand** or Marshallian **demand** or Hicksian **demand**]

<Economics — Ashbrook> [Ed. French]

9. This god calls himself “the one who opens his two eyes so that brightness comes into being” in a text found at Deir al Medina. For 10 points each:

[M] Name this god, who suffers pain “colder than water and hotter than fire” after he is bit by a serpent. The goddess of magic agrees to cure this god, but only if this god reveals his secret name.

ANSWER: **Ra** [or **Re**]

[H] Isis tricks Ra into revealing his secret name by poisoning him with a serpent made out of clay and this substance. The word *tef* in the name of the goddess Tefnut refers to this substance.

ANSWER: **saliva** [or **spit** or **spittle**; accept Ra's **saliva** or Ra's **spit** or Ra's **spittle**; prompt on **moisture**]

[E] In order to be cured by Horus, this god admits that his secret name is “the evil day on which nothing can be conceived or born.” This god of chaos murders Osiris and then fights Horus for control of Egypt.

ANSWER: **Set** [or **Seth**]

<Mythology — French> [Edited]

10. This substance transports sediment to the deep seafloor in its namesake “rafting.” Any increase in this substance could cause its formation to rapidly accelerate in a positive feedback mechanism named for this substance's albedo (“al-BEE-doh”). Variations in insolation (“in-sohl-AY-shun”) cause the amount of this substance on Earth to fluctuate in regular cycles named for (*) Milutin Milanković (“mee-LAN-koh-vitch”). Like sediment, the composition of the paleoatmosphere can be reconstructed from gases found in cores of this substance. Pieces of this substance separate from large shelves of it in a process known as calving. For 10 points, name this substance which forms thick sheets that cover Greenland and Antarctica.

ANSWER: **ice** [or water **ice** or **solid H₂O** or **solid water**; accept **ice** rafting or **ice**bergs or sea **ice** or **ice**/albedo feedback or **ice** ages or **ice** cores; do NOT accept or prompt on “water” or “H₂O” alone]

<Earth, Atmospheric, and Ocean Science — Yin> [Ed. French, Yin]

10. A satirical work in this language describes dishes like a boar stuffed with live birds. For 10 points each:

[M] Name this language used for a work which describes a decadent banquet hosted by the freed slave Trimalchio.

ANSWER: **Latin** [or *lingua latīna*]

[E] While Petronius, who wrote about Trimalchio in the *Satyricon*, enjoyed favor with Nero, this earlier Roman poet was less lucky. Augustus banished this author of the *Metamorphoses* to live near the Black Sea.

ANSWER: **Ovid** [or Publius **Ovidius** Naso]

[H] In a much later novel, this character's "career as Trimalchio" comes to an end "as obscurely as it had begun." This character lends his name to a novel whose early working titles included *Trimalchio* and *The High-Bouncing Lover*.

ANSWER: Jay **Gatsby** [or **Jay** Gatsby or **James** Gatz or James **Gatz**; accept *The Great Gatsby*]

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

11. **This novel concludes with its main character "pulling in her horizon like a great fish-net" and "draping it over her shoulder." Nanny is raped in this novel, causing her to conceive a daughter, Leafy, who is later raped by an unnamed teacher. In this novel, which is framed as a story told to Pheoby ("fee-bee") Watson, the protagonist kisses Johnny Walker under a blooming (*) pear tree.** After leaving Logan Killicks, this novel's protagonist marries Jody Starks. An all-white jury acquits the main character of this novel after she shoots her rabies-infected husband, Tea Cake. For 10 points, name this novel about Janie Crawford written by Zora Neale Hurston.

ANSWER: ***Their Eyes Were Watching God***

<Long Fiction — Dai> [Ed. Condrón]

11. Sodium hydride is used as a base in a reaction that produces these compounds. For 10 points each:

[M] Name these compounds that can be produced at low temperatures via acid-catalyzed dehydration of alcohols. These compounds consist of two R groups bound to a central oxygen atom.

ANSWER: **ethers** [accept dialkyl **ethers**] (Acid-catalyzed dehydration of alcohols specifically produces dialkyl ethers.)

[H] Sodium hydride deprotonates ("de-PRO-tuh-nates") an alcohol in the first step of this reaction, which synthesizes ethers from alcohols and alkyl halides.

ANSWER: **Williamson** ether synthesis [or **Williamson** synthesis or **Williamson** reaction]

[E] Along with an ether, the Williamson synthesis produces a halide, which is this type of ion. Unlike cations ("cat-ions"), these ions have negative charge.

ANSWER: **anions** ("an-ions") (The cross-coupling reaction is the Ullmann condensation.)

<Chemistry — Iyer> [Ed. Gurazada, Bowman]

12. **An iridium complex catalyzes the synthesis of one of these species through the carbonylation ("car-BAWN-ill-ay-shun") of methanol. Small, highly-charged metal ions such as iron 3+ ("three plus") and aluminum 3+ ("three plus") can act as these species by forming coordinate covalent bonds with water. Atmospheric carbon dioxide produces one of these species when it reacts with (*) ocean water.** Electrophiles such as boron trifluoride are classified as these species by a definition of them as electron pair acceptors. Brønsted-Lowry theory defines these species as proton donors. For 10 points, name this class of chemical compounds that exhibit a pH less than seven.

ANSWER: **acids** [accept acetic **acid** or carboxylic **acids** or Lewis **acids** or strong **acids** or Brønsted-Lowry **acids**; prompt on **electrophiles**]

<Chemistry — Yin> [Edited]

12. One group that fought against this empire was the first to organize themselves into the *jathas* ("juh-THAS"). For 10 points each:

[E] Name this empire whose ruler Jahangir ("juh-HAN-geer") ordered the execution of Guru Arjan Dev ("AR-jun day-v"). This empire's other rulers included Akbar the Great and the commissioner of the Taj Mahal, Shah Jahan.

ANSWER: **Mughal** Empire [or **Mogul** Empire]

[M] The Gurudwara Sis Ganj Sahib ("SAH-hib") marks the place of Guru Tegh Bahadur's ("teg buh-HAH-door") execution, whose death was ordered by this Mughal Emperor in 1675. This emperor reinstated the *jizya* tax in the Mughal empire.

ANSWER: **Aurangzeb** Alamgir [or Aurangzeb **Alamgir** or **Muhi ud-din Muhammad**]

[H] This son of Guru Tegh Bahadur led forces against the forces of Wazir Khan ("wah-ZEER kan") at the battle of Muktsar ("MOOK-tser"). This leader mixed sugar and water in an iron bowl with a double-edged sword during the founding of the *Khalsa* order.

ANSWER: Guru **Gobind Singh** [or **Gobind Rai**; prompt on **Singh** or **Rai**; do NOT accept or prompt on "Gobind" alone]

<World History — Modali> [Ed. Iyer]

13. A James Oppenheim poem inspired the name of an IWW-led strike in this industry. The “Bread and Roses” strike occurred in this industry, whose workers were organized by Sarah Bagley and published “The Offering.” The “Rhode Island system” of this industry was established after Richard Arkwright’s plans were stolen by (*) Samuel Slater. The Water Frame was often used by immigrant women who worked in this industry at Lawrence and Lowell in Massachusetts. Eli Whitney’s invention of the cotton gin increased the production of raw materials used in this industry. For 10 points, name this industry that manufactures cloth.

ANSWER: **textile** industry [accept **cloth** industry until mention; accept **cotton processing** or **cotton mills**, but do NOT accept or prompt on “cotton” industry; accept **clothes-making** industry; prompt on **mills** by asking “what do the mills make?”]

<U.S. History — Athreya> [Ed. Iyer]

This moon spews water vapor out of plumes located in “tiger stripe” regions near its south pole. For 10 points each: [H] Name this moon. The *Cassini* probe has discovered complex organic molecules and molecular hydrogen in the gas plumes of this moon, suggesting the possibility of life in its subsurface ocean.

ANSWER: **Enceladus**

[E] Material ejected from Enceladus’s gas plumes comprises one of these structures designated “E.” These huge, circular structures are composed primarily of water ice and surround Saturn at its equator.

ANSWER: Saturn’s **rings** [or **rings** of Saturn; accept planetary **rings**]

[M] Lakes of liquid hydrocarbons are present on the extremely cold surface of this other moon of Saturn. The *Voyager* probes were unable to image this moon’s surface due to its thick nitrogenous atmosphere.

ANSWER: **Titan**

<Astronomy — Yin> [Edited]

14. A composer from this country scored his first concerto grosso for two violins, prepared piano, and chamber orchestra, exemplifying his aesthetic of “polystylism.” An inventor from this country designed an eerie sounding electronic instrument called the theremin. This home country of Alfred Schnittke (“SH’NIT-kuh”) waged (*) “anti-formalist campaigns” that derided the opera *Lady Macbeth of the Mtsensk District* as “muddle instead of music” in the *Pravda* newspaper. That opera is by a composer from this country who wrote a repeating “invasion theme” in his seventh symphony. For 10 points, name this country where Dmitri Shostakovich composed his *Leningrad* symphony.

ANSWER: **Soviet Union** [or **U.S.S.R.** or **Union of Soviet Socialist Republics** or **Soyuz.Sovetskikh Sotsialisticheskikh Respublik**; prompt on **Russia**]

<Classical Music — Jeffrey Ma> [Edited]

14. Frederick Law Olmsted designed the Back Bay Fens in this city’s Emerald Necklace parks. For 10 points each: [E] Name this city that lies across a river from Cambridge. It is the capital of Massachusetts.

ANSWER: **Boston**

[M] Cambridge is across this meandering river from Boston, where it flows into the Atlantic Ocean after leaving its source in Milford. Back Bay lies along this river’s southern bank.

ANSWER: **Charles** River

[H] This hill lies near the northern tip of the Boston peninsula, where the Charles and Mystic Rivers meet. This hill’s namesake Burying Ground is the second oldest in Boston.

ANSWER: **Copp’s** Hill

<Geography — McAvoy-Bickford> [Ed. Daniel Ma]

15. This thinker argued that in order to define a term, it should be broken down into simpler ideas to see whether the original term contains cognitive content. In a book, this thinker argued that to infer that the future will be like the past, people must rely on “custom or habit,” as demonstrated by a thought experiment involving billiard balls. This thinker divided all knowledge into relations of ideas or matters of fact in his namesake (*) “fork.” In one work, this thinker contradicted his Copy Principle by positing a man whose thoughts are missing a shade of blue. For 10 points, name this Scottish philosopher who wrote *An Enquiry Concerning Human Understanding*.

ANSWER: David **Hume**

<Philosophy — Ashbrook> [Edited]

15. Doris Pilkington's *Follow the Rabbit-Proof Fence* discusses the escape of three of these people to Jigalong in Western Australia. For 10 points each:

[E] The Moore River settlement that was depicted in the book housed these natives of Australia. Children of these people were forcibly taken to settlements such as Doomadgee Mission and Ebenezer Mission for "re-education."

ANSWER: **Aborigines** [or Australian **Aboriginals** or **First Australians**]

[M] The *Bringing Them Home* report brought attention to these children of Aborigines who were forcibly taken to settlements such as Moore River. National Sorry Day commemorates this group of Aborigines.

ANSWER: **Stolen Generations** [or **Stolen Children**; do not accept or prompt on "Lost Generation" or "Lost Children"]

[H] This prime minister of Australia issued a formal apology for the Stolen Generations on February 13, 2008. This successor of John Howard adopted the Closing the Gap strategy, which aims to protect the health of indigenous people of Australia.

ANSWER: Kevin **Rudd**

<World History — Iyer> [Edited]

16. **This celebrity wore a lavender dress with fluffy, feathery sleeves to the 2019 Met Gala. During quarantine, this celebrity took her pink private jet to visit family in Cody, Wyoming. Blac Chyna tweeted a series of incriminating texts that may have caused this celebrity's breakup with (*) Tyga. Forbes revoked this celebrity's title of youngest self-made billionaire after an investigation found that she had falsified tax forms for her cosmetics brand. TikTok exploded over a video of this celebrity singing the words "rise and shine" to her daughter Stormi, whose father is Travis Scott. For 10 points, name this member of the Kardashian clan, the sister of Kendall.**

ANSWER: **Kylie Jenner** [prompt on **Jenner**]

<Pop Culture — Bowman> [Edited]

16. A figure in this sculpture appears to be shielding his eyes from the ugliness of a nearby church designed by Francesco Borromini. For 10 points each:

[H] Name this sculpture. The Egyptian obelisk at the center of this sculpture is topped by a dove that is meant to represent the Pamphili family.

ANSWER: **Fountain of the Four Rivers** [or **Fontana dei Quattro Fiumi**]

[M] The Fountain of the Four Rivers was designed by this sculptor. This sculptor anecdotally disintegrated a lizard while casting a model out of wax, leading the technique to be called the "lost-lizard" method.

ANSWER: Gian Lorenzo **Bernini**

[E] Bernini designed the *Baldacchino* ("bald-ah-KEEN-oh") for this basilica whose façade was designed by Carlo Maderno. Bernini also designed a namesake square in front of this basilica in Vatican City.

ANSWER: **St. Peter's** Basilica [accept **St. Peter's** Square or Piazza **San Pietro**]

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

17. **One type of these devices uses "pebbles" containing many small TRISO ("TRY-soh") particles. Another type of these devices uses liquid beryllium fluoride, or another molten salt, as a coolant. Those models are candidates for the fourth generation of these devices, which are meant to have high passive safety. These devices are called (*) "breeders" if they produce more material than they consume. Some of these devices use heavy water as a moderator. These devices contain control rods in their core that absorb neutrons from uranium or plutonium fuel. For 10 points, name these devices that generate energy through fission.**

ANSWER: **nuclear reactors** [prompt on **reactors** or **pebble-bed reactors** or **molten salt reactors** or **Generation IV reactors** or **breeder reactors** or **heavy water reactors** or **light water reactors** or **boiling water reactors** or **pressurized water reactors**]

<Physics — French> [Edited]

17. At his conception, this character's mother told his father to wind up the clock, causing him to have an imbalance of humors. For 10 points each:

[M] Name this title character of a Laurence Sterne novel. This character has his nose squished by Dr. Slop and is accidentally circumcised by a falling window sash.

ANSWER: Tristram **Shandy** [or **Tristram**; accept *The Life and Opinions of **Tristram Shandy**, Gentleman*]

[E] In *Tristram Shandy*, Parson Yorick's death is marked with a black page and the words "Alas poor Yorick," quoting a line from this Shakespeare play about a prince of Denmark.

ANSWER: **Hamlet** [or *The Tragedy of **Hamlet**, Prince of Denmark*]

[H] Laurence Sterne described Parson Yorick's travels in the novel *A Sentimental Journey through France and Italy*, in which he satirized this other author as Smelfungus. This author wrote the picaresque novel, *The Adventures of Roderick Random*.

ANSWER: Tobias **Smollett**

<Long Fiction — Iyer> [Ed. French, Condron]

18. Sir Mortimer Wheeler excavated a city from this civilization that was succeeded by the Cemetery H culture. This civilization's colony of Shortugai exported lapis lazuli. A steatite ("STEE-tite") seal from this civilization was extracted by Ernest J.H. Mackay. A "signboard" containing ten characters of this civilization's script was unearthed at the site of (*) Dholavira ("DO-la-VEE-rah"). A sculpture of a dancing girl was unearthed from a city built by this civilization that also contained the Great Bath, which was part of one of this civilization's citywide drainage systems. For 10 points, name this civilization that built cities at Mohenjo Daro and Harappa in a namesake river valley in modern-day Pakistan.

ANSWER: **Indus** River Valley Civilization [accept **Harappa** or **Harappans** until "Harappa" is read]

<World History — Athreya> [Ed. Iyer]

18. On August 5, a ceremony was held to lay the foundation stone for a building dedicated to this religious figure. For 10 points each:

[H] Name this religious figure. The Supreme Court ruled that a temple to this figure could be built on the site of the former Babri Masjid ("moss-JEED"), which was demolished by a mob in 1992.

ANSWER: **Rama** [or **Ram**; accept **Ram** Lalla; prompt on **Vishnu**]

[M] Along with the VHP, members of this political party aided in the mob that destroyed the Babri Masjid. Members of this ruling political party in India gave speeches at the laying of the foundation stone for the new temple.

ANSWER: **Bharatiya Janata** Party [or **BJP**]

[E] This politician laid the foundation stone for the temple to Rama. This current prime minister of India is a member of the BJP Party.

ANSWER: Narendra **Modi**

<Current Events — McAvoy-Bickford> [Edited]

19. A poem by this author describes "two friends" climbing up a balcony to a girl with "eyes of cold silver." This poet described an "old world animal" that "passed her sad tongue over a muzzle of bloodspots" in another poem. This poet described "an icicle of moon" holding up a woman in a poem that begins, (*) "Green how I want you green." A poem by this author repeats the lines, "I will not see it!" and "At five in the afternoon." This author wrote a play with speaking roles for Death and the Moon in which the Bride runs away with Leonardo. For 10 points, name this Spanish author of "Lament for the Death of a Bullfighter" and *Blood Wedding*.

ANSWER: Federico García **Lorca** [or Federico del Sagrado Corazón de Jesús García **Lorca**; prompt on **García**]

<Poetry — Orr> [Ed. Condrón]

19. For 10 points each, answer the following about the mechanism of skeletal muscle contraction:

[M] Muscle contraction begins with the release of this neurotransmitter at the neuromuscular junction. An action potential induced by this neurotransmitter then triggers the release of calcium ions from the sarcoplasmic reticulum.

ANSWER: **acetylcholine** [or **ACh**]

[H] Calcium ions bind to these proteins after being released from the sarcoplasmic reticulum. That interaction alters the conformation of these proteins' namesake "complex," allowing myosin heads to interact with actin filaments.

ANSWER: **troponin** [accept **troponin** complex; do not accept or prompt on "tropomyosin"]

[E] In the sliding-filament model, myosin heads "walk" along actin filaments by hydrolyzing this energetic compound. Muscle cells rapidly produce this compound through cellular respiration in their many mitochondria.

ANSWER: **ATP** ("A-T-P") [or **adenosine triphosphate**; do NOT accept or prompt on "ADP" or "adenosine diphosphate"]

<Biology — Athreya> [Ed. Yin]

20. One artist's set design for this ballet contains fencing that may have been inspired by the art from Japanese internment camps. An hour-glass shaped rocking chair sits under diagonal lines outlining a roof in the original set of this ballet scored for a thirteen-instrument chamber orchestra. Hart Crane's poem (*) "The Bridge" is the source for the title of this ballet with set design by Isamu Noguchi. The daily life of the Wife and Husbandsman are depicted in this ballet through five variations on the Shaker hymn "Simple Gifts." For 10 points, name this ballet choreographed by Martha Graham and with music by Aaron Copland.

ANSWER: **Appalachian Spring**

<Misc. Art — Jeffrey Ma> [Edited]

20. This politician developed a plan for economic development called the American System. For 10 points each:
[E] Name this Kentucky senator and rival of Andrew Jackson. Supporters of Jackson alleged that this man had agreed to a “corrupt bargain” with John Quincy Adams.

ANSWER: Henry **Clay** Sr.

[H] As part of his rivalry with Clay, Jackson vetoed a bill to fund this proposed road linking Lexington, Kentucky to the namesake city on the Ohio river, limiting the success of the American System.

ANSWER: **Maysville** Road

[M] Tariffs were proposed to fund the American System; however, the so-called “Tariff of Abominations” caused this 1832-1833 political crisis, which John C. Calhoun’s “South Carolina Exposition and Protest” helped provoke.

ANSWER: **Nullification** Crisis

<U.S. History — Athreya> [Ed. Laurence Li]