

CALISTO 2

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Packet 2

1. **This phenomenon occurs whenever a signal encounters a discontinuity in impedance along its path. Coefficients for this phenomenon and transmission are computed by the Fresnel (“fruh-nell”) equations. The type of this phenomenon that occurs at a very smooth surface is its (*) specular type.** Instead of refracting, light waves past the critical angle will undergo the “total internal” type of this phenomenon at a boundary. The angle of light undergoing this phenomenon is equal to the angle of incidence. For 10 points, name this phenomenon in which light bounces off of a surface such as a mirror.

ANSWER: **reflection** [accept specular **reflection** or diffuse **reflection** or total internal **reflection**]

<Physics — Bowman> [Edited]

1. Members of a group named for a “Menace” described by this adjective wrote the manifesto “The Woman-Identified Woman” and included Ellen Shumsky and Rita Mae Brown. For 10 points each:

[H] Name this adjective. Thousands of LGBT government workers, particularly at the State Department, were forcibly outed and lost their jobs in an event named for this adjective.

ANSWER: **lavender** [accept **Lavender** Menace or **Lavender** Scare]

[M] This president prompted the Lavender Scare, a mass firing of LGBT government workers, by signing Executive Order 10450. This president also began construction on the Interstate Highway System.

ANSWER: Dwight D. **Eisenhower** [or Dwight David **Eisenhower**; prompt on **Ike**]

[E] The color lavender became slang for homosexuality after Carl Sandburg wrote that one of this president’s male friendships had a “streak of lavender.” This president issued the Emancipation Proclamation during the Civil War.

ANSWER: Abraham **Lincoln** [or Abe **Lincoln**]

<American History — An> [Edited]

2. **Procris cured a king of this place from a curse that caused him to produce deadly animals when being unfaithful. Megara fell to that king of this place after Scylla cut off a lock of hair from her father’s head. One prince of this place was revived by Polyidus after drowning in a cask of honey. A king of this place adopted Sarpedon, (*) Rhadamanthus, and a man who earned the ire of Poseidon after refusing to sacrifice a great white bull. Seven young men and seven virgin maidens were sent to this island every year to be sacrificed to a son of Pasiphaë.** For 10 points, name this island where King Minos oversaw the Minotaur’s imprisonment in the Labyrinth.

ANSWER: **Crete** [accept **Knossos** before “island” is read]

<Mythology — An> [Edited]

2. In a poem titled for this form, George Oppen described “small nouns / Crying faith” in a “forest” where “wild deer / Startle, and stare out.” For 10 points each:

[E] Name this form of sacred poetry. A book of the Old Testament titled for this form includes a poem that states, “the Lord is my shepherd; I shall not want.”

ANSWER: psalm [accept the Book of Psalms; prompt on hymn]

[H] A young man exclaims, “Life is real! Life is earnest! / And the grave is not its goal” in this poet’s “A Psalm of Life.” A woman “thought of Christ, who stilled the wave / On the lake of Galilee” in this poet’s “The Wreck of the Hesperus.”

ANSWER: Henry Wadsworth Longfellow

[M] This poem’s repeated reference to a “valley of death” originates from a line in Psalm 23, which describes “the valley of the shadow of death.” This poem describes a journey “into the jaws of Death, / into the mouth of hell.”

ANSWER: “The Charge of the Light Brigade” (by Alfred, Lord Tennyson)

<Poetry — Lin> [Ed. French]

3. **One group of these people converted to Catholicism under their king Reccared I. Instead of waiting for his nephew Gratian, Valens decided to engage in battle with these people, leading to his death at the hands of their leader Fritigern at the battle of Adrianople. Flavius Aetius (“EYE-tee-iss”) worked with a leader of these people named (*) Theodoric to defeat the Huns at the battle of the Catalaunian Plains. A group of these people sacked Rome in 410 CE under the leadership of their king Alaric. These people were divided into western and eastern branches prefixed “Visi-” and “Ostro-.”** For 10 points, name this Germanic people who lend their name to a style of medieval architecture with pointed arches and gargoyles.

ANSWER: Goths [accept Visigoths or Ostrogoths or Gothic architecture]

<European History — Delot-Vilain> [Edited]

3. These processes are used in MCMC methods, which can model random walks. For 10 points each:

[H] Name these stochastic processes in which the probability of an event depends only on the previous state. These processes can be modeled as a directed-edge graph where the nodes are possible states.

ANSWER: Markov chains [or Markov processes]

[E] Markov chains can be modeled by the “transition” type of these constructs. These rectangular arrays of numbers are invertible if their determinant is non-zero.

ANSWER: matrices [or matrixes]

[M] While modeling Markov chains, transition matrices are applied repeatedly using this operation. This operation can only be performed on two matrices when the number of columns of the first matrix is the same as the number of rows of the second matrix.

ANSWER: matrix multiplication

<Math — An> [Edited]

4. **This character orders a farmer to stop flogging a shepherd boy, which only makes him flog the boy harder. A companion of this character learns that he must whip himself 3,300 times in order to lift a curse on this character’s love interest. Those instructions are given by a Duke and a Duchess who claim to have learned about this character from Part One of a novel titled for this character and published ten years prior. A (*) barber and curate burn down this character’s library of chivalric romances. This character moons after the peasant Dulcinea (“dul-si-NAY-uh”) and takes on Sancho Panza as a squire. For 10 points, what character attacks a group of windmills in a novel by Miguel de Cervantes?**

ANSWER: Don Quixote [or Don Quixote of La Mancha or *Don Quixote de la Mancha* or Alonso Quixano or Alonso Quixano]

<Long Fiction — Lin> [Edited]

4. A running internet gag revolves around people telling someone that they look like this athlete, without realizing that they are in fact talking to this athlete. For 10 points each:

[M] Name this athlete nicknamed “Birdman.” This athlete was the first to land the 900, a two-and-a-half-revolution aerial spin performed on a ramp.

ANSWER: Tony **Hawk**

[E] Tony Hawk is an athlete in this sport, which often features obstacles like handrails and ramps and comes in park and street styles. Yuto Horigome won a gold medal in this sport at the 2020 Summer Olympics.

ANSWER: **skateboarding**

[H] This skateboarder was favored to win men’s street at the 2020 Olympics, but finished 7th after failing to land 4 tricks in a row. This American skateboarder has won 10 X Games Street gold medals, the most in X Games history.

ANSWER: Nyjah **Huston**

<Pop Culture — An> [Edited]

5. **Actives, like retinol, are compounds that increase a turnover rate in this thing. Salicylic acid and beta hydroxy acids, or BHAs, remove excess material from this thing, while hyaluronic acid acts as a humectant for it. Oil-based then water-based products are used to clean this thing in the first two steps of a Korean (*) ten-step process.** Sebum secreted onto this tissue can clog follicles in it. The porous stone pumice can be applied to this tissue to exfoliate it, removing layers of dead cells. Ultraviolet light causes aging indicators like wrinkles and dark spots on this tissue which are prevented by sunscreen. For 10 points, name this tissue that covers the body.

ANSWER: human **skin** [accept **skin** cells or **dermis** or **epidermis**; prompt on **cells** or human **tissue**]

<Other — Gray> [Edited]

5. This musician featured an extended scat section quoting from Charlie Parker’s “Ornithology” in the version of “How High the Moon” she recorded in Berlin. For 10 points each:

[M] Name this jazz singer. This “First Lady of Song” reworked a nursery rhyme about a “brown and yellow basket” for her song “A Tisket, A Tasket.”

ANSWER: Ella **Fitzgerald** [or Ella Jane **Fitzgerald**]

[E] With this other jazz artist, Fitzgerald released three collaboration albums, including a set of excerpts from *Porgy and Bess*. This jazz trumpeter sang about “trees of green / Red roses too” in “What a Wonderful World.”

ANSWER: Louis **Armstrong** [or Louis Daniel **Armstrong**]

[H] At a concert in Berlin, Fitzgerald improvised new lyrics to this song referencing Louis Armstrong because she forgot the original ones. Armstrong’s own 1955 cover of this ballad excerpted from *The Threepenny Opera* helped establish it as a jazz standard.

ANSWER: “**Mack the Knife**” [accept “The Ballad of **Mack the Knife**” or “Die Moritat von **Mackie Messer**”]

<Jazz — Sheffield> [Edited]

6. **One artist’s collection of “Persians” of this material are marked with an optic ribbed pattern and brightly-colored “lips.” In works like *Dream Garden*, an artist embedded color directly in the Favrite form of this material. Nature and gardens inspired many of Dale Chihuly’s large-scale sculptures in this material. (*)** Lamps with ornate shades made of this material were designed by Louis Comfort Tiffany. After being melted in a furnace, this material can be blown into shape using a blowpipe. For 10 points, name this material that can be stained with color and is used in windows.

ANSWER: **glass** [accept Favrite **glass** or leaded **glass** or stained **glass** or **glass**-blowing]

<Misc. Art — An> [Edited]

6. For 10 points each, answer the following about the interpretation of Biblical prophecies during the Reformation:
[H] Martin Luther wrote that the “little horn” in this book’s vision of four beasts represented the Pope, who he identified with the Antichrist. This book also describes a giant statue made of gold, silver, bronze, iron, and clay.

ANSWER: **Daniel** [or the Book of **Daniel**]

[M] To refute the idea that the Antichrist was the Pope, theologians from this religious order like Francisco Ribera argued that Biblical prophecies would be fulfilled in the distant future. This order was founded by Ignatius of Loyola.

ANSWER: **Jesuits** [or Society of **Jesus** or **SJ**]

[E] Another Jesuit theologian, Luis del Alcázar, argued that the Antichrist had arrived far in the past in the person of this Roman emperor. This emperor is said to have fiddled during the Great Fire of Rome, which he blamed on Christians.

ANSWER: **Nero**

<Religion — Dai> [Ed. French]

7. **The transfer of functional groups between two of these elements occurs between oxidative addition and reductive elimination steps during cross-coupling reactions. The number of these elements that a substituent is bound to is its denticity. These elements are at the center of complexes whose orbital splitting behavior is described by (*) crystal field theory.** Most coordination complexes are centered around one of these elements bound to ligands. The catalytic activity of these elements stems from their ability to adopt different oxidation states due to their partially filled d orbitals. For 10 points, name these metallic elements found between groups 3 and 12 on the periodic table.

ANSWER: **transition metals** [prompt on d-block elements or metals]

<Chemistry — Schwartz> [Edited]

7. Leif Segerstam conducted the Galicia Orchestra in a performance of this symphonic suite in which he and the orchestra shouted during its swashbuckling fourth movement. For 10 points each:

[H] Name this symphonic suite by a Russian composer. Its title character is depicted in a high-pitched triplet violin solo that opens its second movement, “The Kalendar Prince.”

ANSWER: ***Scheherazade*** (by Nikolai Rimsky-Korsakov)

[M] *Scheherazade* exemplifies Rimsky-Korsakov’s mastery of this compositional technique, in which different parts are assigned to different instruments. This term can also mean the adaptation of a solo work for an ensemble.

ANSWER: **orchestration** [or to **orchestrate**]

[E] In Rimsky-Korskov’s orchestration of *Scheherazade*, this instrument accompanies the solo violin in the title character’s leitmotif. This instrument uses pedals to change keys and has 47 vertical strings that are plucked.

ANSWER: **harp** [or concert **harp**]

<Classical Music — An> [Ed. Ma]

8. **A character in this play remarks, “the wheel is come full circle,” after he loses a trial by combat. That character from this play questions, “Why bastard? Wherefore base?” in a speech that concludes, “Now, gods, stand up for bastards!” Another character in this play laments, “As flies to wanton boys are we to the gods. / They kill us for their sport,” after he is (*) blinded by the Duke of Cornwall.** In this play, Edmund manipulates the Earl of Gloucester (“GLOSS-ter”) into turning against his son Edgar, who flees and runs into the title king and his fool in a storm. For 10 points, name this Shakespeare tragedy about an old king who divides his kingdom between his daughters.

ANSWER: ***King Lear*** [accept *The Tragedy of **King Lear*** or *The History of **King Lear***]

<Drama — French> [Edited]

8. For 10 points each, answer the following about the pincer movement, in which separated forces attack the enemy from both flanks at once:

[E] This Chinese general argued against the efficacy of the pincer movement in his treatise *The Art of War*, which also recommends to “appear weak when you are strong, and strong when you are weak.”

ANSWER: **Sun Tzu** [or **Sunzi**; prompt on **Sun**]

[H] Hannibal Barca executed a pincer during this battle of the Second Punic War, inflicting heavy casualties on the forces of Aemilius Paulus and Terrentius Varro. This battle resulted in the formal adoption of the Fabian strategy.

ANSWER: Battle of **Cannae**

[M] This ruler executed a successful pincer at the Battle of Hydaspes against the forces Porus. Earlier in his military career, this ruler constructed a causeway during his successful Siege of Tyre.

ANSWER: **Alexander the Great** [or **Alexander III** of Macedon; prompt on **Alexander**]

<World History — Panickssery> [Ed. Prabhakar]

9. **This leader received a ceremonial “Sword of Islam” from the native population of the “fourth shore” of this leader’s country. This leader guaranteed a two-thirds majority in Parliament to the party that received the largest share of votes by passing the (*) Acerbo Law. This leader used claims of native irredentism to force King Zog into exile and justify his country’s occupation of Albania. Victor Emmanuel III appointed this leader as prime minister after this leader’s paramilitary army, the Blackshirts, marched on Rome. For 10 points, name this Fascist leader nicknamed “Il Duce” who led Italy during World War II.**

ANSWER: Benito **Mussolini**

<European History — Amanullah> [Edited]

9. This organ’s eight muscles include ones originating from the styloid process and the hyoid bone. For 10 points each:

[H] Name this papilla-studded muscular organ. An abnormality in the shape of the frenulum that anchors this organ causes ankyloglossia.

ANSWER: **tongue**

[E] The tongue and mouth are lubricated by this substance, secreted by the parotid and submandibular glands. This substance is used to wet the mouth and conduct chemicals to taste receptors, and it contains digestive and antimicrobial enzymes such as amylase.

ANSWER: **saliva**

[M] Saliva carries the calcium, fluoride and phosphate ions deposited in this outer layer of the teeth in the process of remineralization. This hard white tissue covering the crowns requires daily repair because of damage from acidic foods and bacteria.

ANSWER: tooth **enamel**

<Biology — Sheffield> [Edited]

10. **This thinker urged the “privileged minority” to “speak the truth and to expose lies” in the anti-Vietnam War essay “The Responsibility of Intellectuals.” This thinker listed ownership and flak as two of the five filters of the propaganda model for systemic media bias in a book co-written with Edward S. Herman titled *Manufacturing Consent*. This thinker pointed to a (*) “poverty of the stimulus” to argue that children have an innate understanding of universal grammar. This thinker’s *Syntactic Structures* introduced the nonsense sentence “colorless green ideas sleep furiously.” For 10 points, name this leftist thinker and former MIT linguistics professor.**

ANSWER: Noam **Chomsky** [or Avram Noam **Chomsky**]

<Other Social Science — Sheffield> [Edited]

10. One of these people is discovered to have transformed into a parrot when the casket is opened at his funeral in Jorge Zalamea's *The Great Burundún-Burundá Has Died*. For 10 points each:

[E] Name these despotic leaders described in novels like *I, the Supreme* and *El Señor Presidente*. Real-life examples of these leaders include Rafael Trujillo and Fidel Castro.

ANSWER: **dictators** [accept **dictator** novels or **caudillos** or **caciques**]

[H] *El Señor Presidente* is set in this country, the home of its author Miguel Ángel Asturias. Rigoberta Menchú chronicled the genocide of this country's indigenous population during its civil war in her autobiography, *I, Rigoberta Menchú*.

ANSWER: **Guatemala**

[M] *El Señor Presidente* was one of the first dictator novels to contain elements of this genre. This genre places fantastical elements within a naturalistic setting, as seen in novels by Juan Rulfo and Isabel Allende.

ANSWER: **magical realism** [or **magic realism** or **marvellous realism** or **realismo mágico** or **realismo maravilloso**; do NOT accept or prompt on "realism"]

<Long Fiction — French> [Edited]

11. **The rotation speed of these objects changes quickly at the tachocline ("TACK-oh-klein"). These objects will lose mass if they exceed their Roche ("rohsh") lobe. These objects are grouped by metallicity ("metal-ISS-it-ee") into Populations I ("one") and II ("two"). Some of these objects enter the horizontal branch after experiencing a (*) helium flash, which initiates the triple-alpha process. These objects comprise open and globular clusters. The luminosities and temperatures of these objects are plotted on H-R diagrams, which places most of these objects in the main sequence. For 10 points, name these bright objects powered by nuclear fusion, exemplified by the Sun.**

ANSWER: **stars** [accept binary **stars** or main-sequence **stars** or dwarf **stars** or giant **stars** or variable **stars**; accept **red giants** or **supergiants** until "main sequence" is read]

<Astronomy — Yin> [Edited]

11. An aerial bomb that failed to explode helped Bill Blizzard avoid being convicted of treason for his role in this event. For 10 points each:

[H] Name this 1921 clash between West Virginia coal miners and government authorities over unionization efforts. Nearly 100 people, mostly striking miners, were killed during this week-long conflict.

ANSWER: Battle of **Blair Mountain**

[E] Another 1921 aerial bombing occurred during a 1921 race massacre in this state, when private individuals and law enforcement officers firebombed people and businesses in the Greenwood district of this state's city of Tulsa.

ANSWER: **Oklahoma**

[M] The Battle of Blair Mountain and Tulsa Race Massacre both took place during the tenure of this president. This president promised a "return to normalcy" in his successful campaign over Democrat James M. Cox.

ANSWER: Warren G. **Harding** [or Warren Gamaliel **Harding**]

<American History — Condron> [Edited]

12. **A video of the North State orchestra performing one of these works went viral because a woman in the audience screamed after a sudden fortississimo. A "Dance of the Knights" features in Sergei Prokofiev's adaptation of Romeo and Juliet as one of these works. Prokofiev collaborated with George Balanchine ("BAL-un-cheen") on one of these works titled Prodigal Son for (*) Sergei Diaghilev, an impresario for these works. A high-pitched bassoon solo opens one of these works by Igor Stravinsky that caused a riot at its Paris premiere. For 10 points, *The Firebird* and *The Rite of Spring* are examples of what stage works involving tutu-wearing dancers?**

ANSWER: **ballets** [prompt on **suites** by asking "from what larger works were the suites extracted from?"]

<Classical Music — An> [Ed. Ma]

12. This leader originally won his country's presidential election in 2015, representing the Tet Kale party, but allegations of fraud resulted in a re-contested election in 2016, which he also won. For 10 points each:

[H] Name this world leader who was assassinated in his home in July 2021 by Colombian mercenaries posing as US Drug Enforcement Administration agents. This leader's wife Martine was also seriously wounded in the attack.

ANSWER: Jovenel **Moise** ("muh-EASE")

[E] Moise was president of this Caribbean island nation. A devastating magnitude 7.2 earthquake that struck this country in August 2021 had an epicenter 100 miles from its capital of Port-au-Prince ("port-ow-PRANZ").

ANSWER: **Haiti** [or Republic of **Haiti** or Republique d'**Haiti** or Repiblik d **Ayiti**]

[M] During his tenure, Moise faced protests over misuse of loans obtained from this country through the Petrocaribe oil alliance. The U.S. recognizes Juan Guaidó as this country's legitimate president.

ANSWER: **Venezuela** [or Bolivarian Republic of **Venezuela** or República Bolivariana de **Venezuela**]

<Current Events — Amanullah> [Edited]

13. **One holder of this title challenged people to point him to where God is not after pointing his feet toward the Kaaba. That holder of this title threw his bowl in a sewer to find a successor. The first person to hold this title declared, "there is no Hindu, there is no Muslim." The last person to hold this title founded an order called the (*) Khalsa and told his followers to obey the Five Ks. The last human to hold this title, Gobind Singh, declared that the eternal holder of this title would be a book called Granth Sahib. The first person to hold this title was named Nanak. For 10 points, give the title for religious leaders in Sikhism, derived from the Sanskrit word for "mentor."**

ANSWER: **Guru**

<Religion — Dai> [Ed. Athreya]

13. Systems with this property, like the logistic map, may undergo a period-doubling bifurcation where new trajectories emerge from existing ones at increasingly fast rates. For 10 points each:

[M] Name this property which occurs when a deterministic system is extremely sensitive to its initial conditions, so its behavior cannot be predicted.

ANSWER: **chaos** [prompt on the butterfly effect]

[H] An example of chaos in physics is one of these systems named for Chua which uses a nonlinear component to initiate period doubling. Norton and Thevenin's theorems both describe these systems.

ANSWER: **circuits** [accept **electronic oscillator**s; prompt on oscillators]

[E] Chua's circuit contains a nonlinear, negative resistor that acts as one of these components. These circuit components allow current to flow in only one direction and have a "light-emitting" type abbreviated LED.

ANSWER: **diodes** [accept light emitting **diodes** or **LEDs**; accept Chua's **diode**]

<Physics — Bowman> [Edited]

14. **A guerrilla group in this country killed 69 peasants in the Lucanamarca Massacre and carried out the Tarata Street bombing. In this country, a hostage crisis at an embassy was perpetrated by the insurgent group MRTA. A right-wing dictator of this country established the Grupo Colina death squad and oversaw the capture of Abimael Guzman, who led the (*) Shining Path insurgency. The novelist Mario Vargas Llosa lost this country's 1990 presidential election to that dictator, Alberto Fujimori. In 1975, this country granted official status to the Quechua language. For 10 points, name this South American country governed from Lima.**

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

<Athreya — World History> [Ed. Prabhakar]

14. In a story by this author, the narrator stares at axolotls in an aquarium every day until suddenly he is one of the axolotls watched by the person he used to be. For 10 points each:

[H] Name this Argentinian author of “Axolotl” and “Blow-Up.” The reader is advised to start at Chapter 73 and then jump around in a prescribed order in the “Table of Instructions” of this author’s novel *Hopscotch*.

ANSWER: Julio **Cortázar** [or Julio Florencio **Cortázar**]

[M] Much of *Hopscotch* uses this literary technique, which may ignore grammatical conventions to depict the thoughts of a character as a constant interior monologue.

ANSWER: **stream of consciousness**

[E] “Axolotl” and part of *Hopscotch* are both set in this city, where Cortázar is buried in the Montparnasse Cemetery. A poem by César Vallejo begins, “I will die in [this capital of France] with a rainstorm.”

ANSWER: **Paris**

<Other Literature — Miles> [Ed. French]

15. A poem by this author describes “voices” that are “more distant and more solemn / Than a fading star.” In a poem by this author, the speaker describes being “almost, at times, the Fool” in a stanza that begins, “No, I am not Prince Hamlet, nor was meant to be.” That poem by this author asks, “Do I dare / (*) Disturb the universe?” A poem by this author quotes the words “Datta. Dayadhvam. Damyata” from the Upanishads in its last section, “What the Thunder Said.” That poem begins, “April is the cruellest month.” For 10 points, name this Modernist poet of “The Love Song of J. Alfred Prufrock” and *The Waste Land*.

ANSWER: T. S. **Eliot** [or Thomas Stearns **Eliot**] (The first clue is from “The Hollow Men.”)

<Poetry — Lin> [Ed. French]

15. This essay defines the absurd as “sin without God” and rejects Kierkegaardian leaps of faith as “philosophical suicide.” For 10 points each:

[H] Name this 1942 essay that examines man’s place in a meaningless universe. It ends by claiming that “One must imagine [the title figure] happy.”

ANSWER: *The Myth of Sisyphus* [or *Le Mythe de Sisyphe*]

[M] The author of *The Myth of Sisyphus*, Albert Camus, is often considered a member of this philosophical movement. Another member of this movement, Jean-Paul Sartre, stated that this movement “is a humanism.”

ANSWER: **existentialism** [accept word forms like **existentialist** or **existential**]

[E] Unlike the Christian existentialist Søren Kierkegaard, both Sartre and Camus ascribed to this philosophical and theological position, which holds that there is no God.

ANSWER: **atheism** [accept word forms like **atheist**; do NOT accept or prompt on **agnosticism**]

<Philosophy — Sheffield> [Ed. Gemmill-Nexon]

16. This artist sings “Don’t be afraid to try again / Everyone goes south / Every now and then” in a song beginning “Well we all have a face / that we hide away forever.” In a song about his time working at the Executive Room, this artist described his first wife, Elizabeth Weber, as a “waitress... (*) practicing politics.” This artist sings into a wrench in the music video for a song about someone “living in her white-bred world” who’s “looking for a downtown man.” In another song, this artist’s character is told “we’re all in the mood for a melody / and you’ve got us feeling alright” as he plays music at a bar. For 10 points, name this singer of “Uptown Girl” and “Piano Man.”

ANSWER: Billy **Joel** [accept William Martin **Joel**]

<Pop Culture — Sheffield> [Edited]

16. Art collectors often invest enormous amounts of money in works which seem to have little or no intrinsic value. For 10 points each:

[M] Recently, investors have spent millions buying these things, which use blockchain technology to represent a piece of digital art. Although these things cannot be copied, the digital files they represent can easily be copied and shared.

ANSWER: **NFTs** [or **non-fungible tokens**]

[H] In 2019, a collector spent over thirty-thousand pounds on this artist's work *Morons*, which contains text mocking the collectors who buy his artwork. This artist destroyed one of his artworks at an auction with a shredder hidden in its frame.

ANSWER: **Banksy**

[E] Also in 2019, collectors spent \$120,000 each on two copies of Maurizio Cattelan's *Comedian*, which is just one of these curved, yellow fruits duct taped to a wall.

ANSWER: **bananas**

<Sculpture — French> [Edited]

17. **Due to a lack of white volunteers in this conflict, Christopher Greene was put in command of an integrated army unit. During this conflict, which saw the formation of the First Rhode Island Regiment, several enslaved people joined an “Ethiopian Regiment” after Lord Dunmore’s Proclamation was issued. The Black spy (*) James Armistead helped one side in this conflict secure victory at a battle where the other side’s band is said to have played the song “The World Turn’d Upside Down.” In the build-up to this conflict, Crispus Attucks was killed in the Boston Massacre. For 10 points, name this conflict that led to the independence of the thirteen colonies from Britain.**

ANSWER: **Revolutionary** War [or the American **Revolution** or American **War of Independence**]

<American History—Delot-Vilain> [Edited]

17. This character, who thinks of himself as “standing alone on the last barrier of civilization,” rants about how people have started to ignore “family institutions” before declaring his opposition to interracial marriage. For 10 points each:

[H] Name this character. In an earlier scene, this character claims that civilization is “going to pieces” as he describes reading the book *The Rise of the Coloured Empires*.

ANSWER: **Tom** Buchanan [prompt on **Buchanan**]

[E] Tom Buchanan and his wife Daisy appear in this novel set during the Jazz Age. The title character longs after a “green light” he sees on Daisy’s dock in this novel by F. Scott Fitzgerald.

ANSWER: *The **Great Gatsby***

[M] During an encounter on Fifth Avenue, this character confronts Tom about the murder of Jay Gatsby. This character, the novel’s narrator, ultimately returns to the Midwest after growing disillusioned with New York.

ANSWER: **Nick** Carraway [or Nick **Carraway**]

<Long Fiction — Lin> [Edited]

18. **The protagonist of a story by this author is told “Rome wasn’t built in a day” and annoys a man reading a newspaper by asking him for matches. In another story by this author, a gray monkey tied to a “small chinaberry tree” plays outside a restaurant called “The Tower.” A character created by this author wears a large purple hat and has a stroke after condescendingly attempting to give (*) Carver a penny. In a story by this author, the escaped convict “the Misfit” has a conversation with the Grandmother before shooting her. For 10 points, name this Southern Gothic author of “Everything That Rises Must Converge” and “A Good Man Is Hard to Find.”**

ANSWER: Flannery **O’Connor** [Mary Flannery **O’Connor**]

<Other Literature — Yau> [Edited]

18. In 1855, army generals intentionally flooded this waterway to quell an ongoing rebellion. For 10 points each:
[H] Name this longest constructed waterway in the world. The Golden Dragon Great King river god was promoted by the state to build support for the construction of this waterway.

ANSWER: **Grand Canal** [or Jing-Hang **Grand Canal** or **Dà Yùnhé** or **Ta Yün-ho** or **Jing-Hang Yunhe** or Capital–Hangzhou **Grand Canal**]

[M] The Grand Canal was long made unusable due to the flooding and a course change in this major river connected to it. This river in north China empties into the Bohai Sea in Shandong Province.

ANSWER: **Yellow** River [or **Huáng hé**]

[E] Today, the Grand Canal runs from Hangzhou to this capital of China. This city is home to Tiananmen Square and the Forbidden City.

ANSWER: **Beijing** [or **Peking**]

<Geography — Miles> [Ed. Gray]

19. **The Attini subgroup of this family can create food by intentionally promoting fungal growth. Certain species of acacias grow hollow spicules to provide homes for animals in this family as a mutualistic defense mechanism. E. O. Wilson’s extensive research on animals in this family led to the founding of sociobiology. Studies using these members of order (*) Hymenoptera led to the first isolation of formic acid. A red-colored invasive species in this family of insects can form rafts and defend colonies using pincers.** For 10 points, name this family of eusocial insects whose varieties include “fire,” “army,” and “leafcutter” species.

ANSWER: **ants** [or **Formicidae**; prompt on **insects** or **Hymenopterans** before mention]

<Biology — Schwartz> [Edited]

19. The failure of this plan wreaked havoc on the Scottish economy because about 20 percent of all the money circulating in Scotland was dedicated to backing it. For 10 points each:

[H] Name this scheme that sought to establish a Scottish settlement in modern-day Panama. The failure of this scheme and the resulting bankruptcy of the Scottish government led them to accept the Act of Union with England.

ANSWER: **Darien** scheme

[M] This dynasty’s final ruler, Queen Anne, became the monarch of a united Great Britain with the Act of Union in 1707. James I was the first king of England from this dynasty that followed the Tudors.

ANSWER: **Stuarts** [accept House of **Stuart**]

[E] The Act of Union gave rise to the Scottish branch of this 18th-century intellectual movement which emphasized rational thought. Adam Smith and David Hume were part of the Scottish branch of this movement.

ANSWER: the **Enlightenment** [or the Age of **Enlightenment** or the **Age of Reason**; accept the Scottish **Enlightenment**]

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

20. **The Radwimps provided the music for a film from this country in which a city boy and country girl in timelines three years apart begin switching bodies. After being assigned a new name meaning “thousand,” a girl from another film from this country works for a six-armed old man who operates a boiler room with the help of coal-carrying sootballs. (*) Your Name** is from this country, as is a film in which a girl meets monsters like No-Face in a bathhouse after her parents are turned into pigs. That film, *Spirited Away*, was produced by this country’s Studio Ghibli. For 10 points, name this country where anime films were directed by Makoto Shinkai and Hayao Miyazaki.

ANSWER: **Japan** [or **Nihon**; accept **Nihon koku** or **Nippon koku**]

<Film — Sheffield> [Ed. Ma]

20. For 10 points, answer the following about the Mohs scale:

[E] The Mohs scale measures this quantity from 1 to 10 based on which minerals can scratch each other. Diamond, which represents 10, has one of the highest known values of this quantity.

ANSWER: **hardness**

[M] A 1 on the Mohs scale corresponds to this mineral made of hydrated magnesium silicate. This soft, white, clay mineral is ground to produce baby powder.

ANSWER: **talc** [accept **talcum** powder]

[H] A group of minerals known by this name represent a 5 on the Mohs scale and are made of calcium phosphate. A mineral of this name prefixed “hydroxy-” (“hye-DROCK-see”) is the main component of human bones.

ANSWER: **apatite** [accept hydroxy**apatite**]

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