

2022 SHOW-ME

Head-Edited by Ganon Evans. Subject-Edited by June Yin, Louis Li, Joel Miles, Gabe Forrest, Joy An, Connor Lee, Fred Garvey, Felix Wang, Emmaleigh Coe, and Jason Xu. Written by the editors and Andrew Gao, Vincent Wang, Vik Wei, Rachel Ezrielev, Danny Peelen, Yash Mandavia, Braden Booth, Neal Joshi, Aatreya Bhattacharyya, Tanay Bodducherla, Michael Eng, Athena Liu, Max Hodes, Austin Guo, Brendan Fuller, Gigi Chen, Joanne La, Nathan Nicholas, Donal Ryan, Anna Csiki-Fejer, Cindy Gao, Isabella Wu, and Shawn Yang.

Packet 2

1. **One of these bodies named Pan is considered a “shepherd” because it helps form the Encke Gap. The Herschel crater on one of these bodies gives it an appearance resembling the Death Star. One of these objects is the most reflective body in the solar system and has water vapor plumes emanating from its “tiger stripe” regions. The largest of these bodies contains (*) lakes of liquid hydrocarbons and was studied by the Huygens probe. There are 83 confirmed examples of these bodies including Mimas, Enceladus, and Titan. For 10 points, the Cassini probe photographed what celestial bodies while studying the rings of the planet they orbit?**

ANSWER: moons of Saturn [or Saturn’s moons; or natural satellites of Saturn; or Saturnian moons; prompt on moons or natural satellites by asking “of what planet?”]

<Astronomy — Connor Lee> [Ed. June Yin]

1. During this event, the collapse of subprime mortgages caused Lehman Brothers to declare the largest bankruptcy in U.S. history. For 10 points each:

[E] Name this economic crisis that was partially caused by the collapse of the housing bubble. The term “too big to fail” describes bailouts during this crisis.

ANSWER: Great Recession of 2008 [accept the 2007 Recession; accept the 2008 Recession; accept the 2007 Financial Crisis; accept the 2008 Financial Crisis; prompt on a recession or financial crisis with “In what year?”]

[M] In response to the Great Recession, this then-Harvard professor pushed for more bank regulation through the Consumer Financial Protection Bureau. In 2012, this progressive defeated Scott Brown to become a Massachusetts senator.

ANSWER: Elizabeth Warren

[H] This economist was Chair of the Federal Reserve during the Great Recession. This economist promoted quantitative easing and encouraged the Federal Reserve to buy over \$500 billion in mortgage-backed securities from banks.

ANSWER: Ben Bernanke [or Ben Shalom Bernanke]

<American History — Connor Lee> [Ed. Louis Li]

2. **This composer took over when a conductor snorted snuff in the middle of the premiere of a piece by him that calls for four offstage brass ensembles. The Rákóczi [rah-KOH-see] March opens this composer’s “dramatic legend” of *The Damnation of Faust*. This composer profiled over 60 instruments in his *Treatise on Instrumentation and Orchestration*. An onstage English horn and offstage oboe depict a conversation between two (*) shepherds in a symphony by this composer in which the clarinet carries the idée fixe theme. The final second-to-last movement of that symphony by this composer is called the “March to the Scaffold” and precedes a witches’ sabbath. For 10 points, name this French composer of *Symphonie Fantastique*.**

ANSWER: Hector Berlioz

<Auditory Fine Arts — Danny Peelen> [Ed. Ganon Evans]

2. Leaked emails detailed how this company's former CEO Richard Sackler outlined plans to unleash a "blizzard of prescriptions" and divert blame on drug abusers. For 10 points each:

[M] Name this now-bankrupt drug company that pleaded guilty in 2007 to misleading the public about the addictiveness of OxyContin.

ANSWER: **Purdue** Pharma

[E] Purdue Pharma's overprescription of OxyContin has contributed to the ongoing "epidemic" related to this pain-relieving class of drugs, which includes heroin and fentanyl.

ANSWER: **opioids** [accept **opioid** epidemic]

[H] In May 2022, Illinois Governor J.B. Pritzker signed a bill eliminating co-pays on this opioid antagonist delivered nasally to victims of overdoses. You may give either the drug's name or the brand name.

ANSWER: **naloxone** or **Narcan**

<Current Events – Ganon Evans> [Ed. Connor Lee]

3. **The name of this place is thought to come from the Akkadian word for a plain or steppe. Mormons believe this location to be placed in Jackson County, Missouri. Two of the four rivers flowing from this location are the Pishon and Gihon. The Land of Nod is found to the east of this place, which is guarded by a (*) flaming sword and cherubim. The principle of "original sin" is derived from an event in this location that caused its residents to flee in shame due to their nakedness. A serpent tricks a resident of this place into eating the forbidden fruit. For 10 points, name this location in Genesis from which God banishes Adam and Eve.**

ANSWER: Garden of **Eden** [prompt on **Paradise**; prompt on the **Garden**]

<Religion — Vik Wei> [Ed. Ganon Evans]

3. For 10 points each, answer the following about reactions involving salicylic [SAL-ih-SIL-ick] acid:

[H] This medication is made by adding an acetyl [uh-SEE-til] group to salicylic acid. This drug can be used to treat Kawasaki syndrome.

ANSWER: **aspirin** [prompt on **acetylsalicylic acid** or **ASA**]

[M] Salicylic acid can also serve as a precursor to methyl salicylate [suh-LIH-suh-layt], one of these compounds that smells strongly of wintergreen. These derivatives of organic acids often have distinctive fruity smells.

ANSWER: **esters** [ESS-turz] [accept methyl **esters**]

[E] In the Fischer esterification of salicylic acid, it is reacted with methanol, the simplest one of these compounds. An -OH group is present in these compounds that include ethanol.

ANSWER: **alcohols** [accept primary **alcohols**]

<Chemistry — Joy An> [Ed. June Yin]

4. **One ruler of this empire commissioned al-Sahili to construct an audience chamber for its capital. The territory acquired after conquering Kaniaga from the Sosso Empire was one of this empire's "twelve doors." Mud bricks were used to construct this empire's Sankore University. This empire was founded after Sumanguru was defeated by an alliance led by (*) Sundiata at the Battle of Kirina. Griots maintained the oral stories of this empire, including one in which its ruler crashes the economy of Cairo through gold depreciation during a lavish hajj. For 10 points, name this empire ruled from Timbuktu whose rulers included Mansa Musa.**

ANSWER: **Mali** Empire

<World History — Yash Mandavia> [Ed. Louis Li]

4. For 10 points each, answer the following about caged panthers in literature:

[E] In Franz Kafka's story "A Hunger Artist," the title character starves to death in his cage after taking this action for 40 days, after which he is replaced by a panther. This action involves not eating for a prolonged period of time.

ANSWER: **fasting**

[M] A panther "paces in cramped circles" "like a ritual dance around a center" in a poem by this poet. This poet asked "Who, if I cried out, would hear me among the angelic orders?" in the first of his *Duino Elegies*.

ANSWER: Rainer Maria **Rilke** [or René Karl Wilhelm Johann Josef Maria **Rilke**] [RYE-ner muh-REE-uh RIL-kuh]

[H] Claire Zachanassian arrives with a caged panther that escapes in *The Visit*, by Friedrich Dürrenmatt, who is from this country. A character who spends seven years in this country notices a humanist's name contains seven in Italian.

ANSWER: **Switzerland** [or **Swiss Confederation** or **Schweiz** or **Suisse** or **Svizzera** or **Svizra** or **Schweizerische Eidgenossenschaft** or Confederation **Suisse** or Confederazione **Svizzera** or Confederaziun **Svizra**] (The humanist is Ludovico Settembrini from Thomas Mann's novel *The Magic Mountain*.)

<Mixed Literature — Andrew Gao> [Ed. Joel Miles]

5. In one work by this poet, a bird laments that "humankind cannot bear very much reality." That work by this poet describes the rose garden of a decaying manor after discussing "time present and time past." A poem by this author of "Burnt Norton" describes "those pearls that were his eyes" in reference to the "Phoenician Sailor" card drawn by (*) Madame Sosostris. This author ended a section of a poem titled "What the Thunder Said" with the phrase "Shantih [SHAHN-tee] shantih shantih" The first section of a work by this poet, "The Burial of the Dead," opens by stating "April is the cruelest month." For 10 points, name this poet of *The Waste Land*.

ANSWER: T. S. **Eliot**

<Poetry — Joy An> [Ed. Joel Miles]

5. For 10 points each, answer the following about the role of women in 20th-century Christian philosophy:

[M] Before her death in the Holocaust, Edith Stein published *Finite and Eternal Being*, the culmination of her attempt to synthesize phenomenology with the work of this author of the *Summa Theologica*.

ANSWER: (Saint) Thomas **Aquinas** [or **Doctor Angelicus** or **Doctor Communis**; prompt on Saint **Thomas**]

[H] This British ethicist was also influenced by Aquinas. This author of the paper "Modern Moral Philosophy" followed Frank Ramsey in translating much of Ludwig Wittgenstein's [VIT-gun-shtyne's] work into English while at Cambridge.

ANSWER: G.E.M. **Anscombe** [or Gertrude Elizabeth Margaret **Anscombe** or Elizabeth **Anscombe**]

[E] In a letter to her priest, Simone Weil [vay] wrote that she became a devout Christian while traveling the world in support of this ideology. This political philosophy seeks to abolish the government.

ANSWER: **anarchism** [accept word forms like **anarchy**]

<Philosophy — Joel Miles> [Ed.]

6. A server in this video game displays journalism from oppressive countries in the Uncensored Library. Kristoffer Zetterstrand created most of the paintings in this game, including one of a pixelated fighter touching a giant hand; the only painting not by him shows three black skulls atop a brown-colored "T," depicting how to summon an in-game boss. Absurd luck with (*) blaze rod drops in this game was used to accuse the streamer Dream of cheating a speedrun. A mix-up in the height and width coordinates of a pig gave rise to an iconic enemy from this game known as the Creeper. For 10 points, name this sandbox game with blocky, 3-D characters.

ANSWER: **Minecraft** [accept **Minecraft: Java Edition**] (the unnamed boss is the Wither)

<Pop Culture — June Yin> [Ed. Ganon Evans]

6. Art and destruction sometimes go hand-in-hand. For 10 points each,

[H] This artist's work *Comedian*, which consisted of a banana duct-taped to a wall, was eaten by "hungry artist" David Datuna. This artist also assembled an 18-karat gold toilet titled *America*.

ANSWER: Maurizio **Cattelan**

[M] A Banksy work titled *Girl with [this object]* was intentionally shredded by its frame after being sold at an auction, after which it was renamed *Love is in the Bin*.

ANSWER: **balloon**

[E] Banksy hails from this country. In 2003, Banksy entered its Tate Gallery disguised as a pensioner to display a police-tape-covered landscape painting whose imagery was borrowed from this country's artist John Constable.

ANSWER: **United Kingdom** [or Great **Britain**; or the **U.K.**; or the **United Kingdom** of Great Britain and Northern Island; prompt with **England** with "Can you be less specific?"]

<Visual Fine Arts — Vincent Wang> [Ed. Gabe Forrest]

7. **This man hosted events in which immigrants would walk through a giant "melting pot" as part of his Sociological Department. Walter Reuther's unionbusters beat protestors of this man's River Rouge Plant at the Battle of the Overpass. This American was praised in *Mein Kampf* for publishing anti-semitic articles through his newspaper *The (*) Dearborn Independent*. A five-dollar work day and mass usage of the assembly line were pioneered by this man for the creation of a product he joked was available in any color "so long as it was black."** For 10 points, name this Detroit-based industrialist whose namesake car company created the Model T.

ANSWER: Henry **Ford**

<American History — Ganon Evans> [Ed. Louis Li]

7. In one novel by this author, Joseph is plagued by nightmares after learning of the Massacre of the Innocents, but choosing to only save his son. For 10 points each:

[M] Name this author of *The Gospel According to Jesus Christ*. In another novel by this author, everybody but the doctor's wife is afflicted with the title plague of *Blindness*.

ANSWER: José **Saramago** [or José de Sousa **Saramago**]

[E] José Saramago was born in this Iberian country. One work by Saramago describes an alternate history of this country in which crusaders did not help capture its city of Lisbon.

ANSWER: **Portugal** [or the **Portuguese** Republic or República **Portuguesa**] (The book is *The History of the Siege of Lisbon*.)

[H] In this José Saramago novel, the Iberian peninsula breaks off from Europe and floats into the Atlantic Ocean. Characters in this novel include "The King of Starlings," a girl who finds an endless ball of yarn, and a mute dog.

ANSWER: *The **Stone Raft*** [or *A **Jangada de Pedra***]

<Long Fiction — Connor Lee> [Ed. Joel Miles]

8. **This character is given a note reading "Marshall Aid. Thirty-Two Million Francs" and told to bankrupt a member of SMERSH. This character meets Gala Brand while investigating Hugo Drax's construction of a weapon from a stolen space shuttle. John Gardner wrote novels about this character, who orders a Vesper (*) martini in his first appearance. In a novel, this character is tasked with bankrupting Le Chiffre at baccarat. Many novels featuring this character were written at the Goldeneye estate in Jamaica. For 10 points, name this protagonist of *Moonraker* and *Casino Royale*, an MI6 ["M-I six"] agent created by Ian Fleming whose codename is 007 ["double O seven"].**

ANSWER: James **Bond** [accept **007** before "007"]

<Mixed Literature — Braden Booth> [Ed. Ganon Evans]

8. Answer the following about reforestation projects, for 10 points each:

[E] This rainforest has naturally recovered land about the size of the United Kingdom amidst deforestation largely caused by cattle ranchers. This South American rainforest is the largest in the world.

ANSWER: **Amazon** Rainforest

[H] The Three-North Shelterbelt Program has been an effort to stop the expansion of this desert by planting trees. This desert is home to the endangered Przewalski [per-zuh-VAL-skee] horse and the brown bear relative of the Mazaalai.

ANSWER: **Gobi** Desert

[M] The grassroots Green Belt Movement to stop the growth of the Sahara was founded by a person from this country, Wangari Maathai. This country home to the Kikuyu and Luo people is the northernmost country where the Maasai people migrate.

ANSWER: **Kenya** [or the Republic of **Kenya**; or Jamhuri ya **Kenya**]

<Geography — Andrew Gao> [Ed. Ganon Evans]

9. A deep-sea type of these animals has a pelican-like mouth, a hinged jaw, and a bioluminescent tail, and is called their “gulper” variety. The European species of these animals’ reproductive cycle was unknown for ages, leading Aristotle to conclude that they spontaneously generate; they actually breed in the Sargasso Sea. These fish of the order **Anguilliformes** [an-GWILL-ih-form-eez] have a (*) “conger” variety, as well as a large yellow freckled variety called the “moray.” This common name is shared by a South American fish that stuns its prey by discharging up to 600 volts of electricity. For 10 points, name these elongated, snake-like fish.

ANSWER: **eels** [accept specific types such as gulper **eels** or European **eels**; accept electric **eels**; accept **Anguilliformes** before “Anguilliformes”] (Electric eels are actually a type of knifefish.)

<Biology — June Yin> [Ed.]

9. A quadruple alliance of countries in this region was formed to take advantage of the “Sick Man of Europe’s” weakness during the Italo-Turkish War. For 10 points each:

[M] Name this region that a leader predicted “some damned fool thing” would come out of in a speech that dubbed this region the “Powder Keg of Europe.”

ANSWER: **Balkans** [accept **Balkan** Peninsula]

[E] Calling the Balkans a “powder keg” was one of many quips by this “Iron Chancellor” who plotted the unification of Germany.

ANSWER: Otto von **Bismarck**

[H] The Balkan League’s attack followed a 1908 revolution by this movement that forced Sultan Abdul Hamid II to restore the Ottoman Constitution. This group perpetrated a genocide that involved many being sent on death marches into the Syrian desert.

ANSWER: **Young Turks** Movement [or **Jöntürkler**; accept **Committee of Union and Progress** or **CUP**]

<European History — Ganon Evans> [Ed. Louis Li]

10. Baby Dodds pioneered “ride patterns” on this instrument of two eighth notes and a quarter note. The bebop trick of speeding up music by staying “on top of the beat” with this instrument was developed by “Big Sid” Catlett and perfected by Max Roach. The Jazz Messengers accompanied a performer of this instrument named Art Blakey. A solo on this instrument played by Gene (*) Krupa opens Benny Goodman’s *Sing Sing Sing*. Buddy Rich did not use matched grip while playing these instruments that can play sustained notes called rolls. For 10 points, name this percussion jazz instrument consisting of cymbals and tom-toms that are hit with pedals and sticks.

ANSWER: **drums** [or a **drum** kit; or a **drum** set; accept a **drum** roll]

<Other Fine Arts — Ganon Evans> [Ed.]

10. A* [A-star] algorithms are often used to perform this task in video games. For 10 points each,
[M] Name this task that is accomplished by Dijkstra's [DIKE-struh's] algorithm. The traveling salesman problem is a variation of this task.

ANSWER: **pathfinding** [accept equivalents like finding the **shortest path**]

[H] Pathfinding algorithms must be performed on these kinds of graphs, in which each edge of the graph has an associated numerical value.

ANSWER: **weighted** graphs

[E] Pathfinding algorithms are classified as this general type of algorithm, whose types include binary and linear. Namesake "engines" use these algorithms to return results from the internet.

ANSWER: **search** [accept **search** engines]

<Vincent Wang — Computer Science> [Ed. Jason Xu]

11. **This quantity is *increased* when a system has a lower zero-point energy due to having heavier isotopes. This quantity over R has a negative slope when the natural log of K and 1 over T are plotted against each other. The rate constant is given as e raised to negative this quantity over RT in the Arrhenius equation. On a reaction coordinate, this quantity is the (*) difference between the transition state and the reactants. This quantity is lowered by catalysts to increase the reaction rate.** For 10 points, name this minimum amount of energy required for a reaction to occur, symbolized E-sub-a.

ANSWER: **activation energy** [or **activation enthalpy**; accept **activation** after "energy"; prompt on E-sub-a]

<Chemistry — Yash Mandavia> [Ed. June Yin]

11. Congratulations! You are traveling the Oregon Trail and haven't died of dysentery! For 10 points each:

[E] You encounter a family traveling from Nauvoo, Illinois to this territory. Brigham Young allowed polygamy amongst the Mormon settlers he led to this territory.

ANSWER: **Utah** Territory [accept the State of **Deseret**]

[M] As you eat some chunky bison soup, you shudder thinking of this 1846 expedition that took the Hastings Cutoff to reach California, but resorted to cannibalism after being trapped in the Sierra Nevada mountains.

ANSWER: **Donner** Party [or the **Donner**-Reed Party]

[H] Your wagons are rescued from a river by members of this tribe, who allied with the Arapaho people under leaders like Black Kettle. This tribe names the capital of the state that contains Fort Laramie.

ANSWER: **Cheyenne** [accept specific branches such as the **Northern** or **Southern Cheyenne**; or **Tsitsistas**; or **Tsétshéstâhese**; or Notame**ohmésêhese**; or **Sutaijo**, or Heévâhetaneo'o]

<American History — Ganon Evans> [Ed. Louis Li]

12. **One god from this culture made the sun appear halved because he was missing a leg, causing his brother to club him out of the sky. While fighting a crocodilian monster to create the earth, one god from this culture lost his foot. This culture's war god flayed himself to bring food to humanity. A god from this culture was born from an impregnated (*) ball of feathers and was represented by the hummingbird. This culture's first humans were created when a "feathered serpent's" blood mixed with the bones of its underworld, Mictlan [MEEK-tlan].** For 10 points, name this Mesoamerican culture that venerated gods like Quetzalcoatl [keet-zal-co-ATT-II] and Huitzilopochtli [hwee-zil-oh-POKE-tee].

ANSWER: **Aztecs** [accept **Mexicatl**; accept **Nahuatl**; reject "Mexicans"]

<Mythology — Joy An> [Ed. Ganon Evans]

12. One poem by this poet describes coming into the world “like Water willy-nilly flowing.” For 10 points each:
[M] Name this poet, who described “a Book of Verses underneath the Bough, a Jug of Wine, a Loaf of Bread—and Thou” in one work.

ANSWER: Omar **Khayyam**

[E] One poem from Khayyam’s *Rubaiyat* describes a “potter thumping” some of this substance. Another poem from the *Rubaiyat* describes being surrounded by “shapes” of this substance, which can be shaped on a pottery wheel.

ANSWER: **clay**

[H] In a poem from the *Rubaiyat*, one of these things says, “lo laughing, into the world I blow.” In another poem, one of these objects is cultivated “in June as in January.”

ANSWER: a **rose** [accept “I Cultivate a White **Rose**” or ‘Cultivo Una **Rosa** Blanca’; prompt on “flower”]

<Poetry — Joy An> [Ed. Joel Miles]

13. **This ruler was forced to return the Maastricht to the Netherlands in the Treaties of Nijmegen [nigh-MAY-guhn]. This ruler’s so-called “daughters” were women recruited to populate a New World colony. Jean-Baptiste Colbert was a minister of this ruler. In addition to starting the War of Devolution, this ruler faced a rebellion of noblemen and Parliament, called the Fronde, who opposed Cardinal (*) Mazarin. Many Huguenots were displaced after this ruler issued the 1685 Edict of Fontainebleau, which revoked the Edict of Nantes. The Palace of Versailles [vair-SIGH] was ordered to be constructed by, for 10 points, what longest-ruling “Sun King” of France?**

ANSWER: **Louis XIV** [the 14th] [or **Louis the Great**; or **Louis le Grand**; prompt on the **Sun King** before mention; prompt on **Louis**]

<European History — Danny Peelen> [Ed. Louis Li]

13. Cutting one of these shapes in half results in a longer loop with two half-twists. For 10 points each:

[E] Name these shapes that have only one side. They can be made by twisting a strip of paper and gluing together the ends.

ANSWER: **Möbius strips**

[M] Möbius strips are some of the non-orientable surfaces studied in this branch of mathematics. This field, loosely the study of shapes, examines properties that are invariant under continuous deformations like stretching and twisting.

ANSWER: **topology**

[H] This other non-orientable surface is formed by twisting one end of a cylinder inside-out and gluing together the ends. This shape, which cannot be constructed without self-intersection in three dimensions, also only has one side.

ANSWER: **Klein bottle**

<Math — Joy An> [Ed.]

14. **A character created by this author mistakes a pile of receipts for a secret manuscript of General Tilney due to her imagination from reading novels with Isabella Thorpe like *The Mysteries of Udolpho*. In another novel by this author, a cleverness competition during a Box Hill picnic upsets Ms. Bates and a man who deters a protagonist’s romance with Frank Churchill. The estate of (*) Pemberly names a massive fanfiction collection for this author’s six “novels of manner.” This author of *Northanger Abbey* wrote a novel in which Mr. Knightley marries the aspiring matchmaker Emma. For 10 points, name this author who depicted Mr. Darcy and Elizabeth Bennett in *Pride and Prejudice*.**

ANSWER: Jane **Austen**

<Long Fiction — Ganon Evans> [Ed.]

14. A man with this profession holds a giant lollipop in Richard Hamilton's collage *Just what is it that makes today's homes so different, so appealing?*. For 10 points each:

[H] Name this profession governed by the WBF whose practitioners follow tips from Lou Ferrigno and Eugene Sandow's "Grecian Ideal," as well as the techniques of bulking and cutting.

ANSWER: **bodybuilding** [accept **bodybuilders**; prompt on weightlifters or weightlifting]

[E] The documentary *Pumping Iron* followed this bodybuilder on a quest for a Mr. Olympia title. This actor was elected Governor of California after starring in movies such as *The Terminator*.

ANSWER: Arnold **Schwarzenegger** [prompt on Arnold; begrudgingly accept any answers done in a bad accent]

[M] This author judged the first bodybuilding competition in London in 1904. Fans convinced this author to bring back a character who fell off the Reichenbach Falls in the story "The Final Problem."

ANSWER: (Sir) Arthur Conan **Doyle** (The character is Sherlock Holmes.)

<Other — Ganon Evans> [Ed.]

15. **This modern-day leader is protected online by the 50 Cent Army who spam critical posts. This leader's administration outlined "Eight Musts" promoting his country's "peaceful development" and "social harmony." Terry Branstad was tapped as ambassador to this leader's country due to his time spent in Muscatine, Iowa as an agricultural delegate. In 2021 textbooks on this leader's namesake (*) "Thought" were added to his country's school curriculum. The Belt and Road Initiative began under this leader, who banned satirical depictions of him as Winnie the Pooh.** For 10 points, name this current president of China.

ANSWER: **Xi** Jinping [shee jeen-peeng] [accept **Xi** Jinping Thought or **Xiism**]

<Other — June Yin> [Ed. Ganon Evans]

15. This architect's design for a Guggenheim Museum in Vilnius, Lithuania had its construction postponed amid allegations of embezzlement in 2010. For 10 points each:

[H] Name this British-Iraqi architect, whose Zaragoza Bridge Pavilion has 26,000 triangular shingles and whose Guangzhou Opera House resembles "two pebbles" being washed away by the Pearl River.

ANSWER: Zaha **Hadid**

[E] Hadid also designed the London Aquatics Centre, which was the venue for the swimming, diving, and synchronized swimming events in the 2012 edition of this athletic competition.

ANSWER: (2012) Summer **Olympic** [accept the **Olympic** Games]

[M] Hadid designed this state's Contemporary Arts Center. I.M. Pei designed two glass pyramid "tents" for this state's Rock and Roll Hall of Fame.

ANSWER: **Ohio** [accept **OH**]

<Other Fine Arts — Neal Joshi> [Ed. Ganon Evans]

16. **A painting by this earlier artist inspired a later painter's series depicting its central subject blurring into curtain folds and screaming. A historical work by this artist shows Ambrosio de Spinola receiving the keys to the title city from Justin of Nassau. Francis Bacon was inspired by this artist's *Portrait of Pope Innocent X* ["the tenth"]. This artist of *The (*) Surrender of Breda* appears in a painting wearing the red cross of the Order of St. James on his chest. The daughter of King Philip IV is accompanied by the title "maids of honor" in a painting by, for 10 points, what Spanish artist who depicted the Infanta Margarita in his painting *Las Meninas*?**

ANSWER: Diego **Velazquez**

<Visual Fine Arts — Tanay Bodducherla> [Ed. Gabe Forrest]

16. Members of this religion speak with the lwa [low-UH] Maman Brigitte by offering her dark rum with chili peppers. For 10 points each:

[E] Anthropologists popularized the inaccurate idea that members of what Haitian religion stick pins in dolls?

ANSWER: **voodoo** [or **vodun**; or **vodoun**; accept **voodoo** dolls]

[H] Offering grilled steak and potatoes catches the attention of this lwa who appears as an old man with a cane, straw hat, and dog. This lwa offers to communicate with spirits at crossroads.

ANSWER: **Papa Legba**

[M] Communicating with the orisha of love, Oshun, involves leaving offerings at these places. The largest gathering of humans in the world is the Kumbh Mela [cumb MAY-luh], a Hindu pilgrimage to one of these places that has issues with pollution.

ANSWER: **rivers** [accept **streams**; prompt on bodies of **water**; prompt on the **Ganges**]

<Religion — Ganon Evans> [Ed.]

17. **These particles are emitted in namesake “generators” by the limited fusion of deuterium [doo-TEER-ee-um] and tritium. Roughly 80 percent of ITER’s [EYE-tur’s] energy will be transferred to these particles. In fission reactors, graphite and water have high cross-sections for these particles and are called their namesake (*) “moderators.”** These particles are composed of two down quarks and one up quark. In beta-minus decay, one of these particles turns into a neutrino, an electron, and a proton. Different numbers of these particles are found in each isotope of an element. For 10 points, what particles with zero net charge are found in atomic nuclei?

ANSWER: **neutrons** [accept **neutron** generators or **neutron** moderators; reject “neutrinos”]

<Physics — Brendan Fuller> [Ed. June Yin]

17. Carl Czerny [CHEHR-nee] wrote the didactic collection *The School of Velocity* to train players of this instrument. For 10 points each:

[H] Name this instrument, virtuosos for which may study Charles-Louis Hanon's 60 exercises for it or study Muzio Clementi's sonatas.

ANSWER: **piano** [or **pianoforte**; or concert **piano**]

[M] Piano players often practice these “broken” chords that are played one note at a time in rising or descending order.

ANSWER: **arpeggios** [accept an **arpeggiated** chord]

[E] Piano players also often practice these musical sequences ordered by pitch up and down the piano. Common types of these sequences include chromatic, major, and minor ones.

ANSWER: **scales** [accept specific types of scales such as the chromatic **scale**; or the major **scale**; or the minor **scale**]

<Auditory Fine Arts — Vincent Wang> [Ed. Ganon Evans]

18. **A character in this play is told that her brother died after his appendix burst during a camping trip. A character in this play forecasts the weather with his knee. This play is intended to be performed with no set or props. After a character in this play asks if “human beings ever realize life while they live it,” another character replies (*) “saints and poets, maybe.”** In this play, “Blessed Be the Tie That Binds” is sung by a choir led by Simon, who eventually hangs himself. George Gibbs and Emily Webb are characters in this play. For 10 points, the Stage Manager narrates what play about the residents of Grover's Corners by Thornton Wilder?

ANSWER: ***Our Town***

<Drama — Andrew Gao> [Ed. Joel Miles]

18. Answer the following about the oldest written complaint, the 1750 BCE Complaint to Ea-Nasir. For 10 points each:

[H] Nanni's complaint about low-quality copper ingots was written in this ancient writing system, which involves pressing cut reeds into clay to make triangle-shaped marks.

ANSWER: **cuneiform** [koo-NEE-ih-form]

[E] Ea-Nasir hailed from Babylon, a city in this ancient region home to the Assyrians and Sumerians. This region corresponding to modern-day Iraq is named for being between the Tigris and Euphrates rivers.

ANSWER: **Mesopotamia** [prompt on Fertile Crescent]

[M] The complaint tablet is held by this museum. Activists have increasingly called for this museum to repatriate artifacts like the Elgin Marbles and Easter Island moai [MOH-eye] which were secured under Queen Victoria.

ANSWER: **British** Museum

<World History — Ganon Evans> [ed. Louis Li]

19. Roger Verbeek investigated one of these events that triggered the nativist Banten Peasants Revolt. David Keys argued that the Medieval era began when one of these events in 536 precipitated the collapse of societies like pre-Islamic Arabia. One of these events at Huaynaputina caused famines that precipitated Russia's Time of Troubles. Edvard Munch's *The Scream* documents how Norwegian (*) skies turned red from the jet stream after one of these events in 1883. 1815 was the "Year Without a Summer" because one of these events in Indonesia coated the world in ash. For 10 points, name these disasters caused by Mount Tambora and Krakatoa.

ANSWER: volcanic **eruptions** [accept word forms such as a volcano **erupting**; accept **volcanic** events; accept **volcanic winter**; prompt on ice ages with "What caused it?"]

<Other History — Ganon Evans> [Ed. Louis Li]

19. Molecules tagged with mannose-6-phosphate are sent to this organelle. For 10 points each:

[H] In a disorder named for Philippe Gaucher [go-shay], what organelle is defective, causing macrophages to appear like "tissue paper" due to an inability to process the lipid intermediate gluco•cerebro•side?

ANSWER: **lysosome**

[E] Gaucher's disease is caused by a defective one of these compounds that degrades glucocerebroside. These compounds act as catalysts in living organisms.

ANSWER: **enzymes** [accept **hydrolases**; prompt on proteins]

[M] During this process, protein-degrading enzymes in the lysosome are released into the cytosol. This process of programmed cell death is contrasted with necrosis.

ANSWER: **apoptosis**

<Biology — Braden Booth> [Ed. June Yin]

20. Geoffrey Brennan and Loren Lomasky proposed that this activity has contrasting "expressive" and "instrumental" motivations as a solution to Downs' paradox. A Condorcet method for this activity avoids situations similar to rock, paper, scissors. Clear preferences cannot be illustrated through this activity by Arrow's impossibility theorem. A "wasteful" form of this activity is common in (*) "first-past-the-post" systems for it, which are contrasted with a "ranked choice" method. In the U.S., this activity takes place on the first or second Tuesday in November. For 10 points, name this activity that decides officials in a democracy.

ANSWER: **voting** [accept word forms like casting a **vote**; accept **electing** people or word forms such as **elections**]

<Social Science — Ganon Evans> [Ed. June Yin]

20. In a novel set in this state, Benjy recalls his childhood while searching for golf balls with Luster. For 10 points each:

[M] Name this state home to families such as the Snopes and the Bundrens. An author from this state drew detailed maps of Yoknapatawpha [YOK-nah-pa-TAW-phuh] County, a fictional county located in this state.

ANSWER: **Mississippi** [accept **MS**]

[E] Yoknapatawpha County is the setting of many novels by this author of *Absalom, Absalom!* and *The Sound and the Fury*.

ANSWER: William (Cuthbert) **Faulkner**

[H] In this Faulkner novel, a bootlegger named Joe Christmas slits a woman's throat after she tries to force him to pray. The title of this novel refers to the burning of Joanna Burden's house.

ANSWER: ***Light in August***

<Long Fiction — Max Hodes> [Ed. Joel Miles]