

CALISTO 2

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Packet 5

1. **According to legend, a “watcher” in a Ford pickup truck protects the indestructible Devil’s tree in this state. Many horror films have been filmed at the abandoned Essex County Hospital Center in Cedar Grove in this state. This state’s Pine Barrens are supposedly inhabited by a monster known as this state’s (*) “devil.”**

Because another state has a border partially forming a twelve-mile circle, this state owns no islands in the Delaware River. This state disputed ownership of Ellis Island with a northern neighbor until 1998. The George Washington Bridge connects this state to Manhattan. For 10 points, name this state governed from Trenton.

ANSWER: **New Jersey** [accept **Jersey**]

<Geography — Athreya> [Edited]

1. For 10 points each, answer the following about the physics of neurons:

[M] The membrane of a neuron can often be represented as one of these circuit elements, because of its role in the separation of charges. Dielectrics can be used to weaken the electric field within these circuit elements.

ANSWER: **capacitors**

[E] The myelin sheath covering the axon of most neurons is often visualized as a set of these circuit elements connected in series. These circuit elements weaken the flow of current, and their strength is measured in ohms.

ANSWER: **resistors**

[H] Myelination increases the propagation of action potentials by increasing the length constant while keeping this quantity the same. This quantity equals the product of the resistance and capacitance within an RC circuit.

ANSWER: RC **time constant**

<Physics — Athreya> [Edited]

2. **In one painting by this artist, a green dress strung between a toilet and trophy hangs in front of skyscrapers. Another painting by this artist shows a naked girl holding a ribbon that makes a family tree with her parents and grandparents. In one painting, this artist’s face replaces the face of a deer with arrows lodged in its hide. This artist’s spine is replaced by the title (*) *Broken Column* in a painting she made after a bus accident that caused her chronic pain. Two versions of this artist hold hands with each other in a painting she made shortly after her divorce with Diego Rivera. For 10 points, name this Mexican artist whose self portraits feature her unibrow.**

ANSWER: Frida **Kahlo**

<Painting — Narayan> [Ed. Venkateswaran]

2. This screenwriter gained prominence with a *Kraft Television Theatre* episode titled “Patterns” in which a corporate vice president causes an old employee to have a heart attack during a boardroom fight. For 10 points each: [H] Name this TV and radio screenwriter. This writer gave a monologue about “a fifth dimension beyond that which is known to man” at the beginning of every episode of *The Twilight Zone*, a series he created.

ANSWER: Rod **Serling** [or Rodman Edward **Serling**]

[E] The *Twilight Zone* episode “To Serve Man” is parodied in one of this show’s “Treehouse of Horror” episodes featuring the aliens Kang and Kodos. Homer, Bart, Marge, Lisa, and Maggie constitute this show’s title family.

ANSWER: *The **Simpsons***

[M] In the *Twilight Zone* episode “Time Enough at Last,” bookworm Henry Bemis breaks his glasses after surviving one of these events. In *Dr. Strangelove*, Major Kong waves a cowboy hat while riding an object that causes one of these events.

ANSWER: **nuclear bomb explosion**s [accept any answers describing **atomic bombing** or close equivalents; prompt on answers describing **bomb explosions** by asking “What type of bomb?”]

<Popular Culture — Ashbrook> [Edited]

3. **Sequences where the value of one term is equal to this quantity for the next term are called “martingales.” The moment-generating function of a random variable X is computed by finding this quantity for “ e to the t X ”.** For a random variable x with PDF f of x , this quantity equals [read slowly] “the integral from minus infinity to infinity of x times f of x dx .” The law of large numbers states that for a large number of trials, the (*) mean result will approach this value. When rolling a six-sided die, this value for the outcome is 3.5 (“3 point 5”). For 10 points, name this term for the average predicted value of a random variable, often denoted “E of X .”

ANSWER: **expected value** [or **expectation**; accept just **expected** after “value” is read; accept **EV**; accept conditional **expectation**; accept **mean** or **average** before “mean” but prompt afterwards; accept **E(X)** (“E of X”) before it is read]

<Math — Sheffield> [Ed. Bowman]

3. The mestizo man who acts as a guide for this novel’s protagonist says that he could easily find out whether the protagonist is a priest by asking him to hear his confession. For 10 points each:

[H] Name this novel about the journey of a “whisky priest” across the Mexican state of Tabasco in the midst of the revolutionary government’s persecution of the Church.

ANSWER: *The **Power and the Glory***

[E] The whisky priest struggles to obtain this alcoholic beverage to celebrate the Catholic Mass, which accompanies bread in the celebration of the Eucharist.

ANSWER: **wine**

[M] This British author explored Catholic themes in novels like *The End of the Affair* and *The Power and the Glory*.

ANSWER: Graham **Greene**

<Long Fiction — Condon> [Edited]

4. **The Battle of Golden Hill broke out after sticks topped with Phrygian caps put up by this organization were repeatedly cut down. This organization met underneath an elm tree from which they hung a boot in protest of Lord Bute. The Loyal Nine, a predecessor to this organization, hung Andrew Oliver in effigy and raided Lieutenant Governor (*) Thomas Hutchinson’s house while protesting a certain piece of legislation.** This organization was founded by Samuel Adams, who ran its Boston branch. For 10 points, name this organization that carried out the Boston Tea Party.

ANSWER: **Sons of Liberty** [accept the **Loyal Nine** before “The Loyal Nine” is read]

<American History — Delot-Vilain> [Edited]

4. For 10 points each, answer the following about musicals that feature U.S. Presidents:

[M] In this musical, residents of a shantytown offer a toast to Herbert Hoover in the number “We’d Like to Thank You (Herbert Hoover).” Later, this musical’s title character meets FDR and reprises a song about a time when “the sun will come out.”

ANSWER: Annie

[E] Characters perform a rap-battle to win George Washington’s support in this musical’s “Cabinet Battle #1,” which quotes a song by Grandmaster Flash. This Lin-Manuel Miranda musical is titled for a Founding Father.

ANSWER: Hamilton

[H] John Wilkes Booth sings, “Move your little finger and you can change the world” in this musical’s “Gun Song,” which precedes a ballad about killing President McKinley. Other characters in this Stephen Sondheim musical include Charles Guiteau and Lee Harvey Oswald.

ANSWER: Assassins

<Musicals — French> [Edited]

5. **The protagonist of this novel is stopped from saving a drowning man by a character who claims that the harbor was made for the victim to drown in. After shooting two monkeys, the protagonist of this novel is kidnapped by the cannibalistic Oreillons. A pirate steals red sheep carrying gold from this novel’s protagonist while leaving (*) El Dorado. After being kicked out of the castle Thunder-ten-Tronckh, the protagonist of this novel survives the 1755 Lisbon earthquake. This novel’s title character is told that humans live in the “best of all possible worlds” by his tutor Pangloss. For 10 points, name this satirical novel by Voltaire.**

ANSWER: Candide [or Candide, or Optimism or Candide, ou l’Optimisme]

<Long Fiction — Lin> [Ed. Orr]

5. This monarch brought Reginald Pole back from exile and made him Archbishop of Canterbury. For 10 points each:

[H] Name this monarch, whose marriage caused a rebellion by Thomas Wyatt the Younger. Hugh Latimer and Nicholas Ridley were among the Protestant martyrs killed during this Catholic monarch’s namesake persecution.

ANSWER: Mary I [or Bloody Mary; prompt on Mary; prompt on Marian persecutions;]

[M] Wyatt’s Rebellion was sparked by Mary’s marriage to this prince, and later king of Spain. This king later dispatched the failed Spanish Armada against Mary’s sister Queen Elizabeth I.

ANSWER: Philip II [or Philip the Prudent; prompt on Philip; accept Felipe in place of Philip]

[E] Latimer and Ridley were executed in this English city. A town-and-gown riot in 1209 between residents of this city’s university and its townspeople led to the creation of a rival university in Cambridge.

ANSWER: Oxford

<European History — Prabhakar> [Edited]

6. **The decline of this country’s industrial sector in the mid-18th century is derisively known as the “Periwig Era.” This country’s colonial ventures were overseen by companies operated by the 19 Gentlemen and 17 Gentlemen. This country’s financial innovations included hosting the first publicly traded company and the first (*) stock exchange. This country expanded its farmland and created a vast system of polders using windmills. In the 1630s, a speculative bubble drove up the price of tulips in this country, then collapsed dramatically. For 10 points, name this European country whose stock exchange was hosted in Amsterdam.**

ANSWER: The Netherlands [or Kingdom of the Netherlands or Nederland or Koninkrijk Nederlanden accept Dutch Republic or Republic of the Seven United Netherlands or United Provinces of the Netherlands]

<European History—Delot-Vilain> [Edited]

6. For 10 points each, answer the following about the story of Procne, whose husband Tereus raped and imprisoned her sister Philomela:

[M] Because Tereus cut out her tongue, Philomela used this action to inform Procne of his crimes. Penelope delayed choosing a suitor to marry by performing this action every day then undoing her work at night.

ANSWER: **weaving**

[E] Procne got her revenge on Tereus by killing their son Itys and feeding Tereus a stew made of this substance. Tantalus was punished for serving the gods a meal of this substance, which cannibals consume.

ANSWER: **human flesh** [or synonyms like **human meat** or just **humans** or **people**; prompt on **flesh** or **meat**]

[H] Procne, Tereus, and Philomela were all turned into these animals. A group of sisters known as the Pierides were turned into these animals after losing a singing contest to the Muses.

ANSWER: **birds** [accept specific types of birds such as **nightingales** or **swallows** or **hoopoes** or **magpies**]

<Mythology — An> [Edited]

7. In a film by this director, a soldier plays with a flare that emits purple smoke before his group is shot at by unseen enemies hiding in foliage. In another film by this director, a man squeezes his brother's temples and says, "I know it was you... You broke my heart. You broke my heart!" This director directed a film in which shots of a man's rivals being assassinated are interspersed with shots of his son's (*) baptism. A fleet of helicopters plays "The Ride of the Valkyries" as they attack a village in this director's *Heart of Darkness*-inspired film about the Vietnam War. For 10 points, name this director of *Apocalypse Now* and *The Godfather*.

ANSWER: Francis Ford **Coppola**

<Film — French> [Edited]

7. For 10 points each, answer the following about challenges to space exploration posed by ionizing radiation:

[E] Without the protection of earth's atmosphere and magnetic field, spacecraft are exposed to the "wind" of charged particles emitted by this body at the center of the Solar System.

ANSWER: the **Sun** [or **Sol**; accept **solar** wind]

[H] Some particles from the solar wind can become trapped by Earth's magnetosphere, forming these regions of high-energy protons and electrons. These regions named for an American physicist pose a serious hazard to electronics passing through them.

ANSWER: **Van Allen** belts

[M] In addition to the solar wind, the Van Allen belts can trap these rays that originate outside the Solar System. These rays made of protons and atomic nuclei can flip bits in satellite circuits.

ANSWER: **cosmic** rays [or **cosmic** radiation]

<Astronomy — Sheffield> [Edited]

8. In special relativity, the component of this quantity parallel to the direction of motion is scaled by a factor of gamma cubed. In systems where this quantity is always antiparallel to position, this quantity is called central. If this quantity can be written as the negative spatial derivative of potential energy, it is (*) conservative. For a spring, this quantity equals "minus the spring constant times displacement," according to Hooke's law. Vectors of this quantity are represented as arrows on a free body diagram. For 10 points, name this quantity which Newton's second law equates to mass times acceleration.

ANSWER: **force** [accept central **force** or conservative **force** or restoring **force**; prompt on **E**]

<Physics — French> [Edited]

8. Georges Dumézil proposed the trifunctional hypothesis of this people's culture, which claims that their society was divided into the three classes of priests, warriors, and commoners. For 10 points each:

[H] Name this hypothetical prehistoric people whose homeland was probably in Central Asia. August Schleicher was among the first scholars to reconstruct this people's language via the comparative method.

ANSWER: **Proto-Indo-Europeans** [or **PIEs**; prompt on **Indo-Europeans**]

[E] Mythographers argue that many ritual sacrifices of these animals, such as the *Equus October* rite, derive from a Proto-Indo-European practice. These animals were often buried next to chariots, which they were used to pull.

ANSWER: **horses** [accept **horse** sacrifice]

[M] Another ancient horse sacrifice traced back to the Proto-Indo-European religion was the Ashvamedha, which was led by these Vedic priests. These priests occupy the highest of the four *varnas*, above the Kshatriyas.

ANSWER: **Brahmins** [or **brāhmaṇa**]

<World History — French> [Edited]

9. Avicenna argued that something which has this property necessarily must also be simple and good. In metaphysics, nominalism holds that this property only applies to particulars, not to universals. The monk Gaunilo imagined an island that clearly lacks this property to refute an argument in the *Proslogion*. That argument was put forth by (*) Anselm of Canterbury and claims that “that which nothing greater can be conceived” must have this property. Materialists believe that only physical things have this property. For 10 points, the cosmological, teleological, and ontological arguments are used by theists to argue that God has what property?

ANSWER: **existence** [or **being** or word forms like **existing**; accept **reality** and word forms like **real**]

<Philosophy — French> [Edited]

9. A poem by this author describes, “The first winter drizzle / the monkey too seems to desire / a little straw raincoat.” For 10 points each:

[M] Name this poet who used *haibun*, a form that combines prose and poetry, for his travelogue *The Narrow Road to the Deep North*.

ANSWER: Matsuo **Basho** [or **Matsuo** Basho or **Matsuo** Kinsaku or **Matsuo** Chuemon Munefusa]

[E] Basho is considered one of the Edo period masters of this form of poetry, along with Kobayashi Issa and Yosa Buson. English poems in this originally Japanese form typically have three lines of 5, 7, and 5 syllables.

ANSWER: **haiku** [or **hokku**] (In Japanese, the 5-7-5 pattern refers to *on*, which are related to syllables but are not the same thing.)

[H] Traditionally, a haiku is required to have one of these words, such as *ya* or the suffix *-shi*, which can indicate a pause or emphasis. English translations typically replace these words with punctuation marks like an em-dash.

ANSWER: **cutting** words [or **kireji**]

<Poetry — French> [Edited]

10. A clay bas-relief of this figure, sculpted by Henry Wilcox in his sleep, sparks an investigation in which Professor Angell finds high rates of disturbing dreams in artists and poets. The Norwegian sailor Johannsen describes stumbling across this figure's “damp Cyclopean city of slimy green stone.” In a story about this figure, a couplet ending, “And with strange aeons even death may die,” parallels a cult chant translating to “in his house at (*) R'lyeh [this creature] waits dreaming.” This Great Old One inspired a namesake “mythos,” starting with a short story titled “The Call of [this creature].” For 10 points, name this octopus-headed monster created by H. P. Lovecraft.

ANSWER: **Cthulhu** [accept any reasonable pronunciations like “cuh-thoo-loo” or “too-loo” or “k'too-loo”]

<Other Literature — Sheffield>

10. For 10 points each, answer the following about amateur mythologist Lord Raglan:

[M] Along with Otto Rank, Raglan names an archetype for this type of character involving 22 plot points. Another archetype, the monomyth, is known as the “Journey” of this type of character.

ANSWER: **hero** [or **heroes**; accept **Hero**’s Journey or mythic **hero**]

[H] Raglan’s ideas were built upon in this work of comparative mythology by Joseph Campbell, which identifies a descent and return from the Underworld as part of the monomyth archetype.

ANSWER: *The **Hero With a Thousand Faces***

[E] One of the heroes who deviated the most from Raglan’s original 22-plot-point archetype was this outlaw, who led the Merry Men against the Duke of Nottingham in English folk tales.

ANSWER: **Robin Hood**

<Other Social Science — Bowman> [Edited]

11. **These groups have the most s character of any group due to their electropositivity according to Bent’s rule. In MO theory, a filled nonbonding molecular orbital is equivalent to one of these groups. Hydrides act as nucleophiles because they possess one of these groups. Organic chemists describe the movement of one of these groups by “pushing” them from the base to the tip of a (*) double-barbed curved arrow.** Water has a bent molecular geometry due to the repulsion these groups exert on the hydrogen atoms according to VSEPR (“vesper”) theory. For 10 points, name these groups represented by two dots on a Lewis dot diagram.

ANSWER: **electron pairs** [accept **lone pairs**; prompt on **pairs**; do NOT accept or prompt on “electrons” alone]

<Chemistry — Schwartz> [Edited]

11. This character, addressing “people a thousand years from now,” says that “this is the way we were: in our growing up and in our marrying and in our living and in our dying.” For 10 points each:

[H] Name this character who presides over the wedding of Emily Webb and George Gibbs. After Emily dies during childbirth, this character reluctantly grants her wish to relive her twelfth birthday.

ANSWER: **Stage Manager**

[M] The Stage Manager is the primary narrator of this play, whose staging calls for only a few pieces of furniture and ladders as props. This play is set in the fictional New Hampshire town of Grover’s Corners.

ANSWER: ***Our Town*** (by Thornton Wilder)

[E] After Emily asks the Stage Manager if “any human beings ever realize life while they live it,” the Stage Manager responds, “saints and [these people], maybe.” Examples of these people include Robert Frost and Emily Dickinson.

ANSWER: **poets** [prompt on **authors** or **writers**]

<Drama — Lin> [Edited]

12. **This governor’s Project Roomkey used state funds to provide hotel rooms for homeless people at risk of COVID. In September 2021, this governor signed a bill to allow duplexes on lots zoned single-family-only, SB 9. A candidate who ran against this governor, John Cox, rented a (*) bear to display on the campaign trail.** This governor attended a November 2020 birthday party at the restaurant The French Laundry which violated COVID restrictions. Candidates like Kevin Paffrath and Larry Elder were defeated in the September 2021 attempted recall election of this governor. For 10 points, name this current governor of California.

ANSWER: Gavin **Newsom** [or Gavin Christopher **Newsom**]

<Current Events — Gray> [Edited]

12. The composer included many abrupt stops in the last movement of a string quartet nicknamed “The Joke.” For 10 points each:

[M] Name this composer from the Classical period. A symphony by this composer is nicknamed for the musical joke of a loud and unexpected G-major chord.

ANSWER: Franz Joseph **Haydn**

[E] Haydn’s 93rd symphony contains another joke, in which this instrument interrupts a quiet interlude with what some critics have compared to a musical “fart.” This lowest-pitched double reed woodwind has a “contra-” variant.

ANSWER: **bassoon** [accept **contrabassoon**]

[H] That bassoon exclamation in Haydn’s 93rd symphony is especially loud in George Szell’s performance with this city’s Orchestra. Among the Big Five American orchestras, only Chicago and this city’s are located in the Midwest.

ANSWER: **Cleveland** [accept the **Cleveland** Orchestra]

<Fine Arts — Condron> [Edited]

13. A holder of this position declared that “the twentieth century belongs to [his country].” A constitutional crisis ensued when one holder of this position was replaced by Arthur Meighen in the King-Byng affair. A different holder of this position faced the Conscription Crisis during the First World War. The Pacific Scandal resulted in the resignation of the first holder of this position, (*) John MacDonald. Later holders of this position included William Lyon Mackenzie King and Pierre Trudeau. For 10 points, name this office whose holder oversees a government based in Ottawa.

ANSWER: **Prime Minister** of **Canada** [prompt on **Prime Minister** by asking “of what country?”; do NOT accept or prompt on “President of Canada”]

<World History — Prabhakar> [Edited]

13. In Gnostic cosmology, this event is caused by a malevolent demiurge, so its product is evil. For 10 points each:

[E] Name this process, which is held to have occurred “from nothing” in Judaism and Christianity. This process is described in the first chapter of Genesis.

ANSWER: **creation** of the world [do NOT accept or prompt on “creation of mankind”]

[H] In verse 8:22 of this book, the personification of wisdom explains that the Lord “possessed” her at the beginning of creation. Like Ecclesiastes and Song of Songs, this book is attributed to Solomon.

ANSWER: Book of **Proverbs** [accept **Proverbs** 8:22]

[M] Early Christians used Proverbs 8:22 alongside the first verse of this gospel to argue that Christ was divine since he existed before creation. This gospel opens, “In the beginning was the Word, and the Word was with God, and the Word was God.”

ANSWER: Gospel of **John** [or the Gospel according to **John**; accept **John** 1:1]

<Religion — French> [Edited]

14. This composer transcribed themes from other composers’ operas for piano solo as loosely structured “paraphrases” and “reminiscences.” The right hand rapidly alternates between two D-sharps an octave apart throughout an etude by this composer. This composer dedicated a set of 12 etudes to his teacher Czerny (“CHAIR-nee”), the fourth of which is titled (*) “Mazeppa.” This composer’s six “Grand Etudes” are adapted from Paganini violin pieces. A collection of 19 virtuosic piano works by this composer features the folk music of his home country Hungary. For 10 points, name this pianist and composer of “La Campanella,” the *Transcendental Etudes*, and the *Hungarian Rhapsodies*.

ANSWER: Franz **Liszt**

<Classical Music — An> [Ed. Ma]

14. The Fourteenth of June Movement was founded in this country by a group of activists nicknamed “Las Mariposas.” For 10 points each:

[M] Name this country where those activists, the Mirabal sisters, opposed the dictatorship of Rafael Trujillo (“RA-FA-yell true-HI-yo”) in 1960 until their assassination in November of that year.

ANSWER: **Dominican Republic**

[H] Trujillo earlier attempted to assassinate this South American country’s president Romulo Betancourt (“ROM-yu-low BET-ahn-core”) over Betancourt’s association with his opponents. This country’s later president Carlos Andrés Pérez was the target of a failed coup in 1992.

ANSWER: **Venezuela** [accept Bolivarian Republic of **Venezuela**]

[E] Trujillo’s own assassination in 1961 was aided by this US government agency while it was led by Allen Dulles. This organization is primarily focused on overseas espionage, unlike its domestic counterpart, the FBI.

ANSWER: **Central Intelligence Agency** [or **CIA**]

<World History — Prabhakar> [Edited]

15. **A stage director asks an actress to sing a song about summer in the prologue to a play from this country. After being cursed by a sage, a character in a play from this country is forgotten by her husband. In that play from this country, a fisherman who finds a lost ring enables a king to identify his wife. The story of that play from this country is also found in an epic in which five brothers are exiled after losing a game of (*) dice. An eighteen-day war between the Pandavas and Kauravas occurs in that epic from this country. For 10 points, name this country whose literature includes *Shakuntala* by Kalidasa and epic poems like the *Mahabharata*.**

ANSWER: **India** [or Republic of **India** or **Bharat** Ganarajya or **Hindustan**]

<Other Literature — Athreya> [Edited]

15. Short term regulation of this quantity is driven by the renin-angiotensin-aldosterone system. For 10 points each:

[E] Name this quantity which, for healthy humans, is around 120 over 80 millimeters of mercury. A prolonged increase in this quantity is indicative of hypertension.

ANSWER: **blood pressure**

[M] Baroreceptor neurons that are sensitive to the stretching of blood vessels send signals to this region of the brain in order to maintain blood pressure. The midbrain, pons, and medulla oblongata make up this part of the brain.

ANSWER: **brainstem** [or brain **stem**]

[H] Receptors for ACE2, an enzyme that lowers blood pressure by hydrolyzing angiotensin II, also serves as the binding site for this protein. Regenron recently developed a mix of two monoclonal antibodies that recognize this protein.

ANSWER: SARS-CoV-2 **spike** protein [accept COVID **spike** protein or coronavirus **spike** protein]

<Biology — Athreya> [Ed. Schwartz]

16. **A court ruled that this country’s Urantia Foundation could not hold the copyright to its namesake book because it was written by aliens. Another religion in this country believes that the wheel in Ezekiel’s visions was a UFO called the “Mother Wheel.” In this country, a pair of cult leaders calling themselves Ti and Do led their followers to board a spacecraft behind (*) Comet Hale-Bopp by committing mass suicide. A religion from this country believes the ancient Earth was visited by an alien named Xenu. That religion was founded by L. Ron Hubbard. For 10 points, name this home country of Heaven’s Gate, the Nation of Islam, and Scientology.**

ANSWER: **United States** [or **America** or **US** or **USA** or **United States** of America]

<Religion — Dai> [Ed. French]

16. Jay Westerveld coined this term in a 1986 essay about the practice of hotels telling people to reuse towels to “save the environment” despite not doing anything else to be greener. For 10 points each:

[H] Name this marketing practice in which a company claims to be environmentally friendly in order to increase profits instead of actually taking steps to help the environment.

ANSWER: **greenwashing** [or **green sheen**; accept **greenscamming**]

[M] This company greenwashes the millions of tons of plastic they use yearly for bottled water. This company has stolen California water for brands like Arrowhead, and it has sourced chocolate from African plantations that use child labor and slavery.

ANSWER: **Nestlé** S.A.

[E] In 2015, this car company was caught cheating on emissions tests despite marketing themselves and their vehicles as eco-friendly. This German car company is known for their iconic Beetle brand.

ANSWER: **Volkswagen** [or **VW**; accept **Volkswagen** AG]

<Other — Ashbrook> [Edited]

17. **In this city, poems by authors such as Alcman were read at a festival in which men danced around naked called the Gymnopaedia. In this city, a council called the *apella* would debate proposals submitted by its council of elders, the *gerousia*. The poet Tyrtaeus supported this city’s second war to conquer its neighbors Messenia and Laconia. This city’s law-giver, (*) Lysurgus, is credited with founding its system of military training, the *agoge* (“a-go-gay”). A class of serfs in this city were called the helots. For 10 points, name this ancient Greek city-state whose king Leonidas was killed along with three-hundred soldiers at the Battle of Thermopylae.**

ANSWER: **Sparta**

<European History — French>

17. This object is half-illuminated by the Sun in a photo by William Anders titled for its “rise” published on the cover of Life magazine. For 10 points each:

[M] Name this object. Another photograph taken in 1972 analogizes this object to a “blue marble.”

ANSWER: **Earth** [accept **Earthrise**]

[H] Earth is seen in a band of sunlight in this later photograph, taken by the *Voyager 1* probe in 1990. In a book inspired by this photograph, Carl Sagan wrote, “Look again at that dot... That’s home. That’s us.”

ANSWER: **Pale Blue Dot** [or **PIA00452**]

[E] *Earthrise*, *The Blue Marble*, and *Pale Blue Dot* were all taken on missions organized by this agency. This U.S. government agency built the Hubble Space Telescope along with the European Space Agency.

ANSWER: **NASA** [or **National Aeronautics and Space Administration**]

<Misc. Art — French> [Edited]

18. **In response to accusations of sexualizing healthcare workers, this band removed a nurse outfit from a scene set to the words “love is a drug that I quit.” One member of this band describes herself as “so sweet, then I get a little angry” on a collaboration with Lady Gaga, “Sour Candy.” This band sings (*) “ice cream, chillin’, chillin’” in the chorus of a collaboration with Selena Gomez that appears on their first album, which is titled *The Album*. Songs on that album also include “How You Like That” and the number one hit “Lovesick Girls.” For 10 points, Jennie, Rosé, Jisoo, and Lisa are the members of what K-pop band named for two colors?**

ANSWER: **BLACKPINK**

<Pop Culture — An> [Ed. Gray]

18. A prescriptivist approach that emphasizes the “purity” of English is detailed in a 1747 “Plan” for writing one of these books. For 10 points each:

[M] Name these books. Oats are said to be “a grain which in England is generally given to horses, but in Scotland supports the people” in one of these books written by Samuel Johnson.

ANSWER: **dictionaries** [accept English **dictionaries** or *A **Dictionary** of the English Language* or *The Plan of an English **Dictionary***]

[E] Johnson’s *A Dictionary of the English Language* supplements its entries with many quotations from other works of literature. Its entry for “oats,” for example, includes a quotation from this author of *Gulliver’s Travels*.

ANSWER: Jonathan **Swift**

[H] This author praised Samuel Johnson’s dictionary in his prologue to Richard Savage’s play *The Tragedy of Sir Thomas Overbury*. This Irish playwright and friend of Johnson wrote *The School for Scandal*.

ANSWER: Richard Brinsley **Sheridan**

<Other Literature — Lin> [Edited]

19. **The narrator of this novel is reminded of Louis Armstrong’s song “Black and Blue” while imagining talking to a slave woman mourning her master’s death. This novel’s narrator is mistaken for a man named Rinehart after attending the funeral of a man who was shot selling dolls on the street. After failing to give a tour to the stakeholder Mr. Norton, the narrator of this novel is sent to New York with fake letters of recommendation by (*) Dr. Bledsoe. At the end of this novel, the narrator kills Ras the Destroyer during the race riot and falls through a manhole into a hidden underground room. For 10 points, name this novel about an unnamed Black man, written by Ralph Ellison.**

ANSWER: ***Invisible Man*** [do NOT accept or prompt on “The Invisible Man”]

<Long Fiction — Ashbrook> [Edited]

19. Suppression of solvents in the “proton” form of this technique can be achieved by adding heavy water to reduce noise from regular H₂O molecules. For 10 points each:

[M] Name this form of spectroscopy which measures the chemical shift of a compound upon exposure to a magnetic field.

ANSWER: **NMR** spectroscopy [or **nuclear magnetic resonance** spectroscopy; accept proton **NMR** or H-**NMR**]

[H] This mathematical structure can be used in tandem with the n+1 rule to determine the height of signals in H-NMR. If a signal on an H-NMR spectrum arises from a single neighboring carbon, the relative heights of the peaks created by J-coupling will align with this structure.

ANSWER: **Pascal’s triangle**

[E] Atoms with high levels of this quantity pull electrons away from protons, causing them to become deshielded during NMR. Fluorine has the highest value on the periodic table for this quantity, which the Pauling scale assigns a value from 0 to 4.

ANSWER: **electronegativity**

<Chemistry — Schwartz> [Edited]

20. **Organisms engaging in this behavior are theorized to have developed MFO enzymes to reduce susceptibility to secondary metabolites. Chemical defenses against this behavior include alkaloids, tannins, and toxalbumins (“tocks-al-BYOO-mins”). Foregut fermenters use symbiotic bacteria in the hindgut to aid in this behavior, in contrast to ruminants who instead use a four-chambered (*) stomach. Animals that perform this behavior above ground level are known as “browsers,” in contrast with “grazers.” Thorns and cactus spines evolved as defenses against this behavior. For 10 points, name this behavior of consuming plant matter, contrasted with carnivory.**

ANSWER: **herbivory** [accept any answer that indicates **consuming** or **digesting plants** before mention; prompt on word forms like **herbivores**; prompt on any answer indicating **consuming** or **digesting** food without specifying that the food is plant matter]

<Biology — Sheffield> [Edited]

20. The speech that popularized this term also warned that public policy could become “captive” to a “scientific-technological elite.” For 10 points each:

[M] Give this term for the relationship between the United States Armed Forces and the businesses and politicians that profit from their activity. This term was popularized by Dwight D. Eisenhower’s farewell address.

ANSWER: **military-industrial complex** [or **MIC** or **military-industrial-congressional complex** or **MICC**]

[E] The military-industrial complex was earlier criticized by general Smedley Butler, who exposed the Business Plot to overthrow this four-term president. This president led the U.S. for the majority of the Second World War.

ANSWER: **F**Franklin Delano **Roosevelt** [or **FDR**; prompt on **Roosevelt**]

[H] Much of the military-industrial complex consists of private military companies, such as this one founded by Erik Prince. Employees of this company killed seventeen Iraqi civilians in the Nisour Square massacre.

ANSWER: **Blackwater** [or **Blackwater** USA or **Blackwater** Security Company or **Blackwater** Worldwide or **Xe** Services LLC or **Academi** or **Constellis** Holdings]

<American History — French> [Ed. Prabhakar]