

CALISTO 2

Head-edited by Justine French. Edited by Dylan Bowman, Robert Condrón, Nicholas Dai, Arthur Delot-Vilain, Tasis Gemmill-Nexon, Alistair Gray, Jeffrey Ma, Govind Prabhakar, Shahar Schwartz, William Orr, Rohan Venkateswaran, and Eric Yin. Written by the editors and Yusuf Amanullah, Joy An, Ethan Ashbrook, Vikshar Athreya, Louis Li, Richard Lin, Joel Miles, Alex Moon, Madhumita Narayan, Arjun Panickssery, Nathan Sheffield, Ned Tagtmeier, and Alison Yau.

Packet 9

1. **Seven people were killed in a shootout between a company in this industry and farmers in the San Joaquin Valley during the Mussel Slough Tragedy. It's not oil, but a novel about this industry by Frank Norris likely takes its title from a cartoon personifying this industry as an enormous (*) octopus.** The U.S. government sought to support this industry by negotiating the Gadsden Purchase with Mexico. Charles Crocker and Leland Stanford were two of the “Big Four” financiers in this industry, which included the companies Central Pacific and Southern Pacific. For 10 points, name this industry which built a “Transcontinental” route of transportation.

ANSWER: the **railroad** industry [or **trains**; prompt on transportation before “transportation” is read]

<American History — French> [Edited]

1. The apocryphal “Acts of” this person contains the earliest known attestation of the tradition that he asked to be crucified upside-down. For 10 points each:

[M] Name this person considered to be the first Pope. The doctrine of papal infallibility holds that the pope cannot err when speaking “from the chair” of this person.

ANSWER: Saint **Peter** [or Simon **Peter**; prompt on Simon]

[H] The doctrine of papal infallibility draws on this idea, which holds that the authority of bishops has been passed down continuously from the first followers of Christ. Rome claims special eminence according to this idea, since the church there was founded by Peter.

ANSWER: **apostolic succession** [prompt on succession]

[E] In Catholicism, apostolic succession is transferred during Ordination through the laying on of these body parts. The wounds of Christ include stigmata on his feet and these body parts, which were nailed to the cross.

ANSWER: **hands** [accept laying on of **hands**; accept **palms** or **wrists**]

<Religion — Dai> [Ed. French]

2. **In one play, a group of these beings called the “Continental Principalities” gives a character the Book of the Anti-Migratory Epistle. One of these beings refers to herself as “I I I I” and proclaims “The Great Work begins!” after crashing through the ceiling. That one of these beings kisses Hannah, the mother of the Mormon lawyer Joe, in the (*) “Perestroika” section of one play.** In that play titled for these beings, they grant Prior Walter more life but do not cure him of AIDS. That play titled for these beings, subtitled “A Gay Fantasia on National Themes,” is by Tony Kushner. For 10 points, name these winged beings that appear “*in America*” after descending from heaven.

ANSWER: **angels** [accept *Angels in America*]

<Drama — Sheffield> [Edited]

2. In this film, Thomasin attempts to milk her family's nanny goat, but she only produces blood. For 10 points each:
[H] Name this 2015 horror film set in 1630s New England. At the end of this film, the billy goat Black Phillip transforms into a man and leads Thomasin to a coven in the forest.

ANSWER: *The **Witch*** [or *The **VWitch***]

[M] In this film, Heather and Mike believe the screams they hear at night are a trick by the title witch to lure them out of their tent. This 1998 film is framed as footage recovered from three students who disappeared while recording a documentary.

ANSWER: *The **Blair Witch Project***

[E] Though films with witches are often horror films, this comedy contains a scene where a woman is proved to be a witch by being weighed against a duck. King Arthur quests for the title object in this Monty Python film.

ANSWER: *Monty Python and the **Holy Grail***

<Popular Culture — French> [Edited]

3. **The mismatch of one form of this quantity is high in nonlinear crystals; that form of this quantity equals the derivative of angular frequency with respect to wavenumber. The ratio between two values of this quantity in special relativity gives the dimensionless number beta. In dispersive media, the “group” type of this quantity is different from its “phase” type. This value equals the (*) product of wavelength and frequency.** For light, the ratio of this value in a medium to this value in a vacuum is that medium's index of refraction. For 10 points, name this value that, for light in a vacuum, equals 3 times 10-to-the-8th meters per second.

ANSWER: wave **velocity** [accept wave **speed** or wave **celerity**; accept phase **velocity** or group **velocity**; accept **speed** of light; prompt on v or c]

<Physics — Yin> [Ed. Bowman]

3. This conflict began after John Sassamon revealed a plot to attack colonial settlements. For 10 points each:

[H] Name this conflict fought by the Narragansett and Wampanoag tribes against the New England Confederation. Over 600 Narragansett warriors were killed in the Great Swamp Fight during this conflict.

ANSWER: **King Philip's War** [accept **First Indian War** or **Metacomet's War** or **Metacomet's Rebellion** or **Pometacomet's Rebellion** or **Pometacomet's War**]

[M] John Sassamon warned this colony's governor Josiah Winslow of the plot to attack colonial settlements. Metacomet's father Massasoit earlier established relations with William Bradford and Myles Standish of this colony.

ANSWER: **Plymouth** Colony

[E] Much of the fighting in King Philip's war took place in what is now this state, where Native Americans attacked the settlement of Sudbury. Over 50 Native Americans were executed in Boston Common in what is now this state.

ANSWER: **Massachusetts**

<American History — Athreya> [Edited]

4. **This man wrote the album *Cosmic Music for Impulse! Records* with his second wife, who later adopted the name Turiyasangitananda. This musician wrote “Big Nick” for a collaboration album with Duke Ellington that includes “My Little Brown Book” and “In a Sentimental Mood.” A progression through tonal centers by intervals of a major third is called this musician's (*) “changes.” This musician's “sheets of sound” can be heard in his solos on Miles Davis's *Kind of Blue*. This musician recorded the hard bop album *A Love Supreme*, as well as a jazz version of “My Favorite Things.”** For 10 points, name this jazz saxophonist who wrote *Giant Steps*.

ANSWER: John **Coltrane** [or John William **Coltrane**]

<Jazz — Sheffield> [Edited]

4. At sufficiently low concentrations, the Debye-Hückel equation can be used to calculate this quantity in an electrolyte solution. For 10 points each:

[H] Name this quantity which corrects deviations from a liquid solution's ideal behavior.

ANSWER: **activity** [accept **activity** coefficient]

[E] According to Debye-Huckel theory, the activity coefficient is proportional to the square root of the "strength" of these species. These species are prefixed "cat-" or "an-" depending on if their charge is positive or negative.

ANSWER: **ions** [accept **ionic** strength or **cat**ions or **an**ions]

[M] The formation of ions via electrospray ionization or MALDI occurs in this laboratory technique. Molecules are analyzed based on their mass to charge ratio in this technique.

ANSWER: **mass spectrometry** [prompt on **MS**]

<Chemistry — Schwartz> [Edited]

5. **Hotelling's lemma states that the price derivative of this quantity equals supply. This quantity's normal form can be maintained by firms entering and exiting the market. In the long run, firms in perfect competition have zero of the economic type of this quantity, although they may have nonzero values of its (*)** accounting type. The ratio of this quantity to revenue is called this quantity's "margin." This quantity is maximized where MR equals MC, since this quantity is the difference between a firm's revenue and its total costs. For 10 points, name this quantity, the excess earnings produced by a company or investment.

ANSWER: **profit** [accept economic **profit** or accounting **profit**; accept maximum **profit**; accept **income**; accept **NOPAT** or net operating **profit** after taxes]

<Economics — Sheffield>

5. The main character of this novel learns about the Soul of the World, which is described as "the principle that governs all things." For 10 points each:

[H] Name this novel in which Santiago attempts to fulfill his Personal Legend by travelling to the Egyptian pyramids in search of treasure.

ANSWER: *The **Alchemist*** [or *O **Alquimista***] (by Paulo Coelho)

[E] In *The Alchemist*, Santiago learns that the Master Work of alchemy is creating the Elixir of Life and this object, which can turn lead into gold. Nicolas Flamel owns this object in the first Harry Potter novel.

ANSWER: the **philosopher's stone** [accept the **sorcerer's stone** or *Harry Potter and the **Philosopher's Stone*** or *Harry Potter and the **Sorcerer's Stone***]

[M] At the beginning of the novel, Santiago works in Spain as one of these people, who are often depicted in pastoral literature. One of these people tells his lover, "Come live with me and be my Love" in a poem about a "passionate" one by Christopher Marlowe.

ANSWER: **shepherds** [accept "The Passionate **Shepherd** to His Love"]

<Long Fiction — Venkateswaran> [Ed. French]

6. **In 2014, the floodgates of this river's Morelos Dam were briefly opened to restore water to this river's delta for the first time in over a decade. The largest irrigation canal in the world, the All-American Canal, is fed by this river. The original London Bridge was relocated to connect an island on this river to Lake (*)** Havasu City. In 1905, overflows from this river formed the now heavily-polluted Salton Sea. This river's Lake Mead was formed by the Glen Canyon Dam and its Lake Powell formed by the Hoover Dam. For 10 points, name this river of the Southwest which empties into the Gulf of California and traverses the Grand Canyon.

ANSWER: **Colorado** River

<Geography — Amanullah> [Ed. Gray]

6. A red-haired woman curls up into a ball while she is showered by golden rain in this artist's painting *Danae*. For 10 points each:

[M] Name this artist who painted two portraits of Adele Bloch-Bauer. This artist used gold leaf throughout a painting of two lovers embracing on a flower-covered cliff.

ANSWER: Gustav **Klimt**

[E] Klimt was from this country. Joseph Maria Olbrich sculpted the Secession Building to exhibit artworks from this country's Vienna Secession movement, which was co-founded by Klimt.

ANSWER: **Austria** [or Republic of **Austria** or Republik **Oesterreich**]

[H] In the central section of this Klimt painting, three gorgons stand on the left of Typhoeus, who is shown as a hairy brown monster. This painting was featured at the fourteenth Vienna Secessionist Exhibition to celebrate its title composer.

ANSWER: **Beethoven Frieze**

<Painting — Narayan> [Ed. Venkateswaran]

7. In a novel based on this work, a character recalls “men fighting each other till the snow was red slush” when he hears the music of the Shaper. A 2020 feminist translation of this work by Maria Dahvana Headley uses “Bro!” to translate its opening exclamation, “hwæt” (“hwat”). John Gardner wrote a novel based on this work, in which the protagonist recounts competing in a (*) swimming contest with Breca. This work's protagonist dies in a fight against a dragon while accompanied by Wiglaf. In this work, the protagonist rips off the arm of a monster who attacks the mead-hall Heorot, which is ruled by Hrothgar. For 10 points, the title warrior slays Grendel in what Old English epic poem?

ANSWER: **Beowulf**

<Other Literature — Lin> [Edited]

7. Numbers in this system can also be expressed as a combination of four two-by-two imaginary matrices. For 10 points each:

[H] Name this extension of the complex numbers that introduces the **j** and **k** units. Multiplication in this system is noncommutative.

ANSWER: **quaternions**

[E] Multiplying the quaternions **i**, **j**, and **k** together gives this number. In the complex number system, *i* is defined to be a square root of this number.

ANSWER: **negative one** [or **minus one** or **-1**; do NOT accept or prompt on “one”]

[M] William Hamilton allegedly carved the quaternions into one of these physical structures upon conceiving of them on a walk. Leonhard Euler pioneered graph theory with a problem about seven of these structures in Königsberg.

ANSWER: **bridges** [accept Seven **Bridges** of Königsberg]

<Math — Bowman> [Edited]

8. **Allyl groups in this material serve as cure sites for the formation of disulfide bridges, whose excess in this material can lead to the formation of ebonite. The structural integrity of this material can be compromised due to ozonolysis breaking its double bonds during ozone cracking. This material can either be synthesized via polymerization of chloroprene subunits to form (*) neoprene or harvested from trees and processed to form an elastomer. Cross-links in this material can be formed by heating it alongside sulfur in vulcanization, a technique discovered by Charles Goodyear.** For 10 points, name this flexible material found in hoses, tires, and elastic bands.

ANSWER: **rubber** [accept **latex**; accept **neoprene** before mention]

<Chemistry — Schwartz> [Edited]

8. One of this author's books ends with Almitra standing on the sea-wall and remembering the title character's saying "A little while, a moment of rest upon the wind, and another woman shall bear me." For 10 points each:
[H] Name this Lebanese-American author who wrote about Almustafa's farewell discussions with the citizens of the fictional island Orphalese in *The Prophet*.

ANSWER: Kahlil **Gibran**

[E] In his final lecture, Almustafa claims that fear of this concept is "but the trembling of the shepherd when he stands before the king." A poem by Emily Dickinson begins, "Because I could not stop for [this concept]."

ANSWER: **death**

[M] Gibran's *The Earth Gods* may have been inspired by *The Four Zoas*, a collection of mythology by this poet. Like Gibran, this poet also worked as a painter, illustrating his own collection *Songs of Innocence and Experience*.

ANSWER: William **Blake**

<Other Literature — Sheffield> [Edited]

9. **A king of this country established an aggressive light cavalry unit whose name translates to "cut them down." A ruler of this country moved to Pope Alexander VII's court after converting to Catholicism and abdicating. That ruler had earlier invited (*) René Descartes to this country's court. Axel Oxenstierna served as regent of this country after its king died while leading a cavalry charge at the Battle of Lützen. In the early 17th century, this country was ruled by the Vasa dynasty, including the "Lion of the North" and his daughter, Christina. For 10 points, Gustavus Adolphus led what country with capital at Stockholm?**

ANSWER: **Sweden** [or Kingdom of **Sweden** or **Sverige** or Konungariket **Sverige**]

<European History — Li> [Edited]

9. Karl Jaspers termed the concurrence of major schools of thought in these two countries and China in the first millennium BCE the "Axial Age." For 10 points each:

[E] Name these two modern-day countries. Pyrrho and Aristotle lived in one of these two countries at the same time that Buddhist and Hindu thinkers like Nāgārjuna lived in the other.

ANSWER: **Greece** AND **India** [accept answers in either order]

[M] The skeptic Pyrrho of Elis may have adopted his idea of *ataraxia* after learning about this similar concept from Buddhist ascetics in India. This state of freedom from suffering literally translates to "blowing out."

ANSWER: **nirvana** [or **nibbana**; accept **moksha** or **mukti**]

[H] Like Pyrrho, this student of Leucippus likely studied with Buddhist ascetics. This thinker's determinism was later opposed by Lucretius' proposal of the swerve.

ANSWER: **Democritus**

<Philosophy — Miles> [Edited]

10. **After witnessing a miracle by this deity, one man built an altar that he named, "[this deity] is peace." In the documentary hypothesis, texts are classified as 'J' or 'E' depending on the name they use for this deity. In writing, a letter in this deity's name may be replaced with a hyphen. In one text, this deity refers to himself with an ambiguous phrase translated both as (*) "I am who am" and "I am that I am." In speech, this deity may be referred to by the titles "Hashem" and "Adonai" ("ah-doh-NIGH"). Another name for this deity is the four-letter Tetragrammaton, which is transliterated as "Y-H-W-H." For 10 points, name this deity worshipped by Jews.**

ANSWER: **God** [or the **Lord** or **Elohim** or **Yahweh** or **Jehovah** or the Hebrew **God** or the **God** of the Bible or the Abrahamic **God** or **yodh-he-waw-he** or **yodh-he-vav-he**; or **Hashem** before "Hashem" is read; or **Adonai** before "Adonai" is read; or **Y-H-W-H** before "Y-H-W-H" is read]

<Religion — Dai> [Ed. French]

10. This country's namesake empire fought a protracted war with the Adal Sultanate in the mid-16th century. For 10 points each:

[E] Name this country in the Horn of Africa where that Christian empire was ruled for 700 years by the Solomonic dynasty. This country's final ruler, Haile Selassie, ruled from its capital of Addis Ababa until 1974.

ANSWER: **Ethiopia** [accept **Abyssinia** or the **Ethiopian** Empire or the **Abyssinian** Empire]

[H] Ethiopia was nearly defeated by Adal before soldiers from this empire pushed back the invaders. This empire's naval rivalry with the Ottoman Empire led them to support Ethiopia against the Ottoman-backed Adal Sultanate.

ANSWER: **Portugal** [or Kingdom of **Portugal** or Reino de **Portugal**; accept **Portuguese** Empire]

[M] The commander of the Portuguese force in Ethiopia, Cristovão, was the son of this explorer. This explorer had earlier asked for trade concessions from the Zamorin of Calicut during his first expedition to India.

ANSWER: Vasco **da Gama**

<World History — Athreya> [Ed. Delot-Vilain]

11. **Ernst Haeckel and H.P. Blavatsky claimed that a hypothetical continent named for these animals was the ancestral homeland of humanity. The name of these animals comes from the Latin name for spirits that were exorcised along with larvae at a mid-May festival. One species of these animals eats grubs using its long, thin middle finger. These animals are the primary prey of the (*) fossa. Types of these animals include the indri, aye-aye, and ring-tailed. In a movie, the Sacha Baron Cohen-played character of King Julien is one of these animals. For 10 points, name these endangered primates which are native only to Madagascar.**

ANSWER: **lemurs** [or **Lemuroidea**; accept **Lemuria**]

<Other — French> [Edited]

11. In *Mulholland Drive*, a man brings his friend to visit Winkie's Diner because he saw a terrifying thing behind it during one of these events. For 10 points each:

[E] Name these events that may be represented in film through "sequences" that depict a distorted reality. Much of *Mulholland Drive* takes place during one of these events that ends when the Cowboy says, "time to wake up."

ANSWER: **dreams** [accept **dream** sequences]

[M] In a film by this director, the screen flashes red throughout a dream sequence in which Jimmy Stewart's character recalls failing to save Madeleine Elster from jumping out of a tower. That film by this director uses the dolly zoom to represent Scottie Ferguson's fear of heights.

ANSWER: Alfred **Hitchcock** (The film is *Vertigo*.)

[H] This director showed a man struggling to get out of a locked car before floating up into the sky in a dream sequence that opens his film *8½* ("eight and a half"). This Italian also directed *La Dolce* ("DOLE-chay") *Vita*.

ANSWER: Federico **Fellini**

<Film — French> [Edited]

12. **In a novel by an author from this country, the escaped slave Macandal reveals his plan to poison white settlers to Ti Noël. That novel from this country is set during the Haitian Revolution and is called *The Kingdom of This World*. A poet from this country described "the land where palm trees grow" in a poem that declares, "I am a sincere man." This home country of (*) Alejo Carpentier was also home to the editor of the newspaper *Patria*, who died fighting for this country's independence from Spain. Poems by that author, José Martí, were adapted into this country's patriotic song "Guantanamera." For 10 points, name this Caribbean country whose capital is Havana.**

ANSWER: **Cuba** [or Republic of **Cuba** or República de **Cuba**]

<Other Literature — Lin> [Ed. French]

12. Martin Luther attacked this friar's belief that remorse was not necessary for atonement if one bought an indulgence. For 10 points each:

[H] Name this Dominican friar who sold indulgences with the slogan, "When the coin in the coffer rings / the soul from purgatory springs."

ANSWER: Johann **Tetzel**

[E] Tetzel claimed that buying an indulgence would offer the buyer remission for these things, reducing the time spent in Purgatory. The Catholic Church recognizes seven "deadly" examples of these things, such as lust and wrath.

ANSWER: **sins** [accept Seven Deadly **Sins**]

[M] The sale of indulgences was eventually banned at this mid-16th century council, although the doctrine of Purgatory was affirmed. This council, convoked by Paul III, is often cited as the start of the Counter-Reformation.

ANSWER: Council of **Trent**

<European History — French> [Edited]

13. Chaotic irregularities in these structures were induced by drugs like caffeine and amphetamines in experiments run by Peter N. Witt. These structures are classified as "sheet," "tangled," "funnel" or "orb" based on shape. Specialized organs for producing these structures are typically found on the opisthosoma, and include cribella or (*) spinnerets. Dragline fibers in these structures have higher tensile strength than many types of steel at a fraction of the density. Tiny glue balls allow capture spiral fibers in these structures to ensnare prey of animals that produce them such as the black widow and brown recluse. For 10 points, name these structures used by many spiders to catch insects.

ANSWER: spider**webs** [accept **spider silk**, prompt on **silk** alone]

<Biology — Sheffield> [Ed. Schwartz]

13. For 10 points each, answer the following about Huitzilopochtli:

[E] Huitzilopochtli is the war god of this Mesoamerican people. In this people's mythology, Tezcatlipoca frequently clashes with the feathered serpent Quetzalcoatl.

ANSWER: **Aztecs**

[H] Huitzilopochtli is born when this goddess is impregnated with a ball of feathers. This Aztec earth goddess is also the mother of the Centzon Huitznahua, who are the four hundred Southern stars.

ANSWER: **Coatlicue**

[M] Many depictions of Huitzilopochtli either show him as a hummingbird or this other bird. Legendarily, the Aztec capital of Tenochtitlan was founded at a spot where one of these birds was holding a snake while sitting on a cactus.

ANSWER: **eagles**

<Mythology — Venkateswaran> [Edited]

14. According to legend, a ruler of this empire was cut out of his mother's womb after she was poisoned. After becoming a monk, the first ruler of this empire committed ritual suicide by fasting. Information about people in this empire was recorded by the Greek ambassador Megasthenes during his visit to this empire's city of Pataliputra. The first ruler of this empire was advised by a minister who authored the (*) Arthashastra, a treatise on governance. After witnessing violent bloodshed during the Kalinga War, a ruler of this empire converted to Buddhism and issued his rock edicts. For 10 points, name this Indian empire ruled by Chandragupta and Ashoka.

ANSWER: **Maurya** Empire

<World History — Athreya> [Edited]

14. The presence of beta-amyloid plaques and neurofibrillary tangles composed of tau protein characterizes this disease. For 10 points each:

[E] Name this neurodegenerative disease. It is the most common cause of dementia in the elderly.

ANSWER: **Alzheimer's** disease [or **AD**]

[H] Tau tangles and amyloid plaques can be detected in living patients by tracking the presence of fluoride-18 in the brain using this imaging technique. This technique measures beta-plus decay of tracers to quantify metabolism.

ANSWER: **positron emission tomography** [or **PET** scan]

[M] Experimental diet-based therapeutics for Alzheimer's are based on the link between brain processes and metabolites produced by this community in the GI tract. It is composed of organisms like *E. coli* and *B. fragilis*.

ANSWER: gut **microbiome** [accept gut **microbiota**]

<Biology — Yin> [Ed. Schwartz]

15. **On one journey, this hero causes Libya to be infested with poisonous snakes, one of which later kills the Argonaut Mopsus. Phineus leads a riot against this hero for marrying a woman who had earlier been promised to him by Cepheus. Because he refuses to give this hero hospitality, (*) Atlas is turned into a mountain. This hero accidentally fulfills a prophecy when his discus hits Acrisius, who had earlier cast this hero and his mother into the sea in a wooden chest. This hero defeats a sea monster to rescue Andromeda. To aid this hero on a quest, Hermes and Athena give him a reflective shield and winged sandals. For 10 points, name this Greek hero who slays Medusa.**

ANSWER: **Perseus**

<Mythology — An> [Edited]

15. This author wrote, "You were born, you had body, you died. / It is just that you never giggled or planned or cried," in a poem addressed to all of the unborn children she aborted. For 10 points each:

[H] Name this poet who lamented, "Believe me, I loved you all," in "the mother." Another poem by this author describes "two who are Mostly Good" for whom "dinner is a casual affair."

ANSWER: Gwendolyn **Brooks**

[E] "the mother" first appeared in Brooks' collection *A Street in Bronzeville*, which was inspired by the South Side neighborhood of this city. A Carl Sandburg poem addressed to this Illinois city calls it "Hog Butcher of the World."

ANSWER: **Chicago**

[M] Brooks' poem "We Real Cool" is often cited as an example of this poetic technique. In this technique, a line break is inserted in the middle of a sentence without any punctuation or grammatical pause.

ANSWER: **enjambment**

<Poetry — Moon> [Ed. French]

16. **The same two chords begin both the first and second movements of a concerto for this instrument although the second time is *pizzicato* instead of *arco*. Camille Saint-Saëns ("kah-MEE san-SAWN") used the unusual structure of one continuous movement in his first A minor concerto for this instrument. Multiple sclerosis ended the career of Jacqueline du Pre, who popularized Edward Elgar's (*) E minor concerto for this instrument. This instrument represents the swan in the final movement of *The Carnival of the Animals*, which is often excerpted as an encore by Yo-Yo Ma, who plays this instrument. For 10 points, name this string instrument that is pitched lower than a viola but higher than a bass.**

ANSWER: **cello** [accept violon**cello**]

<Classical Music — An> [Ed. Ma]

16. Answer the following about the trial of Gaius Verres, for 10 points each:

[E] In the 70s BCE, Gaius Verres was the Roman governor of this large Mediterranean island at the tip of Italy. Some of his more infamous deeds include pillaging a temple found in this island's city of Syracuse.

ANSWER: Sicily [or Sicilia]

[H] The orator Cicero's successful prosecution of Verres helped him get elected to this public office. This office, which oversees festivals, games, and public buildings, follows the quaestorship on the cursus honorum.

ANSWER: aedileship [or aedile]

[M] During the trial, Cicero accused Verres of using the chaos caused by this man's revolt in order to extort Sicilians. This man's revolt ended when Crassus defeated him and had the survivors crucified along the Appian way.

ANSWER: Spartacus

<European History — Delot-Vilain> [Edited]

17. **A character in this novel wastes a fortune by accidentally leaving his Eau de Cologne perfume tap running during a trip. Characters in this novel attend "feelies" with synthetic music, such as *Three Weeks in a Helicopter*. In this novel, a mother gives her son an old copy of *The Complete Works of William Shakespeare* while living on a reservation in (*) New Mexico. After a riot in this novel, Mustapha Mond exiles three characters from the World State. Citizens in this novel are born in hatcheries through the Bokanovsky process and regularly consume the drug soma. For 10 points, name this novel in which John the Savage visits a dystopian London, written by Aldous Huxley.**

ANSWER: *Brave New World*

<Long Fiction — Yau> [Ed. Orr]

17. Materials with this property are used on the stripes of credit cards because of the "memory" they can retain. For 10 points each:

[M] Name this property of materials whose electron spins are aligned, producing a permanent magnetic field.

ANSWER: ferromagnetism [accept word forms like ferromagnetic]

[H] Ferromagnetic materials exhibit this phenomenon, where magnetizing the material follows a different path than demagnetizing it. More generally, this phenomenon refers to the dependence of a system on its history.

ANSWER: hysteresis

[E] The SI derived unit for magnetic field strength is named for this Serbian-American inventor who pioneered alternating current during his rivalry with Thomas Edison.

ANSWER: Nikola Tesla

<Physics — Bowman> [Edited]

18. **In this decade, Zoë Baird failed to be confirmed as Attorney General after it was discovered she had employed an illegal immigrant as a nanny. A year before this decade, Kimberlé Crenshaw coined the term "intersectionality," which achieved widespread usage in this decade after the emergence of third-wave feminism. Near the beginning of this decade, (*) Anita Hill testified that she had been sexually harassed by the Supreme Court nominee Clarence Thomas. In this decade, the president was impeached after he denied having had "sexual relations" with Monica Lewinsky. For 10 points, name this decade in which Bill Clinton was elected president.**

ANSWER: 1990s [or the Nineties]

<American History — French> [Edited]

18. One of these buildings in Oslo advertises on its website “please walk on the roof” in reference to its large ramp that allows pedestrian access to its roof. For 10 points each:

[M] Name these buildings. Ove Arup helped engineer the concrete ribs that support another one of these buildings designed by Jørn (“yearn”) Utzon.

ANSWER: **opera houses**

[E] That aforementioned opera house is adorned with white, sail-like concrete shells and occupies Bennelong Point in this Australian city.

ANSWER: **Sydney**

[H] This architect designed an opera house in Guangzhou (“gwong-joe”) meant to resemble two pebbles washed up by the Pearl River. This architect’s futuristic design for the 2020 Olympics Stadium was scrapped because it was too expensive.

ANSWER: Zaha **Hadid**

<Architecture — An> [Edited]

19. **A hydrated oxide of this element called limonite (“LYE-muh-nite”) makes up the pigment yellow ochre (“OH-kur”). This element and magnesium are the cations (“CAT-eye-ons”) that characterize mafic (“MAF-ick”) silicates. High-nutrient, low-chlorophyll regions could be fertilized with this element to induce algal blooms. The Great Oxygenation Event created many (*) “banded formations” named for this element, made of oxides of it like hematite (“HEE-muh-tite”). This element and sulfur make up pyrite (“PYE-rite”), or fool’s gold. This element and nickel are the main components of Earth’s core. For 10 points, name this transition metal that’s alloyed with carbon in steel.**

ANSWER: **iron** [or **Fe**; accept ferric **iron** or ferrous **iron** or **iron** oxides or **iron** ores or banded **iron** formations] (“Mafic” stands for *magnesium* and *ferrum*.)

<Earth, Ocean, and Atmospheric Sciences — Yin> [Edited]

19. Name these companies trying to “disrupt” the nature of how we consume food, for 10 points each:

[E] This company sold its self-driving car division in January 2021, focusing instead on its “Eats” food-delivery service. This company’s ridesharing platform is the most widely-used in the U.S., ahead of competitors like Lyft.

ANSWER: **Uber** [accept **Uber** Eats or **Uber** ATG]

[H] This company founded by Rob Rhinehart creates meal-replacement products supposed to contain all necessary nutrients. This company’s 2.0 products include ready-mixed drinks and bars as well as the original powder mixes.

ANSWER: **Soylent**

[M] This vegetarian burger uses soy-derived heme as its protein base. Burger King has put out a version of the Whopper based on this meat replacement product.

ANSWER: **Impossible** Burger [accept **Impossible** Whopper or **Impossible** Foods]

<Current Events — Gray> [Edited]

20. **In one painting, this artist depicted his wife sitting on a box with her back to the viewer while facing a mirror image of herself. In another painting by this artist, a nude woman with a gun pointed to her right arm sleeps on an iceberg while two tigers jump toward her from the sky. The title figure kneels in the desert while holding up a cross toward a rearing horse and spindly-legged (*) elephants in this artist’s version of *The Temptation of St. Anthony*. A rocky coast provides the background for another painting by this artist where ants group in the bottom left next to a knob. For 10 points, name this Spanish Surrealist whose *The Persistence of Memory* depicts melting clocks.**

ANSWER: Salvador **Dalí** [or Salvador Domingo Felipe Jacinto **Dalí** i Domènech, 1st Marquess of Dalí de Púbol]

<Painting — Venkateswaran> [Edited]

20. In this novel, Addie narrates how she did not love her husband nor her children, except for Jewel, who she conceived in an affair with Whitfield. For 10 points each:

[M] Name this novel in which Addie Bundren's family attempts to honor her request to be buried with her family in Jefferson. Like many of its author's works, this novel is set in Yoknapatawpha County.

ANSWER: ***As I Lay Dying***

[E] *As I Lay Dying* is a novel by this modern American author. This Southerner also wrote "A Rose for Emily" and *The Sound and the Fury*.

ANSWER: William **Faulkner**

[H] In the novel, this youngest of the Bundren children drills holes in the lid of Addie's coffin to help her breathe, though he ends up drilling into her face as well. After being asked to clean a dead fish, this character concludes, "My mother is a fish."

ANSWER: **Vardaman** Bundren

<Long Fiction — French> [Edited]