

CALISTO 2

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Packet 1

1. **During this presidential election, one candidate sent Anna Chennault to sabotage a diplomatic initiative that would have helped his opponent. In this year’s Democratic primary, some voters shaved their facial hair in an attempt to go “Clean for” the anti-war candidate (*) Eugene McCarthy.** The winning candidate in this election unsuccessfully used a “Southern strategy” to counter third-party opponent George Wallace. The Chicago Seven were arrested during this election’s Democratic National Convention, where Hubert Humphrey was nominated. For 10 points, name this election in which Richard Nixon was first elected president.

ANSWER: **1968** United States presidential election
<American History — Amanullah> [Ed. Delot-Vilain]

1. Node is used to run this language on backend webservers, while frameworks like React can be used to augment it on the front-end browser side. For 10 points each:

[M] Name this high-level language, which TypeScript compiles to. While HTML and CSS are used to display and style web content, this language handles dynamic behavior.

ANSWER: **JavaScript** [or **JS**]

[H] JavaScript scripts can be run by event handlers attached to entries in this hierarchical model of a web page, which correspond to HTML elements. This model is often referred to by a three-letter abbreviation.

ANSWER: **DOM** [or **Document Object Model**]

[E] The DOM takes the form of this data structure, which is hierarchical because elements may have children. The top-most node of this structure is called the root, while the terminating nodes are called leaves.

ANSWER: **tree** [accept specific types of tree like binary **trees**]

<Computer Science — Bowman> [Ed. Gray]

2. **This author wrote a story in which a merchant cries that he has always loved his parents before jumping off a bridge. In another story by this author, a father resolves to fire the charwoman before riding on an electric tram with his family. In that story by this author, three lodgers grow bored when the protagonist’s sister plays violin for them. In a novel by this author, a character is killed “like a dog” after being (*) arrested without explanation by a mysterious bureaucracy. In a story by this author, Grete takes care of her brother after he transforms into a “monstrous vermin.”** For 10 points, name this author of *The Trial*, who wrote about Gregor Samsa in *The Metamorphosis*.

ANSWER: Franz **Kafka** (The story in the first line is “The Judgement.”)

<Other Literature — Lin> [Ed. Orr]

2. For 10 points each, answer the following about polar expeditions that used the ship *Fram*:

[M] This Norwegian explorer sailed the *Fram* to Antarctica in a 1911 expedition that was the first to reach the South Pole, beating Robert Falcon Scott's by one month. This explorer and Scott now co-name an American research station at the South Pole.

ANSWER: Roald **Amundsen** ("ROH-all AW-moon-sen") [or Roald Engelbregt Gravning **Amundsen**; accept **Amundsen**-Scott South Pole Station]

[H] The *Fram* was earlier used by this other Norwegian explorer for his 1893 Arctic expedition. This explorer won the Nobel Peace Prize for his namesake passports, which the League of Nations issued to stateless refugees.

ANSWER: Fridtjof **Nansen** ("FRIT-yoff NAWN-sin") [or Fridtjof Wedel-Jarlsberg **Nansen**; accept **Nansen** passports]

[E] Fellow Norwegian Otto Sverdrup ("AW-toh SVAR-droop") led an 1898 expedition to the Arctic islands of this country aboard the *Fram*. The Norse settlement of Vinland was in this North American country's province of Newfoundland and Labrador.

ANSWER: **Canada**

<European History—Yin> [Ed. Prabhakar]

3. In March 2021, this organization was accused of administering rapid antigen COVID tests to women, while men received more accurate PCR tests. Ed O'Bannon sued this organization in 2014 after his likeness was used in a video game without his permission. This organization has been accused of providing unequal facilities for women due to its exemption from (*) Title IX requirements. After this organization was ruled in June 2021 to have violated the Sherman Antitrust Act by restricting education-related payments, it lifted restrictions on endorsement deals. For 10 points, name this organization that governs collegiate athletics in the United States.

ANSWER: **NCAA** [or **National Collegiate Athletic Association**]

<Current Events — Amanullah> [Edited]

3. In the dedication of this collection, its composer wrote out a Latin phrase whose initials spell out "ricercar" ("ree-chair-KAHR") For 10 points each:

[H] Name this collection by J. S. Bach that includes a "Ricercar a 3" and a "Ricercar a 6," both based on a *thema regium* or royal theme. Bach nicknamed the latter "Prussian" after this collection's dedicatee.

ANSWER: *The Musical Offering*

[E] That theme was given to Bach by Frederick II, who played and composed 121 sonatas for this instrument. The trio sonata of *The Musical Offering* features this transverse woodwind, which is larger than the piccolo.

ANSWER: transverse **flute**

[M] *The Musical Offering* is composed of one sonata, 10 canons, and two ricercars, which are pieces in this form. Similar to the canon, this contrapuntal form is composed of multiple voices that repeat and transform a given theme.

ANSWER: **fugue** [or **fuga**]

<Classical Music — An> [Ed. Ma]

4. This figure stands in front of a plow and rests his arm on a *fasces* ("FASS-eez") in a sculpture by Jean-Antoine Houdon. A ceiling fresco by Constantino Brumidi depicts this figure accompanied by Victory, Liberty, and thirteen maidens. This figure extends his right arm over a table with a golden leg in the (*) Lansdowne Portrait, which, like the unfinished Athenaeum Portrait, was painted by Gilbert Stuart. This person stands with one knee bent near the prow of a boat being rowed through chunks of ice in a painting by Emmanuel Leutze ("LOIT-zuh"). For 10 points, the one-dollar bill contains a portrait of what first president of the United States?

ANSWER: George **Washington**

<Sculpture — French> [Edited]

4. This chef's exact kitchen, which was the setting for a cooking show this chef hosted with her longtime friend Jacques Pépin ("pay-PAN"), is now preserved whole in the Smithsonian. For 10 points each:

[M] Name this Cordon Bleu-trained American chef, who popularized French cuisine to American audiences through books like *Mastering the Art of French Cooking* and her PBS show *The French Chef*.

ANSWER: Julia **Child** [or Julia Carolyn **Child** or Julia Carolyn **McWilliams**]

[H] Child first learned to cook from this classic American cookbook by Irma S. Rombauer. This cookbook popularized the "action method" of introducing ingredients within recipe text rather than at the beginning.

ANSWER: *The **Joy of Cooking***

[E] Child is known for her love of this fatty ingredient. The thickener *roux* ("roo") is most commonly made with flour and this dairy ingredient, which is spread on bread in a proverbial staple meal.

ANSWER: **butter** [or *le **beurre***; accept bread and **butter**]

<Other — Gray> [Edited]

5. **One of these machines is equipped with the Mastcam-Z apparatus, developed by a company owned by Michael Malin. OPTIMISM ("optimism") is a clone of one of these machines on which tests are performed. Vehicles that transport these machines experience the "Seven Minutes of Terror" before deploying a supersonic (*) parachute.** One of these machines sang "Happy Birthday" to itself in 2013 and died in 2021 during a dust storm. One of these machines deployed in 2020 landed near an ancient river delta in the Jezero crater and is named *Perseverance*. For 10 points, name these robots like *Curiosity* that examine the surface of Mars.

ANSWER: Mars **rovers** [accept planetary **rovers**; prompt on *Perseverance* or *Curiosity* until they are read]

<Astronomy — Bowman> [Edited]

5. In a series of novels by this author, Shigekuni Honda searches for reincarnations of his deceased friend Kiyooki Matsugae. For 10 points each:

[M] Name this Japanese author of *The Sea of Fertility* tetralogy. Mizoguchi burns down the title structure in this author's novel *The Temple of the Golden Pavilion*.

ANSWER: Yukio **Mishima** [or **Mishima** Yukio]

[E] In *The Temple of the Golden Pavilion*, a *kōan* from this religion inspires Mizoguchi to burn down the temple. Mizoguchi is an acolyte for a priest of the Zen sect of this religion.

ANSWER: Zen **Buddhism**

[H] In a story by this other Japanese author, a Buddhist priest falsely claims that a dragon will rise up from a lake. The Buddha sends the thief Kandata back to hell after he selfishly tries to prevent others from climbing up to Paradise in another story by this author.

ANSWER: Ryunosuke **Akutagawa** [or **Akutagawa** Ryunosuke] (Those short stories are "Dragon: the Old Potter's Tale" and "The Spider's Thread," respectively.)

<Long Fiction — Ma> [Ed. Orr]

6. **In one myth from this country, a goddess replaces four pillars holding up the sky with the legs of a giant turtle. In another myth from this country, a giant grows ten feet taller every day for 18,000 years after being born from a cosmic egg. A goddess from this country gains immortality from a pill her husband earns for shooting down nine suns. That goddess is commemorated during the (*) Mid-Autumn Festival, during which people from this country traditionally eat mooncakes. In one myth, the Rat beats eleven other animals, including the Ox and the Pig, in a race to determine an aspect of this country's lunar calendar.** For 10 points, name this country whose zodiac includes the Dragon.

ANSWER: **China** [or **Zhongguo**]

<Mythology — An> [Ed. Venkateswaran]

6. Color changes in indicators like phenolphthalein can be used to determine the concentration of an analyte in this technique. For 10 points each:

[E] Name this analytical technique used in acid-base chemistry experiments. “Curves” produced by this technique graph pH against the volume of liquid dispensed from a burette.

ANSWER: **titration**

[M] During titration, pH can be calculated by finding the negative log of the concentration of either H⁺ or this ion. No molecule can create a stronger acid in water than this ion, according to the leveling effect.

ANSWER: **hydronium** [or **H₃O⁺**]

[H] The equilibrium constant for an acid-base reaction equals 10 to the power of the difference in this quantity between the conjugate acid and the acid. Finding the inflection point of a titration curve requires finding the concentration where pH equals this value.

ANSWER: **pKa** [or **pK-sub-a**; accept **power of the acid dissociation constant**, do not accept or prompt on “Ka” or “acid dissociation constant”]

<Chemistry — Schwartz> [Edited]

7. **This kingdom’s first ruler defeated a rival at the Battle of Gqokli (“ko-KLEE”) Hill despite being outnumbered two-to-one. This kingdom’s forces lost over three thousand soldiers after a failed assault on a fortified wagon train in the Battle of Blood River. The rise of this kingdom fueled a period of forced migration known as the (*) Mfecane.** This kingdom frequently employed a battle tactic known as the “buffalo horn” formation. Despite winning a battle at Isandlwana, this kingdom’s ruler Cetshwayo was defeated in a war that ended with the capture of this kingdom’s capital of Ulundi. For 10 points, name this kingdom in modern-day South Africa founded by Shaka.

ANSWER: **Zulu** Kingdom [or **Zulu** Empire]

<World History — Prabhakar> [Edited]

7. Answer the following about the creation of geoglyphs, large artworks carved into or built on the natural landscape. For 10 points each:

[H] 2021 soil dating suggested the Cerne Abbas Giant, a geoglyph made of this material, was from the Middle Ages, not the Bronze Age. Trenches filled with this material were used in prehistoric England to create hill figures like the Uffington horse.

ANSWER: **chalk** [prompt on **calcium carbonate** or **calcite**]

[M] Early people in this country removed layers of red pebbles from the desert sand in order to create a series of hundreds of geoglyphs known as the Nazca lines.

ANSWER: **Peru** [or Republic of **Peru** or República del **Peru**]

[E] Early Native American groups depicted animals in geoglyphs called “effigy mounds.” Examples include this state’s 1300-foot-long Great Serpent Mound and the Alligator Mound, which is near this state’s capital of Columbus.

ANSWER: **Ohio**

<Geography — Sheffield> [Edited]

8. **An artist with this last name may have inspired the alcoholic Arthur Huntingdon, who is tended to by Helen Graham in a novel by that artist’s sister. Another author with this last name created a character who is convinced by a telepathic message not to travel to India with St. John (“sin-jin”) Rivers. In that novel by an author with this last name, a man claims that a wedding (*) veil was torn by Grace Poole but reveals that it was actually his wife Bertha Mason.** That author with this last name created a character who is employed as a governess at Thornfield Hall by Mr. Rochester. For 10 points, give this last name shared by the sisters Anne and Charlotte, the author of *Jane Eyre*.

ANSWER: **Brontë** [accept Anne **Brontë** or Charlotte **Brontë** or Branwell **Brontë**]

<Long Fiction — Condron> [Edited]

8. A politician with this surname reversed the decision in the Shah Bano case, which gave a Muslim woman the right to seek alimony from her ex-husband. For 10 points each:

[M] Give the surname of that politician, who was implicated in the Bofors Scandal. An earlier politician with this surname was assassinated after ordering the storming of the Golden Temple in Operation Blue Star.

ANSWER: **Gandhi** [accept Rajiv **Gandhi** or Indira **Gandhi**]

[E] Rajiv and Indira Gandhi both served as Prime Ministers of this country. The unrelated Mahatma Gandhi worked with Indira's father Jawaharlal Nehru to gain this country's independence from the British Empire in 1947.

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

[H] As Prime Minister, Indira Gandhi ruled by decree in a period known as the Emergency, during which her son Sanjay oversaw a campaign of this practice. In the U.S., this practice was the subject of the case *Buck v. Bell*.

ANSWER: forced **sterilization** [or mass **sterilization**; accept descriptive answers; prompt on **eugenics**]

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

9. Several types of this process, including ones involving boron-11, were enabled by the development of chirped pulse amplification in lasers. Another type of this process uses a fuel pellet with a plastic coating which is then heavily compressed. A blanket made of lithium provides the (*) tritium necessary for the D-T type of this process. The ITER megaproject seeks to develop tokamaks in which this process can be performed sustainably. Scientists have long searched for a hypothetical "cold" version of this process that avoids the need for high temperature and could feasibly produce power. For 10 points, name this process in which nuclei merge together at high temperatures.

ANSWER: nuclear **fusion** [accept thermonuclear **fusion**; accept D-T **fusion**; accept inertial confinement **fusion**; prompt on **nuclear reactions**; do NOT accept or prompt on "fission"]

<Physics — Bowman> [Edited]

9. For 10 points each, answer the following about Belgian artist René Magritte:

[E] Magritte was a member of this art movement. Many paintings in this 20th century art movement depict otherworldly subjects or were inspired by dreams.

ANSWER: **Surrealism**

[H] In this Magritte work, a painting on an easel seems to directly depict the landscape seen through a window behind it. A second painting by Magritte with the same title as this painting features the same concept with a seascape.

ANSWER: *The **Human Condition*** [or *La **condition humaine***; accept *The **Human Condition II*** or *La **condition humaine II***]

[M] An enormous one of these objects fills up Magritte's painting *The Listening Room*. Another of these objects floats in the air in front of the face of a man wearing a suit in Magritte's *The Son of Man*.

ANSWER: green **apples**

<Painting — Venkateswaran> [Edited]

10. Bartolomé de las Casas condemned Spanish colonialism by citing this thinker's claim that a state without justice is merely a "band of robbers." This thinker introduced to Christianity the Neoplatonic idea that evil was simply the absence of good. This thinker contrasted the immoral "earthly city" with the virtuous "Heavenly City" in a book that coined the term (*) "just war." In another book, this thinker described how his teenage self sought a transgressive thrill by stealing pears he did not even want. This author of *The City of God* recounted his conversion from Manichaeism in his memoir, *Confessions*. For 10 points, name this Church Father, a saint from Hippo.

ANSWER: Saint **Augustine** [or Saint **Augustinus** or Saint **Austin** or Blessed **Augustine** or Aurelius **Augustinus** Hipponensis]

<Philosophy — French> [Edited]

10. This author wrote, “Christianity has died many times and risen again; for it had a God who knew the way out of the grave,” in his book *The Everlasting Man*. For 10 points each:

[H] Name this English Catholic writer who wrote about an anarchist council whose members are mostly undercover police in his novel *The Man Who Was Thursday*. He also created the priest-detective Father Brown.

ANSWER: G. K. **Chesterton** [or Gilbert Keith **Chesterton**]

[E] This author described how Chesterton’s *Everlasting Man* drew him from atheism towards Christianity in his memoir *Surprised by Joy*. Aslan sacrifices himself and is resurrected in this author’s *The Lion, The Witch, and the Wardrobe*.

ANSWER: C. S. **Lewis** [or Clive Staples **Lewis**]

[M] *The Everlasting Man* is in part a rebuttal of this author’s *Outline of History*, which tries to stick to “apparent facts” by ignoring the theological significance of Christ. In a novel by this author, Martians invade the Earth using machines called “tripods.”

ANSWER: H. G. **Wells** [or Herbert George **Wells**] (The novel is *The War of the Worlds*.)

<Other Literature — French> [Edited]

11. **Curvature is given by “the magnitude of this operation performed on the unit tangent vector” divided by “the magnitude of this operation performed on the position vector.” The directional type of this operation is maximized when taken perpendicular to contour lines. This operation is performed at successively closer points to the (*) root in Newton’s method.** This operation can be performed on composite functions using the chain rule and on polynomials using the power rule. This operation is the inverse of integration according to the fundamental theorem of calculus. For 10 points, name this operation that gives the slope of a graph at a point.

ANSWER: **derivative** [or **differentiation**; accept directional **derivative** or partial **derivative**]

<Math — An> [Ed. Bowman]

11. The Supreme Court cases decided in response to this series of programs included *Schechter Poultry Corp v. United States* and *Wickard v. Filburn*. For 10 points each:

[E] Name this set of policies proposed by Franklin Roosevelt to help the country recover from the Great Depression. This set of policies included programs like the Works Progress Administration and the Tennessee Valley Authority.

ANSWER: the **New Deal**

[M] *Schechter* and *Wickard* involved differing interpretations of this Constitutional clause, which gives Congress regulatory power over a certain action between states. This clause was also at the center of *Gibbons v. Ogden*.

ANSWER: **Commerce** Clause [or Interstate **Commerce** Clause or Foreign **Commerce** Clause or Indian **Commerce** Clause or **Article I, Section 8, Clause 3**]

[H] *Schechter* and *Wickard* were separated by a perceived shift in the Court’s leaning, caused by Owen Roberts concurring with the Court’s liberals. This humorous expression traced to Cal Tinney describes how that shift averted Roosevelt’s “court packing” plan.

ANSWER: the “**switch in time that saved nine**” [or “A **switch in time saves nine**” or “a **switch in time’ll save nine**”]; accept any answer with the forms of the words “**switch, time, save, and nine**” in that order]

<American History — Condron> [Edited]

12. Rachel Whiteread created an upside-down resin model of the fourth plinth of a square in this city that displays a rolling program of temporary artwork. Edwin Landseer sculpted four lions that rest at the base of a monumental column in that square in this city. Renzo Piano designed a building in this city that resembles a tall spire made of glass. Another building in this city is nicknamed for its resemblance to a (*) gherkin. The Shard is a skyscraper in this city, which is also home to the Tate Modern. A ninety-six meter tall clock tower rises out of the north end of a parliament building in this city. For 10 points, Big Ben is located in what city, the capital of England?

ANSWER: **London**

<Architecture — An> [Edited]

12. Forest ecologist Suzanne Simard has championed the view that “mother trees” use networks of these relationships to transfer nutrients to seedlings. For 10 points each:

[M] Name these usually mutualistic relationships which involve the transfer of sugar from plants to fungi in exchange for mineral nutrients like phosphorus.

ANSWER: **mycorrhizae** (“my-kuh-RYE-zee”) [or **mycorrhizas** or **mycorrhizal** associations]

[E] In contrast to ectomycorrhizae, arbuscular mycorrhizae penetrate the cells of these plant structures. These structures help plants absorb water from the soil and anchor them to the ground.

ANSWER: **roots**

[H] Mutualistic interactions like mycorrhizae often lead to this process in which two species simultaneously undergo natural selection based on selection pressure from each other. Certain long-petaled orchids can only be pollinated by hawk moths due to this process.

ANSWER: **coevolution** [accept word forms like **coevolving**]

<Biology — Yin> [Ed. Schwartz]

13. **This ruler’s general and brother-in-law Eric of Friuli was killed in the failed Siege of Trsat (“ter-SOT”). This ruler established the Spanish March as a buffer zone on the border of his empire. This ruler forced Widukind to convert to Christianity as part of his subjugation of the Saxons. This king had earlier defeated Desiderius in his conquest of (*) Lombardy.** This subject of a biography by Einhard and son of Pepin the Short brought the scholar Alcuin of York to his court at Aachen. During his reign, this king oversaw a cultural revival named for his dynasty, the Carolingian Renaissance. For 10 points, name this Frankish king who was crowned first Holy Roman Emperor in 800.

ANSWER: **Charlemagne** [or **Charles I** or **Charles the Great** or **Carolus Magnus** or **Karl der Grosse**; prompt on **Charles**]

<European History — Prabhakar> [Edited]

13. Bernardo is a stand-in for Leonardo da Vinci in a novel from this country in which the prince of an Italian city-state is advised by the title dwarf. For 10 points each:

[H] Name this country. In a chamber play from this country, the ghost of a milkmaid haunts the vengeful, wheelchair-bound Jacob Hummel.

ANSWER: **Sweden** [or Kingdom of **Sweden** or **Sverige** or Konungariket **Sverige**] (The first novel is *The Dwarf* by Pär Lagerkvist.)

[M] That play, *The Ghost Sonata*, is by this Swedish author. The title character’s pet canary is decapitated by the valet Jean in this author’s play *Miss Julie*.

ANSWER: August **Strindberg**

[E] The author of *The Dwarf*, Pär Lagerkvist, is among the eight Swedish authors who have won this prize, which is awarded by the Swedish Academy. More recent recipients of this prize include Louise Glück and Bob Dylan.

ANSWER: **Nobel** Prize in Literature

<Other Literature — French> [Edited]

14. A quartet by this composer begins with violins playing fingered tremolos below the ascending viola melody (read slowly) F, A, C, D, F, back down to D. The slurred long-short string figure that begins the “Allegro con Fuoco” finale of a symphony of this composer likely inspired John Williams’s *Jaws* theme. The pentatonic scale recurs in this composer’s F major (*) twelfth string quartet. William Arms Fisher’s “Goin’ Home” is adapted from the English horn solo found in the “Largo” movement of a symphony this composer wrote while in Spillville, Iowa. For 10 points, name this Czech composer whose E minor ninth symphony is nicknamed “From the New World.”

ANSWER: Antonin **Dvořák** (“dih-VOR-jahk”) [or Antonin Leopold **Dvořák**]

<Classical Music — Ma> [Edited]

14. The semantic type of this process occurs when individuals consciously absorb facts and general knowledge. For 10 points each:

[E] Name this phenomenon divided into short-term and long-term types. This phenomenon is the ability of the brain to store and recall information.

ANSWER: **memory** [accept word forms like **memorization**]

[M] Psychologist George Miller posited that humans’ short-term memories can only retain a small amount of information, specifically this number of pieces of information, plus or minus two.

ANSWER: **seven** [prompt on **magic** number or **magical** number]

[H] This other psychologist studied the misinformation effect by testing the way a question’s wording affected participants’ memory of a car accident.

ANSWER: Elizabeth **Loftus**

<Psychology — Yau> [Edited]

15. In a play by this author, the light goes out after a character pays off his sailing dues instead of the light bill. That character created by this author often claims he is “going to the movies.” In another play by this author, a character repeatedly hears the “Varsouviana” after her husband Allan Grey committed suicide. In a play by this author, a mother invites the (*) “gentleman caller” Jim O’Connor for dinner. At the end of a play by this author, a character says, “I have always depended on the kindness of strangers” before she is taken to a mental hospital. For 10 points, name this playwright of *The Glass Menagerie* who wrote about Blanche DuBois in *A Streetcar Named Desire*.

ANSWER: Tennessee **Williams** [or Thomas Lanier **Williams** III]

<Drama — Moon> [Ed. Orr]

15. For 10 points each, answer some questions about hit songs from the *Frozen* franchise:

[E] This power ballad from *Frozen* won an Academy Award for Best Original Song. In it, Elsa sings “the cold never bothered me anyway” as she constructs an ice fortress in the mountains.

ANSWER: “**Let it Go**”

[M] This actress, who voiced Elsa in both *Frozen* and *Frozen II*, sang “Let it Go.” She also played Elphaba on the original Broadway cast of *Wicked*.

ANSWER: Idina **Menzel**

[H] This Norwegian art pop singer provides backing vocals as The Voice on the song “Into the Unknown” from *Frozen II*. She included “Runaway” and “Running with the Wolves” on her 2016 debut album *All My Demons Greeting Me as a Friend*.

ANSWER: **AURORA** [or Aurora **Aksnes**]

<Pop Culture — Sheffield> [Edited]

16. This state contains a pilgrimage destination whose soil is believed to have healing properties, El Santuario de Chimayó. Hernando de Alvarado was likely the first European to contact this state's Acoma people. Jean-Baptiste Lamy's building of this state's Saint Francis Cathedral is fictionalized in (*) Willa Cather's novel *Death Comes for the Archbishop*. This state's Ghost Ranch became the home of Georgia O'Keeffe after the death of her husband. This state holds the largest hot-air balloon festival in the world, as well as the site of a purported 1947 UFO incident, Roswell. For 10 points, the oldest state capital in the U.S. is what state's city of Santa Fe?

ANSWER: New Mexico [or Nuevo México]

<Geography — French> [Edited]

16. This film opens with Terry Malloy using a pigeon to trick Joey into climbing onto the roof, which he's then thrown off of. For 10 points each:

[H] Name this Elia Kazan film, which he made to defend his decision to testify before HUAC. In this film, Terry eventually testifies against the corrupt union leader Johnny Friendly.

ANSWER: *On the Waterfront*

[E] In *On The Waterfront*, Terry's career in this sport is destroyed when the mob forces him to throw a crucial fight. Jake LaMotta in *Raging Bull* and Rocky Balboa in *Rocky* also compete in this sport.

ANSWER: boxing [accept prizefighting]

[M] In a scene from *Raging Bull*, Jake quotes a monologue from *On the Waterfront* in which Terry laments his boxing career by saying, "You don't understand! I coulda had class. I coulda been" one of these people.

ANSWER: a contender [accept "I coulda been a contender"; do NOT accept or prompt on synonyms]

<Film — Sheffield> [Edited]

17. Some Sufis claim that this figure was the perfect personification of love, because he chose eternal damnation over obeying anyone other than Allah. Verses named after and inspired by this figure encouraged the worship of three pagan goddesses. This figure was made from smokeless fire and refused to (*) prostrate before Adam as Adam was made from clay. During the *hajj*, adherents throw rocks at three pillars to symbolize the stoning of this figure. In the Bible, this figure tempts Jesus for forty days and forty nights in the desert. For 10 points each, name this evil figure who opposes Allah in Islam.

ANSWER: Iblis [or Satan or Shaitan or the Devil; accept Azazil]

<Religion — Dai> [Edited]

17. The Battle of Raseiniai saw the use of the KV model of this weapon. For 10 points each:

[M] Name this weapon, other examples of which included the Panther and the Tiger models of Nazi Germany. The Molotov cocktail was originally designed to counter these weapons during the Winter War.

ANSWER: tanks [accept heavy tanks; accept armored tanks]

[E] The KV and T-34 were some of the tanks used by this country as it fought Nazi Germany on the Eastern Front of World War II. This country was led by Joseph Stalin for the duration of the war.

ANSWER: Soviet Union [or Union of Soviet Socialist Republics; or U.S.S.R.; prompt on Russia]

[H] This 1943 battle on the Eastern Front was the largest tank battle in history. This battle was codenamed Operation Citadel and included nearly one thousand German and Soviet tanks fighting at Prokhorovka.

ANSWER: Battle of Kursk

<European History — Prabhakar> [Edited]

18. In this novel, a character requests a “short sentence” from a police officer, so the officer hands him a paper reading “I am.” Characters in this novel are tricked into doing impossible tasks, such as emptying a well with an eye-dropper, by a faceless demon called the Terrible Trivium. Before the beginning of this novel, the princesses Rhyme and Reason are imprisoned in the Mountains of Ignorance by (*) Azaz and the Mathemagician. While stuck in the Doldrums, this novel’s main character meets a dog who is also an alarm clock, the watchdog Tock. For 10 points, name this children’s novel by Norton Juster that describes Milo’s adventures after he travels through the title checkpoint.

ANSWER: The *Phantom Tollbooth*

<Long Fiction — French> [Edited]

18. The kinetic form of this force is weaker than the static form of this force because moving objects do not readily adhere to surfaces. For 10 points each:

[E] Name this force which is characterized by a coefficient symbolized *mu*. This force resists motion when two objects rub up against each other.

ANSWER: friction [accept kinetic friction or static friction]

[M] The amount of kinetic friction experienced by an object moving on a plane is equal to the coefficient of friction multiplied by this force, which is orthogonal to the contact surface.

ANSWER: normal force

[H] The angle of repose, which gives the steepest angle at which static friction prevents an object from sliding, is equal to this trigonometric function applied to the coefficient of friction.

ANSWER: arctangent [or arctan or inverse tangent; do NOT accept or prompt on “tangent” or “cotangent”]

<Physics — Bowman> [Edited]

19. Using a forged deed, James Logan tricked Native Americans in this colony into giving up land by hiring a team of swift runners in the “Walking Purchase” of 1737. In this colony, “Fighting Parson” John Elder led a massacre of Native Americans at Conestoga and a march on this colony’s capital by the Paxton Boys. During the French and Indian War, a resident of this colony supported the (*) Albany Plan by creating a cartoon of a chopped up snake captioned “Join or Die.” The founder of this colony sought to create a “holy experiment” based on his Quaker beliefs. For 10 points, name this American colony, the home of Benjamin Franklin, who lived in its city of Philadelphia.

ANSWER: Pennsylvania [or Province of Pennsylvania]

<Delot-Vilain—American History> [Edited]

19. For 10 points each, answer the following about poetry referenced in R.A.P. Ferreira’s album *Purple Moonlight Pages*:

[M] The track “Golden Sardine” begins, “Head honcho in a poncho like Bob Kaufman,” referring to a poet from this movement. An author from this movement fictionalized other members like Gary Snyder and Neal Cassady in his novel *The Dharma Bums*.

ANSWER: Beat Generation [or beatniks] (*The Dharma Bums* is by Jack Kerouac.)

[E] “Golden Sardine” also states “I publish the City Lights like Ferlinghetti” in reference to this city’s City Lights bookstore. The Beat Generation was based in this Bay Area city on the tip of a namesake peninsula.

ANSWER: San Francisco [or SF]

[H] In the track “Leaving Hell,” Ferreira describes “Strivin’ to be the type of poet [this poet] was.” Beat poet Allen Ginsberg asked this poet, “what were you doing down by the watermelons?” in “A Supermarket in California.”

ANSWER: Federico García Lorca [prompt on García]

<Poetry — French> [Edited]

20. **These things' effects can be enhanced through addition of compounds like the soap bark extract QS-21 or various aluminum salts. The heterologous BCG type of these things is derived from the cow-infecting *Mycobacteria bovis*. Dendritic cells translate globules of synthetic mRNA *in vivo* in a (*) recently developed form of these things, whose efficacy can be increased by adjuvants. By introducing antigens in a controlled manner, these things can generate immunity against new pathogens. For 10 points, name these medications, examples of which were produced by Pfizer and Moderna in response to COVID-19.**

ANSWER: **vaccines** [accept mRNA **vaccine** or COVID-19 **vaccines**; prompt on **antigens** until mention]
<Biology — Sheffield> [Edited]

20. For 10 points each, answer the following about musical instruments in Greek mythology:

[M] Hermes gives this instrument in exchange for a herd of cattle to Apollo, who uses it to win a music contest against the satyr Marsyas. Earlier, Hermes had fashioned this instrument out of a hollow tortoise shell.

ANSWER: **lyre**

[H] To avoid being pursued by the god Pan, this nymph is transformed into water reeds upon reaching the river Ladon. When he arrives, Pan uses those reeds to create the panpipe, which is also referred to by this nymph's name.

ANSWER: **Syrinx**

[E] This deity creates a double-reed woodwind instrument known as the *aulos*, but throws it away once she realizes that playing it makes her cheeks puff up. This deity is the Greek goddess of wisdom.

ANSWER: **Athena**

<Mythology — An> [Ed. Venkateswaran]