

CALISTO 2

Head-edited by Justine French. Edited by Dylan Bowman, Robert Condron, 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 4

1. In a story set during this event, the infant Magda screams after a shawl is taken from her. A chemist contemplates the difference between the “drowned” and the “saved” in a book set during this event. In another book set during this event, Mrs. Schächter (“SHECK-ter”) repeatedly claims that she can see fire in the distance. People are represented as (*) cats and mice in a graphic novel about this event by Art Spiegelman. The memoir *If This Is a Man* is set during this event, as is a book in which the townspeople of Sighet ignore warnings given by Moishe the Beadle. For 10 points, *Night* by Elie Wiesel describes life during what genocide of Jews during World War II?

ANSWER: the **Holocaust** [or the **Shoah**; prompt on World War II or WWII or the Second World War before “World War II”] (The story in the first line is Cynthia Ozick’s “The Shawl.”)

<Other Literature — Lin> [Edited]

1. Brooks’ theorem states that the number of these things required is less than or equal to the graph’s maximum degree. For 10 points each:

[M] Name these things used to label graphs, different ones of which are required for adjacent vertices. A controversial proof using a computer showed that at most four of them are necessary for a loopless planar graph.

ANSWER: **colors** [accept the four-**color** theorem]

[E] Grötzsch’s theorem says any graph without any of these polygons can be labeled with only three colors. In geometry, the internal angles of these polygons sum to 180 degrees.

ANSWER: **triangles**

[H] Furthermore, any graph with this quality, like $K_{3,3}$ (“K--three-three”), has a 2-coloring. These graphs divide the vertices into two sections, with each vertex connected to all of the vertices in the other section but none in its own.

ANSWER: **bipartite** graphs [or **bigraphs**]

<Math — Bowman> [Edited]

2. The Kingdom of Mapungubwe controlled the trade of ivory and this resource in southern Africa until it was overtaken by the Kingdom of Zimbabwe. The ancient Egyptian word for this resource, *nbw* (“na-baw”), may be the source of the name of Nubia, which contained much of it. Camel caravans brought a different resource from sites like Taghaza to trade for this resource in cities like (*) Djenne. The market for this resource in Cairo crashed when Mansa Musa brought copious amounts of it with him on his hajj. The Trans-Saharan trade route for salt and this resource was fought over by empires like Songhai, Ghana, and Mali. For 10 points, name this precious metal with a yellow color.

ANSWER: **gold**

<World History — French> [Edited]

2. In “A Defense of [this practice],” Judith Thomson analogized this practice to a situation in which a person is kidnapped and unwillingly has their bloodstream hooked up to a dying violinist.

[H] Name this action, which Thomson morally equated with unplugging the violinist.

ANSWER: **abortion** [accept synonyms such as **terminating a pregnancy**; prompt on word forms of **letting die**; do NOT accept or prompt on “killing” or “murder”]

[M] This Scholastic thinker believed that abortion was homicide at any time after the fetus had gained a soul. This thinker also presented five “ways” to demonstrate the existence of God, also called his five proofs.

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

[E] Thomas Aquinas was a friar in this organization’s Dominican Order. This organization’s stance against abortion was explicated in the papal encyclical *Evangelium vitae*, which calls abortion an “unspeakable crime.”

ANSWER: Roman **Catholic** Church [or word forms like **Catholicism**; accept the **Vatican**; prompt on the **Church**]
<Philosophy — Miles> [Edited]

3. **Pelagianism holds that this thing does not significantly affect free will, unlike Jansenism, which holds that this thing completely removes free will. Because of this thing, Old Testament figures like David were in the Limbo of the Patriarchs before the Harrowing of Hell. Augustine wrote that infants who die before (*)**

Baptism are condemned because they are not free from this thing. The doctrine of the immaculate conception holds that Mary was conceived without this thing. The Catholic Church defines this thing as human’s natural tendency towards evil stemming from the Fall of Man. For 10 points, name this state of taintedness that all humans inherit from Adam and Eve.

ANSWER: **original sin** [prompt on **sin** or ancestral **sin**]
<Religion — French> [Edited]

3. Martin Heidegger’s analysis of this play’s “Ode to Man” casts man as “the strangest of the strange.” For 10 points each:

[M] Name this play in which the title character kills herself after Creon sentences her to death for burying the body of Polynices.

ANSWER: **Antigone**

[E] Antigone is the daughter of this character who appears in plays by Sophocles titled for him “at Colonus” and “Rex.” This king of Thebes unknowingly kills his father Laius at a crossroads and marries his mother Jocasta.

ANSWER: **Oedipus** [accept **Oedipus at Colonus** or **Oedipus Rex**]

[H] In *Oedipus Rex*, Oedipus accuses this man of treachery after this man tells him that Oedipus killed Laius. This man blames Creon’s refusal to bury Polynices for his inability to make sacrifices to the gods in *Antigone*.

ANSWER: **Tiresias**

<Drama — Tagtmeier> [Edited]

4. **The time derivative of this quantity plus the divergence of the product of this quantity and flow velocity is zero, according to the continuity equation. This quantity times the characteristic velocity and characteristic length all over dynamic viscosity gives the Reynolds number. This quantity is constant when the divergence of a fluid’s velocity is zero, in which case the fluid is (*) incompressible. This quantity times gravitational acceleration times displaced volume gives the buoyant force according to Archimedes’ principle. This quantity symbolized rho is higher for water than oil, which is why they separate when mixed. For 10 points, name this quantity equal to mass per unit volume.**

ANSWER: **density** [or mass **density**]

<Physics — Bowman> [Edited]

4. During World War I, this woman offered to organize a unit of volunteer female sharpshooters, but was rejected. For 10 points each:

[M] Name this sharpshooter who promoted armed self-defense for women and toured with Buffalo Bill's Wild West Show.

ANSWER: Annie **Oakley** [or Phoebe Ann **Mosey**]

[H] In 1903, this person libelled Oakley, claiming that she had stolen money to feed a cocaine addiction. Frederic Remington, who had briefly travelled with the Wild West Show, worked in Cuba after being hired by this man.

ANSWER: William Randolph **Hearst Sr.**

[E] Annie Oakley and her husband Frank E. Butler were the subject of a film produced by this inventor's Black Maria film studio. This "Wizard of Menlo Park" is often inaccurately credited with inventing the lightbulb.

ANSWER: Thomas **Edison** [or Thomas Alva **Edison**]

<American History — Delot-Vilain> [Edited]

5. **The spiral bronze columns of one sculpture in this city depict a coat of arms consisting of bees and suns. A hidden window behind a pediment allows natural light to shine on a sculpture located in this city's Cornaro Chapel. This city's Piazza Navona is the site of a fountain containing an obelisk surrounded by allegorical figures representing four (*) rivers.** This city houses a sculpture of an angel pointing a spear toward the heart of a nun, *The Ecstasy of Saint Teresa*, which was designed by Gian Lorenzo Bernini. Nicola Salvi sculpted this city's Trevi Fountain. For 10 points, the St. Peter's Basilica is located in what Italian city that also contains the Colosseum?

ANSWER: **Rome** [or **Roma**; prompt on Vatican City by asking, "in what city is Vatican City located?"]

<Sculpture — Venkateswaran> [Edited]

5. Marshall Sahlins cited Lorna Marshall's observation that this desert's !Kung people have a "material plenty" to argue that hunter-gatherers were the "original affluent society." For 10 points each:

[M] Name this desert, which in the early Holocene was the site of Lake Makgadikgadi. Like the Namib Desert to its east, this desert is home to many of the hunter-gatherer San peoples.

ANSWER: **Kalahari** Desert

[E] In 2002, several thousand San were evicted from land in the Kalahari rich in these gemstones. San advocates claimed that the eviction was brokered by corporations who mine these very hard gemstones often used in rings.

ANSWER: **diamonds**

[H] Some of the San peoples, such as the Bugakwe and Xanekwe, live along this river. This river used to flow into Lake Makgadikgadi, but it now ends at an inland delta within the Kalahari.

ANSWER: **Okavango** River [accept **Okavango** Delta or **Okavango** Grassland or **Okavango** Delta System]

<Geography — French> [Edited]

6. **During a lecture, a character in this country distinguishes "usurp" from "usurp upon" as found in the Mont Blanc passage of Wordsworth's *The Prelude*. The protagonist of a novel from this country is set on fire by three men who assault his daughter Lucy. The student Melanie Isaacs is raped by her professor David Lurie in a novel from this country titled (*) *Disgrace*.** Absalom Kumalo is executed for murdering Arthur Jarvis in *Cry, the Beloved Country*, a novel from this country by Alan Paton. A leader of this country wrote the autobiography *Long Walk to Freedom* and would recite the poem "Invictus" while in prison. For 10 points, name this home country of Nelson Mandela.

ANSWER: **South Africa** [or Republic of **South Africa** or **RSA**] (J. M. Coetzee wrote *Disgrace*.)

<Long Fiction — Lin>

6. A black-and-white landscape by Lǐ Sōng depicts one of these features named for being west of Hangzhou (“hong-joe”). For 10 points each:

[H] Name these features. A Chinese gardening practice in which one of these features is paired with three hills informed the design of one of these features at the Summer Palace named Kūnmíng (“kwen-ming”).

ANSWER: **lake** [or **hú**; accept West **Lake** or Kunming **Lake** or *Xī Hú* or *Kūnmíng Hú*]

[M] The Empress Dowager Cíxī (“tsuh-shee”) commissioned a boat made of this material that still “floats” on Kūnmíng Lake. The Old Summer Palace contained a European-style mansion made of this material, which was worked by Antonio Canova and other Neoclassical sculptors.

ANSWER: **marble**

[E] Kūnmíng Lake is crossed by a seventeen-arch one of these structures bedecked with marble lions. Marco Polo is the namesake of one of these structures in Beijing that crosses the Yǒngdīng River.

ANSWER: **bridge** [or **qiáo**; accept Seventeen-Arch **Bridge** or Marco Polo **Bridge** or *Shíqīkǒng Qiáo* or *Lúgōu Qiáo*]

<Architecture — French> [Edited]

7. **The brutal occupation of one region during this war was known as the “Greater Wrath.” Johann Patkul was executed by one side in this war for treason. The Treaty of Altranstädt resulted in Augustus the Strong losing his throne in the middle of this war. The king of one side in this war was killed during the Siege of (*) Fredriksten.** That king’s forces had earlier defeated an army four times their size at the Battle of Narva. The Treaty of Nystad ended this war, during which Charles XII’s forces were defeated at the Battle of Poltava. For 10 points, name this war in which Russia and its allies decisively defeated the Swedish Empire.

ANSWER: **Great Northern War**

<European History — Prabhakar> [Edited]

7. In a poem by this author, she repeatedly tells her suitors, “Go, go, go, seek some other where, importune me no more.” For 10 points each:

[H] Name this poet of “When I Was Fair and Young” and “Ah Silly Pug, Wert Thou So Sore Afraid.” This woman is represented by both Gloriana and the virgin Belpheobe in an epic by Edmund Spenser.

ANSWER: **Elizabeth I** [or **Elizabeth Tudor**; prompt on **Elizabeth**]

[E] Elizabeth I is represented as Gloriana in Edmund Spenser’s epic titled for a “Faerie” holder of this title. Elizabeth I held this title “of England.”

ANSWER: **queen** [accept **monarch** or **Queen** of England or Faerie **Queene**]

[M] This poet rebuked men who disparage women by saying “’tis a slander now, but once was treason,” in reference to the reign of Elizabeth I. This American wrote “If ever two were one, then surely we” in her poem, “To my Dear and Loving Husband.”

ANSWER: Anne **Bradstreet**

<Poetry — French> [Edited]

8. **A high value for a molecule’s log Kow (“log K-O-W”) indicates that the molecule has this property. Molecules with this property dominate the organic layer in liquid-liquid extraction. The interior portion of micelles that form in aqueous solutions have this property. Because compounds with this property cannot form (*) dipole-dipole interactions, dispersion forces tend to be their strongest intermolecular interaction. Solutes with this property do not dissolve easily in water according to the principle that “like dissolves like.” Molecules that do not possess a net dipole exhibit, for 10 points, what property, exhibited by molecules that share charge evenly?**

ANSWER: **non-polar** [accept **hydrophobic** or **lipophilic**]

<Chemistry — Schwartz> [Edited]

8. Although it was written in 1830, this symphony was not published until 1868, 21 years after its composer's death, resulting in its achronological numbering. For 10 points each:

[H] Name this symphony whose fourth movement centers on Martin Luther's hymn "A mighty fortress is our God." The name of this symphony was chosen by its composer's sister Fanny.

ANSWER: **Reformation** *Symphony* [accept but do not reveal Felix **Mendelsohn**'s *Symphony No. 5*; prompt on *Symphony No. 5*]

[M] This early Romantic German composer wrote the *Reformation Symphony* for the tricentennial of the presentation of the Confession at the Diet of Augsburg. Two of his other symphonies are titled *Italian* and *Scottish*.

ANSWER: Felix **Mendelssohn**

[E] The second section of Mendelsohn's *Festgesang*, composed for the quadricentennial of Gutenberg's invention of the printing press, was adapted as one of these Christmas tunes with lyrics "Hark! The Herald Angel Sings."

ANSWER: Christmas **carol** [accept **hymn**; prompt on Christmas **song**]

<Classical Music — Ma> [Edited]

9. **In one story, a king of Thebes insults this deity as a "foreign effeminate," possibly referencing the fact that this deity's cult may have originated in the Zagros mountains. This god's mystery cult centered on an annual festival during which the tragedies of Aeschylus and Sophocles premiered. The retinue of this god, his (*) *thiasus*, was composed of thyrsus-carrying maenads and satyrs. This god has the epithet "twice-born" since he was sewn into Zeus's thigh after Zeus revealed his true form to this god's mother Semele. For 10 points, name this Greco-Roman god of madness, festivities, and wine.**

ANSWER: **Dionysus** [accept **Bacchus**]

<Mythology — Ma> [Edited]

9. These people's namesake Khaganate was destroyed in 840 after an invasion by the Kirghiz. For 10 points each:

[H] Name these people whose Khaganate had its capital at Ordu-Baliq. These people later went on to be the dominant ethnic group in the Tarim Basin following the Dzungar Genocide.

ANSWER: **Uighurs** [or **Uyghurs**]

[E] The Uighurs converted from Buddhism to this religion over the course of several centuries. After converting to this religion, many Uighur kingdoms came to rely on the Qur'an for legal purposes.

ANSWER: **Islam**

[M] Some Uighurs joined the Dzungars in their conflicts with this dynasty. The Dzungar Khanate was destroyed as part of this dynasty's Ten Great Campaigns, waged during the reign of this dynasty's Qianlong Emperor.

ANSWER: **Qing** dynasty

<World History — Ma> [Ed. Prabhakar]

10. **Cases 1000 and 2000 are corruption and bribery cases brought against a leader in this country. A party in this country founded in 2019 which is led by a former army chief of staff is named after the colors of this country's flag. Another party in this country which is led by Mansour Abbas and holds only four seats in the legislature was the last to join a 2021 electoral coalition. In 2021, (*) Naftali Bennett was sworn in as this country's prime minister in the fourth election in two years. This country's parliament, the Knesset, was long controlled by the Likud party. For 10 points, name this country which was led from 2009 to 2021 by Benjamin Netanyahu.**

ANSWER: **Israel** [or State of **Israel** or Medinat **Yisra'el**]

<Current Events — Gray> [Edited]

10. Because the spin of the lone electron in these species cannot be cancelled out, they can be paramagnetic, making it possible to analyze them using EPR spectroscopy. For 10 points each:

[M] Name these extremely reactive species whose formation can be described using fish hook arrows. These species are characterized by the presence of at least 1 unpaired electron.

ANSWER: free **radicals**

[H] Free radicals are formed as a result of this form of bond cleavage. Bond-dissociation energy corresponds to the amount of energy needed for this form of cleavage to occur.

ANSWER: **homolytic** cleavage [accept **homolytic** fission; prompt on radical fission]

[E] Radicals of these elements are often used to functionalize alkanes after light-induced homolytic cleavage. This group of elements with 7 electrons in their valence shell includes bromine, chlorine, and fluorine.

ANSWER: **halogens** [accept **group 17** elements]

<Chemistry — Schwartz> [Edited]

11. **Past values of this quantity are reconstructed from the ratio of oxygen-18 to oxygen-16 in ice and sediment cores. Though it's not concentration, rapid rises in this quantity may be explained by the clathrate gun hypothesis. Changes in this quantity are accelerated by ice-albedo ("al-BEE-doh") feedback. This quantity could be decreased through stratospheric aerosol injection and other (*) geoengineering techniques.** Polar amplification is making this quantity increase fastest in the Arctic, causing a decline in the amount of sea ice. For 10 points, name this quantity that's rising globally due to the greenhouse effect.

ANSWER: global average **temperature** [or global surface **temperature** or global annual **temperature**; accept air **temperature** or sea surface **temperature** or **temperature** anomaly; prompt on **SST**]

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

11. The Cohong was a merchant monopoly operating in this city. For 10 points each:

[H] Name this city which names a system that governed trade with the West in China. An official known as the Hoppo oversaw trade regulations in this city.

ANSWER: **Canton** [or **Guangzhou**]

[E] The Canton system fell apart after the Qing Dynasty lost these wars to the British Empire and other colonial powers. These wars were named for an addictive drug illegally traded by Westerners at Canton.

ANSWER: **Opium** Wars [or First **Opium** War or Second **Opium** War]

[M] Prior to using opium, Westerners had to use this commodity to pay for Chinese products in Canton. Large amounts of this commodity flowed into China after being transported from Acapulco by the Manila galleons.

ANSWER: **silver**

<World History — Prabhakar> [Edited]

12. **One player of this instrument included "Judas" and "Earth to Heaven" on the album *Emily's D+Evolution*. Another musician played a modified version of this instrument "of Doom." Players of this instrument include Esperanza Spalding, Jaco Pastorius, and one who depicted mankind's progression from hominid roots in "Pithecanthropus Erectus." That player of this instrument, who included "Goodbye Pork Pie Hat" on his album (*) *Mingus Ah Um*, was Charles Mingus. Piano, drums, guitar, and this instrument make up a typical rhythm section, where it is often used to play a "walking" accompaniment line.** For 10 points, name this low-pitched string instrument.

ANSWER: **bass** [accept electric **bass** or **bass** guitar; accept double **bass** or string **bass** or upright **bass**]

<Jazz — Sheffield> [Edited]

12. This novel's Japanese translator, Hitoshi Igarashi, was murdered after this novel was condemned as "against Islam, the Prophet of Islam, and the Quran." For 10 points each:

[M] Name this novel in which Gibreel Farishta and Saladin Chamcha survive a plane explosion over the English Channel. Ayatollah Ruhollah Khomeini issued a fatwa condemning this novel and its author, Salman Rushdie.

ANSWER: *The Satanic Verses*

[H] After *The Satanic Verses* was condemned, Rushdie explored issues of censorship in this children's novel. In this novel, Rashid Khalifa's son travels to the dark land of Chup to stop Khattam-Shud from poisoning the title body of water.

ANSWER: *Haroun and the Sea of Stories*

[E] While in hiding, Rushdie adopted a pseudonym that combines the names of Anton Chekhov and this author. Marlow travels up the Congo river in search of the ivory trader Kurtz in this author's novel *Heart of Darkness*.

ANSWER: Joseph Conrad (Rushdie's pseudonym was Joseph Anton.)

<Long Fiction — Narayan> [Ed. French]

13. **The protagonist of this novel works briefly writing perfume ads in New York City. After discovering an affair with the Russian driver whose taxi they are in, the protagonist of this novel divorces his wife Valeria. The events of this novel are presented as a memoir titled *The Confessions of a White Widowed Male* with a foreword by Dr. John Ray, Jr. (*)** Charlotte is struck and killed by a car after discovering the protagonist's diary in this novel. The author of the play *The Enchanted Hunters*, the dramatist Clare Quilty, is shot and killed in revenge for abducting Dolores Haze in this novel. For 10 points, name this novel about the pedophile Humbert Humbert, written by Vladimir Nabokov.

ANSWER: *Lolita*

<Long Fiction — Condron> [Edited]

13. In one film, a character played by this actor stabs and kills his bandmate Toledo after getting fired by their band leader. For 10 points each:

[M] Name this actor who tragically died in August 2020. The 2021 Oscars made the best actor award the last of the night in order to give it posthumously to this actor, making it really awkward when he didn't win.

ANSWER: Chadwick Boseman [or Chadwick Aaron Boseman] (The film in the lead-in is *Ma Rainey's Black Bottom*.)

[E] Boseman portrayed this title character of a 2018 Marvel movie in the Marvel Cinematic Universe. This king of Wakanda fights with a suit that can absorb and redistribute energy.

ANSWER: Black Panther [or T'Challa]

[H] The relatively unknown Boseman broke through as an actor in 2013 when he starred as Jackie Robinson in this biopic. This film also stars Harrison Ford as Branch Rickey, the owner of the Brooklyn Dodgers.

ANSWER: 42

<Popular Culture — Ashbrook> [Ed. Gray]

14. **Political prisoners in this country were held in a labor camp located on the island of Goli Otok. A leader of this country promoted the slogan "Brotherhood and unity" among this country's various ethnic groups. This country became a republic after its last king, Peter II, was deposed following World War II. A leader of this country initiated its (*)** Informbiro period following a split with the Soviet Union. That leader of this country served as the first chairman of the Non-Aligned Movement, of which this country was the only European founding member. This country was led by Slobodan Milosevic during its violent breakup in the 1990s. For 10 points, Josip Broz Tito led what former country located in the Balkans?

ANSWER: Yugoslavia [or Socialist Federal Republic of Yugoslavia or Kingdom of Yugoslavia]

<European History — Prabhakar>

14. In one work, this woman is depicted to the right of the sun disk holding a child portrayed with an elongated skull. For 10 points each:

[H] Name this woman who is depicted in many artworks of the Amarna Period. This woman wears a large, flat-topped headdress in a painted limestone bust currently held at the Neues Museum in Berlin.

ANSWER: **Nefertiti**

[E] Much of the artistic innovation during the Amarna period was abandoned during the reign of this pharaoh, the son of Nefertiti's husband Akhenaten. Howard Carter discovered a gold burial mask in the tomb of this "boy king."

ANSWER: King **Tut** [or **Tutankhamun** or **Tutankhaten**]

[M] One lasting consequence of the Amarna style was the dominance of the "sunken" type of this sculptural technique. Elements are raised only slightly from the background in the "low" or "bas" ("bah") type of this technique.

ANSWER: **relief** [accept sunken **relief** or sunk **relief** or low **relief** or bas **relief**]

<Sculpture — French> [Edited]

15. **Johann Maria Farina created one of these products that was so heavily counterfeited its name now refers to the grade of these products below EdP and EdT. These products are divided into families like fougère ("foo-ZHARE") and chypre ("cheaper") based on the accords formed by their head, heart, and base notes.**

Animal-based substances used to make these products include castoreum, (*) ambergris, and musk.

Classifications of these products based on oil content include "extrait" ("ex-TRAY") and "Eau de Toilette." Ernest Beaux made heavy use of aldehydes for a floral example of these products called *Chanel No. 5*. For 10 points, name these products like *Eau de Cologne* which a person may wear to smell nice.

ANSWER: **perfumes** [accept **fragrances** or **parfum**; accept **cologne** or eau de **Cologne** before "Cologne" is read]

<Misc. Art — Sheffield> [Edited]

15. According to Robert Trivers, parental investment is higher for this sex in mammals because gestation has a higher reproductive cost than sperm production. For 10 points each:

[E] Name this sex which produces eggs. Evolutionary adaptations unique to this sex in mammals include lactation and placental feeding during pregnancy.

ANSWER: **female** [accept **women** or **mothers**]

[M] Parental investment is a characteristic of a general reproductive strategy denoted by this letter and contrasted with r-selection. This letter is also used to denote carrying capacity.

ANSWER: **K** [accept **K**-selection]

[H] K-selection is favored in environments with high levels of this phenomenon. This phenomenon causes species to either adapt to new niches or go extinct according to a principle proposed by Georgy Gause ("GAUW-zuh").

ANSWER: **competition** [accept **competitive** exclusion principle]

<Biology — Schwartz> [Edited]

16. **In this work, a metal statue of an Old Man of Crete cries from a crack in its head. At the end of this work, the narrator "came forth to look again at the stars" after emerging from a mountain in the Southern Hemisphere. An inscription on a gate in this poem reads, "Abandon all (*) hope, ye who enter here." This poem opens "in the middle of the journey of our life" as the narrator "comes to himself in a dark wood" and is confronted by a leopard, a lion, and a she-wolf. In this poem, the ghost of Vergil guides the narrator through a realm with nine circles. For 10 points, name this section of the *Divine Comedy* in which Dante is guided through Hell.**

ANSWER: **Inferno** [prompt on *Divine Comedy* or *Divina Commedia* by asking "Which section?"]

<Poetry — Gray> [Edited]

16. This pope ordered the six-year-old child Edgardo Mortara to be removed from his Jewish parents after finding out that he had been baptized as a Catholic. For 10 points each:

[H] Name this long-reigning pope who lost control of the Papal States in 1870 to the Kingdom of Italy. This pope condemned many Enlightenment ideas, including the separation of church and state, in his *Syllabus of Errors*.

ANSWER: Pope **Pius IX** [or Giovanni **Ferretti**; prompt on **Pius**]

[E] In 1868, Pius IX convoked the first council of this name, which met in Saint Peter's Basilica. This council shares its name with the city-state in which the papacy is based, an enclave of the city of Rome.

ANSWER: **Vatican** Council [accept First **Vatican** Council or Second **Vatican** Council or **Vatican** City or **Vatican** City State or Stato della Città del **Vaticano** or Status Civitatis **Vaticanae**]

[M] Pius IX later clashed with this leader who supported Adalbert Falk's May Laws targeting the Catholic Church. The May Laws were part of the Kulturkampf, which sought to limit the power of the church in this leader's country.

ANSWER: Otto von **Bismarck** [or Otto Eduard Leopold von **Bismarck**]

<European History — French> [Ed. Delot-Vilain]

17. **Discrete trial training is a common intervention for children with this condition. People with this condition sometimes refer to themselves in the second or third person, which is called pronoun reversal. Simon Baron-Cohen theorized that people with this condition have a much higher systematic quotient than empathy quotient. Bruno Bettelheim promoted the false view that this condition was caused by parental (*) coldness. Most people with this condition display a special interest in a narrow topic. A "high-functioning" type of this condition was once known as Asperger's syndrome. For 10 points, name this developmental disorder that impairs communication skills and has a namesake "spectrum."**

ANSWER: **autism** spectrum disorder [or **ASD**; accept **Asperger**'s syndrome until "high-functioning" is read]

<Psychology — Yin> [Edited]

17. Systems to determine the results of this action include first-past-the-post, where the candidate with the most first-place rankings wins. For 10 points each:

[E] Name this action, in which participants in an election submit ballots which are then used to make a collective decision.

ANSWER: **voting** [accept word forms]

[M] While most of the U.S. uses first-past-the-post, elections in Maine, Alaska, and recently New York City, use this type of voting system. This term refers to any preferential voting system, such as instant-runoff voting.

ANSWER: **ranked-choice** voting [or **RVC**; accept **alternative** vote]

[H] This economist's "impossibility theorem" proves that no ranked voting system can ever both respect unanimous decisions and ignore irrelevant alternatives without being controlled by a single voter.

ANSWER: Kenneth **Arrow** [accept **Arrow**'s impossibility theorem]

<Other — Sheffield> [Edited]

18. **This mountain range's Mount Manaraga lies within the Yugyd Va ("you-gid VAH") national park, which is part of the Virgin Komi Forests. A language family named for this mountain range includes the proposed Ugric branch. Small pelmeni dumplings, which are frozen outdoors for storage, originate in this mountain range. This mountain range is the western limit of the native range of the (*) sable. Streams on the eastern slopes of this range drain into the Kara Sea via the Ob River. The archipelago Novaya Zemlya extends the northern part of this range, which stretches south to Kazakhstan north of the Aral Sea. For 10 points, name this mountain range that separates Europe and Asia.**

ANSWER: **Ural** Mountains [or **Urals** or **Uralskie Gory**; accept **Uralic** languages]

<Geography — French> [Edited]

18. In some models of this process, it is driven by the “slow roll” of a hypothetical scalar field down a nearly-flat potential. For 10 points each:

[H] Name this process proposed by Alan Guth that smooths out inhomogeneities in the early universe, making it a potential solution to the horizon problem.

ANSWER: **inflation** [or cosmic **inflation** or cosmological **inflation**; accept **inflationary** theory]

[E] Inflation would have begun 10 to the minus 36 seconds after this event. The universe is thought to have formed through this event in which it expanded from a hot, dense state.

ANSWER: the **Big Bang** [accept **Big Bang** theory]

[M] Higher and lower densities during inflation correspond to warmer and cooler spots in this specific radiation. Big Bang theory explains this radiation as a relic of photon decoupling.

ANSWER: **cosmic microwave background** radiation [or **CMBR**; prompt on **cosmic background** radiation or **microwave** radiation or **CBR**]

<Astronomy — Sheffield> [Ed. Yin]

19. **The HER2 (“hur-two”) receptors on some cells with this condition are targeted by trastuzumab (“trass-TOO-zoo-mab”), branded as Herceptin (“hur-SEP-tin”). This condition may involve modifications to landscaper, gatekeeper or caretaker genes. The observation that cells with this condition rely on fermentation instead of aerobic respiration is called the Warburg effect. The proteins pRb and (*) p53 suppress the development of this condition. Cervical cells with this condition were non-consensually harvested to form the HeLa (“hee-lah”) cell line. Cells with this condition can metastasize to new parts of the body, requiring chemotherapy to kill. For 10 points, name this condition of uncontrolled cell replication that results in tumors.**

ANSWER: **cancer** [or being **cancerous**; accept breast **cancer** or cervical **cancer**]

<Biology — Sheffield> [Edited]

19. In a novel from this country, a crossdressing storyteller sings, “I only want to amuse myself frontside and backside, to be Eastern and Western both.” For 10 points each:

[M] Name this origin country of a novel in which Black investigates the murders of Elegant and Enishte. That novel, *My Name Is Red*, was written by Orhan Pamuk, who is from this country.

ANSWER: **Turkey** [or Republic of **Turkey** or **Turkiye** or **Turkiye** Cumhuriyeti]

[E] In *My Name Is Red*, the artist Butterfly explains his views on “style and signature” to Black through three stories of this type. In the Gospels, Jesus relates many stories of this type, including one about the Prodigal Son.

ANSWER: **parable** [accept the **Parable** of the Prodigal Son; prompt on **fable** or **allegory**]

[H] Later, Black accompanies Master Osman to the Sultan’s Treasury, where they search for an illustrated copy of this poem gifted by Shah Tahmasp. In this epic, Rostam (“ruh-stum”) slays Sohrab (“suh-rub”) in battle but later realizes that Sohrab was his own son.

ANSWER: **Shahnameh** [or **Shahnama** or *The Book of Kings*; accept **Shahnama-yi Shahi**]

<Other Literature — Lin> [Edited]

20. **This person’s leadership style in one organization was partially influenced by the Synanon cult. This person alienated Philip Vera Cruz and Filipino Americans over his support for Ferdinand Marcos. This activist was arrested after protesting a set of contracts negotiated by the Teamsters in the Salad Bowl Strike. During his 25-day fast, this activist’s organization began to use a slogan translating to (*) “yes, we can.” This activist founded that organization with Dolores Huerta, with whom he led a march from Delano to Sacramento during a strike by grape pickers. For 10 points, the United Farm Workers was founded by what Mexican-American labor activist?**

ANSWER: Cesar **Chavez** [or Cesar Estrada **Chavez**]

<American History — Prabhakar> [Edited]

20. According to the Book of Enoch, one of these creatures lives in the abyss of the ocean, while the other lives in a waste land east of Eden. For 10 points each:

[H] Name these two creatures described to emphasize God's might in the Book of Job.

ANSWER: **Behemoth** AND **Leviathan** [accept answers in either order]

[M] The Revised Standard Version suggests that Behemoth may be a hippo and Leviathan one of these animals. An Egyptian god of the Nile, Sobek, has the head of one of these animals.

ANSWER: **crocodiles** [accept **crocs** or Nile **crocodiles** or West African **crocodiles**]

[E] On the other hand, medieval Christian writers often considered Leviathan to be one of these beings charged with punishing envious sinners. These beings may be banished from a person with an exorcism.

ANSWER: **demons**

<Mythology — French> [Edited]