

1. This title's last holder stated that he'd act like the king of Sweden once his people behaved like Swedes. Michel Foucault reported on a massacre of protesters against a holder of this office called **Black Friday**. Norman Schwarzkopf Senior trained secret police for a leader of this title, who became more brutal after Marxists attacked Siakhel. The last one made a Literacy Corps and extended suffrage to women in his (*) White Revolution. The SAVAK police served under this office after Kermit Roosevelt and the CIA launched Operation Ajax to oust Mohammad Mosaddegh. The cancer-stricken, pro-Western Mohammed Reza of the Pahlavi dynasty held this title. For 10 points, name this national monarch overthrown by Ayatollah Khomeini in the 1979 Iranian Revolution.

ANSWER: shah of Iran [or shahanshah; or king of Iran; accept Pahlavi shahs until "Pahlavi" is read]

<Mukherjee>

2. Early in this man's career, he purchased a number of songs from his future full-time arranger Fletcher Henderson. This man's most famous concert concluded with a performance of a song written by Louis Prima, which featured solos from Gene Krupa and Jess Stacy. His signature songs included Edgar Sampson's "Don't Be That Way" and "Stompin' at the Savoy", and he formed one of the first (*) integrated trios with Krupa and Teddy Wilson. The first-ever live double album was a recording of this man's band's landmark 1938 performance at Carnegie Hall, which concluded with a performance of "Sing Sing Sing (With a Swing)". For 10 points, name this jazz clarinetist and bandleader, popularly known as the "King of Swing".

ANSWER: Benny Goodman [or Benjamin David Goodman]

<Carson>

3. An essay about this character points out the absurdity of his ability to determine the frayedness of a hole from 100 yards away and proposes that this character should appear in the "Broken Twig Series". This character, his friend, and his friend's son lead three contingents of the Delaware on a raid. In a novel in which he appears, this character's enemy (*) Magua leads Cora and Alice, Colonel Munro's daughters, into an ambush on their way to Fort William Henry, though they are eventually rescued with the help of Uncas. This character and his friend Chingachgook attempt to ease the conflict between the Huron and the Mohicans. For 10 points, name this hero of James Fenimore Cooper's *Leatherstocking Tales*. ?

ANSWER: Natty Bumppo [accept either; or Hawkeye; or La Longue Carabine; or Pathfinder; or Deerslayer; accept Leatherstocking before mentioned]

<Mehigan>

4. This quantity is related to a specific wavelength, λ , by $A\lambda^2 + B\lambda + C$ to the minus two plus $D\lambda$ to the minus four, where A through D are material constants, in Cauchy's equation. It is sometimes useful to derive this quantity as the square root of relative permittivity times relative permeability. The arcsine of the ratio of this quantity for two media gives the critical angle for (*) total internal reflection. The ratio of this quantity for two media is equal to the ratio of the sine of the angle of incidence and sine of the angle of transmittance according to Snell's law. For 10 points, name this quantity symbolized n and equal to the ratio of the speed of light in a vacuum to the speed of light in a material.

ANSWER: index of refraction [or n until it is read]

<Voight>

5. In his first use of "elementary parallelism", Marcel Duchamp depicted a "Sad Young Man" smoking a pipe on one of these things. Men fire rifles from one of these things in a 1915 Futurist painting by Gino Severini titled for an "armored" one, while another one appears in the upper right corner of a Giorgio de Chirico painting subtitled "The Melancholy of Departure". A black one of these objects is obscured by smoke in a painting by Claude Monet set at (*) Gare Saint-Lazare. A rabbit attempts to escape from one of these objects in a painting that depicts a bridge at Maidenhead designed by Isambard Kingdom Brunel. For 10 points, name this type of vehicle that rushes towards the viewer in J. M. W. Turner's *Rain, Steam and Speed*.

ANSWER: a train [or locomotive or railroad engine; accept armored train; accept Marcel Duchamp before his name is read]

<Bentley>

6. This author claimed the best way to write was "to go into yourself and to explore the depths where your life wells forth." This poet described how "the covers of the eyes open" and "an image rushes in" before it "vanishes, forever, in the heart" of an animal that sees "behind the thousands of bars no world." In another poem, this author described a "legendary (*) head with eyes like ripening fruit" and concluded with the injunction "you must change your life". A ten-poem collection by this author of "The Panther" and "Archaic Torso of Apollo" begins "who, if I cried out, would hear me among the angelic orders?" For 10 points, name this author of *Letters to a Young Poet* and *The Duino Elegies*.

ANSWER: Rainer Maria Rilke

<Mehigan>

7. A non-parametric method of performing this technique is the Theil-Sen estimator. The Gauss-Markov theorem gives the best linear unbiased estimator when error terms from this technique fulfill certain criteria. For a type of this process, the sum of squares total minus sum of squares error all divided by sum of squares total yields the r-squared value, which is also called the coefficient of determination and gives the percentage of variance explained. That type of this technique minimizes the sum of squared (*) residuals and is the least-squares method. "Influential" outliers unduly influence the slope obtained from the linear form of this process. For 10 points, name this process which gives a mathematical model for the association between a dependent and one or more independent variables.

ANSWER: regression analysis [or least-squares regression; or simple linear regression]

<Kothari>

8. A commemorative arch is a prominent feature of a building of this kind nicknamed the "Ruin," or "Hurva." The oldest active surviving example of these buildings dates to the 13th century in Prague; in the attic of that "old new" one, a guardian is said to lie in pieces. Women were segregated from men in an upstairs gallery of these buildings known as the "courtyard." Larger ones often employ a cantor, or (*) *hazzan*. These buildings contain a curtained closet named the *hekhal* and a *bimah* elevated by two or three steps. The Holy of Holies is the model for the ark that holds the scrolls of the Torah in these buildings. For 10 points, name these buildings which include lecterns for rabbis and serve as Jewish houses of worship.

ANSWER: synagogues [or beth knesset; or beth t'fila; or shul; or esnoga; or kahal]

<Gupta>

9. Edward Tyas Cook described this person's return to the estate of Lea Hurst in an early 1913 biography. An image which this person called the "bat's wing" was among a set of charts in polar coordinates called "coxcombs" which she created. Mary Seacole attempted to join this person but eventually worked separately from her. William Howard Russell reported on this person who, at the request of Sidney Herbert, went with 38 other people to (*) Scutari, which was built over a cesspool. A notable article about this woman called her a "ministering angel" and the "Lady with the Lamp." For 10 points, name this woman who improved sanitation for soldiers in the Crimean War, a pioneering British nurse.

ANSWER: Florence Nightingale

<Bailey>

10. Anthony Atkinson and Joseph Stiglitz showed one type of this activity was pointless for separable utility functions,. Marcel Boiteux adopted Frank Ramsey's work to find the best way of performing it, and Ramsey argued this activity should consider the inverse elasticity of demand. Ramsey's work was also taken up by Peter Diamond and James Mirrlees in exploring the (*) "optimal" type of it. Robert Barro showed under certain conditions the economic effects of this activity and issuing debt were equivalent. Externalities can be internalized with a Pigouvian version of this activity. The Laffer curve displays the relationship between the degree of this and revenue raised. For 10 points, name this means of raising government revenue.

ANSWER: taxation [or more specific forms like sales tax, income tax, etc.]

<Bailey>

11. In one of this author's plays, most characters are indifferent to the sudden news of a girl's death, but it makes one man yearn for a faraway city with a "hospital for organisms." That play's cast of characters include a devout Muslim named Tartar and a nameless actor simply called Actor. This author moved to Capri to escape the political climate of his home country, where he was honored by having an amusement park named after him. This author pioneered the genre of (*) socialist realism in his novel *The Mother*, though he is best known for a play in which the thief Luka listens to stories told by the inhabitants of a crowded boarding house. For 10 points, name this Russian author of *The Lower Depths*.

ANSWER: Maxim Gorky [or Alexei Maximovich Peshkov]

<Gupta>

12. According to Tsavo Trust, the sale of this substance to Asians gives major funding to al-Shabaab and other African terrorist groups. Several retailers in Hong Kong agreed to stop selling goods made from this material in 2014, and the government there incinerated twenty-eight tons of it. The United States recently began allowing international movement of objects made of this material if they were made before 1976, though its trade has been (*) banned internationally since 1990. The U.S. is banning any material from Zimbabwe and Tanzania that comes from the same animals as this substance. This material was once commonly used in billiard balls and pianos. For 10 points, name this material often gained by illegally hunting elephants.

ANSWER: ivory

<Reinstein>

13. In solid-state physics, a dimensionally-equivalent "sheet" version of this quantity is often reported as its value "per square". Its quantum is equal to h over e squared, and the Drude model gives this extensive quantity as inversely proportional to the product of carrier number density and mobility. A complex version of this quantity includes a term equal to frequency times inductance. The power dissipated in a circuit equals (*) current squared times this value. Voltmeters work by applying a very large value for this quantity in parallel. Devices that provide this quantity are marked with a series of colored bands and symbolized with a zig-zag line. For 10 points, name this quantity set equal to voltage over current in a law named for Ohm, who also names its SI unit.

ANSWER: resistance

<Eltinge>

14. *A. vinelandii* is a model system to study this process. Homocitrate coordinates a metal ion in the active site of an enzyme that catalyzes this process; that enzyme contains M-clusters and P-clusters. *Trichodesmium* can do this process during the day, even though it is normally inhibited by oxygen. Diimines and hydrazine are intermediates of this process. It requires 12 ATP and a net addition of six (*) electrons. Molybdenum is a cofactor for this process. Inside legume root nodules, *Rhizobia*, a diazotroph, carries out this process. It is the biological equivalent of the Haber-Bosch process. For 10 points, name this process in which ammonia is formed from a diatomic gas.

ANSWER: nitrogen fixation [prompt on partial answer]

<Silverman>

15. This ruler's subjects included cartoonist James Gillray, who satirized his "Monstrous Crows." This ruler, who was aided in finding a wife by the 3rd Earl of Bute, got attacked by the forty-fifth issue of the *North Briton* magazine, published by John Wilkes. This king disapproved of Charles James Fox, but nonetheless approved Fox's place in the (*) "ministry of all the talents." The removal of Warren Hastings from the East India Company occurred during the tenure of this monarch before William Pitt the Younger took office. This man's son presided during the Regency as this king's porphyria led to bouts of insanity. For 10 points, name this king from the House of Hanover whose six-decade rule included the American Revolution.

ANSWER: George III

<Bailey>

16. This island's Busang mine was found to be worthless in a scandal that caused the demise of Canadian company Bre-X. This island hosts the world's greatest diversity of dipterocarps, including many in its Danum Valley. Kerangas are a type of moist heath forest found on this island, whose largest city is Kuching. The Mega Rice project attempted to convert this island's peat swamp forests to rice paddies. This home of the Dayak people lies just west of the (*) Makassar Strait and Wallace's Line, across from Sulawesi. Its northern portion includes the states of Sabah and Sarawak. For 10 points, name this third largest island in the world, which is shared by Brunei, Malaysia, and Indonesia.

ANSWER: Borneo [or Kalimantan]

<Kothari>

17. A character in this work expresses a desire to have "remained in some lone Isle" where "the gilt Chariot never marks the way", and where none taste bohea ("bo-HAY"). In the second section of this poem, a character acquires a bag containing "sighs, sobs, and passions, and the war of tongues", which he pours onto a woman who lies in Thalestris's arms. Earlier in this poem, that woman engages in "the sacred Rites of Pride" at her toilet after being awoken by her (*) lapdog Shock. This poem, which opens with lines about how a "dire Offence from am'rous causes springs", includes a pair of sylphs named Umbriel and Ariel. For 10 points, name this mock-heroic poem in which the Baron snips off some of Belinda's hair, a work of Alexander Pope.

ANSWER: "The Rape of the Lock"

<Carson>

18. Louis Lomax worked with a reporter of this surname on *The Hate that Hate Produced*, a documentary about the Nation of Islam. A politician with this surname, who wrote letters to Nicholas Roerich revealing his admiration of Stalin, was the last Progressive Party presidential candidate. A governor with this surname survived gunshots in Laurel, Maryland while running on the American Independent Party ticket in 1972; that man's wife Lurleen (*) succeeded him so he could dodge term limits. A sometime Agriculture secretary with this surname was FDR's second Vice President. For 10 points, give this surname of a governor who declared "segregation now, segregation tomorrow, segregation forever" and made a "stand in the schoolhouse door" in Alabama.

ANSWER: Wallace [or Mike Wallace; or George Wallace; or Lurleen Wallace; or Henry Agard Wallace]

<Bentley>

19. Paul Hindemith's *Ludus Tonalis* opens with a piece of this type. The tempo marking "Allegro ritmato e deciso" is appended to the first and third of three works of this kind by George Gershwin, which Jascha Heifetz transcribed for the violin. A J.S. Bach piece of this type is the basis for Charles Gounod's "Ave Maria". One of these pieces nicknamed "The Bells of Moscow" is a work in (*) C-sharp minor by Rachmaninoff. Chopin wrote 24 pieces in this genre, arranged according to the circle of fifths, the most famous of which is the one in D-flat nicknamed "Raindrop". In *The Well-Tempered Clavier*, these pieces are paired with fugues. For 10 points, name these pieces, whose name suggests their function as introductions.

ANSWER: preludes [or vorspiel or praeludium]

<Lawrence>

20. A son of Zeus and Electra became one of the founders of this city after fleeing Samothrace when Zeus killed his brother Iasion. This city's territory was at one point divided between the brothers Ilus and Assaracus. A deceptive king of this city offered his daughter Hesione to a sea monster sent by Poseidon, who was angry because that king failed to (*) pay Poseidon and Apollo for building this city's walls. Heracles sacked this city when he did not receive his promised immortal horses from Laomedon, who received those horses from Zeus as compensation for the rape of his brother, Ganymede. For 10 points, name this Anatolian city ruled by Priam during a ten-year war with the Greeks.

ANSWER: Troy [or Troia; or Ilium; or Ilion; or]

<Bollinger>

21. In a novel by this man, the transvestite Randolph helps Idabel's friend Joel recover from pneumonia contracted after Joel ran away from Skully's Lading, the home of his quadriplegic father Edward. In one of his books, an affair with Jose Ybarra-Jaegar leads to a pregnancy that ends in a miscarriage due to a horseback ride through Central Park. A character created by this author of (*) *Other Voices, Other Rooms* has to wake up Mr. Yunioshi in order to get back into her apartment and visits Sally Tomato in Sing Sing. He also wrote a book in which Dick Hickock and Perry Smith kill a Kansas family. For 10 points, name this author of the nonfiction novel *In Cold Blood*, who created Holly Golightly in his novella *Breakfast at Tiffany's*.

ANSWER: Truman Capote [or Truman Streckfus Persons]

<Mehigan>

22. In the early 1900s, this city was run by a Jewish political boss named Abe Ruef, whose Union Labor Party got orchestra conductor "Handsome Gene" Schmitz elected mayor. Herb Caen wrote "three dot journalism" in this city, whose first black mayor was Willie Brown. In 1934, this city's Bloody Thursday was prompted by a general strike started by longshoremen. Sara Jane Moore attempted to assassinate Gerald Ford in this city. A meeting in this city, which followed up on the (*) Dumbarton Oaks conference, established the United Nations. Fires spread through the neighborhoods of North Beach and Telegraph Hill during a disaster here. For 10 points, name this California city home to gay rights activist Harvey Milk, the namesake of a devastating 1906 earthquake.

ANSWER: San Francisco, California

<Bentley>

23. Macrophages form crown-like structures around dead cells in this tissue. Hibernomas form through the excessive growth of one type of this tissue. Mitochondria in this tissue express uncoupling protein-1 in their inner membranes to dissipate the proton gradient. TNF alpha and resistin are produced in this tissue. A hormone produced primarily by this tissue is encoded by the ob gene. Non-shivering (*) thermogenesis is promoted by the brown kind of this tissue, which is most abundant in newborns, while the white kind of this tissue is the primary source of leptin. Abdominal deposits of this tissue are a risk factor for cardiovascular disease. It is removed by liposuction. For 10 points, name this kind of amorphous connective tissue which stores fat.

ANSWER: adipose tissue [or fat tissue before it is read; or brown fat before it is read; or white fat before it is read]

<Kothari>

24. A man with this surname named Murtaza founded a terrorist organization which assassinated Chaudhry Zahoor Elahi at the behest of his Prime Minister father. A politician with this surname created a paramilitary group called the Federal Security Force and was deposed in Operation Fair Play, a coup led by General Muhammad Zia-ul-Haq. A "People's Party", abbreviated PPP, was founded by that leader of this name who took power after Yahya Khan couldn't stop the secession of (*) Bangladesh. His daughter of this surname married Asif Ali Zardari and returned home in 2007 only to be assassinated in Rawalpindi. For 10 points, name this prominent Pakistani political family, which produced the Prime Ministers Zulfikar Ali and Benazir.

ANSWER: Bhutto family

<Karas>

1. A game of blind man's bluff in the second act of this play results in both a broken drum and potential assaults on both Meg and Lulu. For 10 points each:

[10] Name this 1957 play which ends with Goldberg and McCann taking Stanley Webber away from a boardinghouse in the wake of the title event.

ANSWER: *The **Birthday Party***

[10] *The Birthday Party* is one of the "comedies of menace" written by this British playwright of *The Homecoming* and *The Dumb Waiter*.

ANSWER: Harold **Pinter**

[10] Pinter's extramarital affair with Joan Bakewell inspired this play about the tangled history of two married couples, which is perhaps most notable for its use of reverse chronology.

ANSWER: **Betrayal**

<Carson>

2. This song is sometimes known by its first line, "Vedi! Le fosche notturne", and it describes how women turn days from gloom to bright sunshine. For 10 points each:

[10] Identify this piece from act 2, scene 1 of *Il Trovatore*, in which a group of Spanish Gypsies set to work.

ANSWER: the "**Anvil Chorus**" [prompt on "the Gypsy Chorus" or "Coro di Zingari"]

[10] *Il Trovatore* was composed by this Italian, whose other operas include *Rigoletto* and *Aida*.

ANSWER: Giuseppe Fortunino Francesco **Verdi**

[10] *Il Trovatore* also features the aria "Di quella pira", in which Manrico vows to save his mother Azucena from this fate. This fate also befalls Pollione and Norma at the end of a Vincenzo Bellini opera.

ANSWER: being **burned** at the stake [or being **burned** on a (funeral) pyre; or other obvious equivalents involving being **burned** to death]

<Carson>

3. Name these types of verbs, for 10 points each.

[10] This is the name for verbs that take direct objects. For example, the word "catch" in the sentence "I catch the ball" is one of these.

ANSWER: **transitive** verbs

[10] In Germanic language study, this term is used for verbs that change their stem when conjugated.

ANSWER: **strong** verbs

[10] In Latin and Norwegian, these verbs are conjugated as though they were passive, but have active voice meanings.

ANSWER: **deponent** verbs

<Jackson>

4. This function contains all the dynamic information about the system it describes and its square modulus for x is the probability of finding a particle at x . For 10 points each:

[10] Name these mathematical functions that describe where a particle might be, according to their probabilistic Born interpretation.

ANSWER: **wave functions** [or **state** function]

[10] By performing a measurement, one causes a wave function to do this, in which a superposition of eigenstates becomes one eigenstate.

ANSWER: wave function **collapse**

[10] The time evolution of a wave function is given by this equation. Its namesake also proposed a thought experiment involving a cat that is both dead . . . and alive!

ANSWER: **Schroedinger** equation [or **Schroedinger's** cat]

<Jose>

5. In Eastern Orthodoxy, an intricate form of this practice begins with the reading of Psalm 50, following by the pouring of wine and olive oil into a shrine lamp. For 10 points each:

[10] Identify this excitingly-named sacrament performed on people who are in danger of dying.

ANSWER: **extreme unction** [or **anointing of the sick**; prompt on partial answers to be nice]

[10] Last rites consists of the administration upon a dying person of extreme unction, penance, and this sacrament involving the consumption of a wafer and wine, which represent Christ's body and blood.

ANSWER: **Eucharist** [or Holy **Communion**; or **Last Supper**]

[10] This twelfth-century bishop of Paris was the first writer to enrich our lives by using the phrase "extreme unction." He wrote a widely commented-upon theological compilation in four books.

ANSWER: Peter **Lombard** [or Peter the **Lombard**; or Petrus **Lombardus**]

<Gupta>

6. Ghéridanisol dares Boris to commit suicide in a memorable scene from this man's novel *The Counterfeiters*. For 10 points each:

[10] Name this French Nobel Laureate whose autobiography *Si le grain ne meurt* and his novel *The Immoralist* both met with controversy for their frank depictions of homosexuality.

ANSWER: André Paul Guillaume **Gide**

[10] Gide claimed that the second-best French novel ever was this epistolary novel by Pierre Choderlos de Laclos about the seductions and manipulations carried out by the Marquise de Merteuil and the Vicomte de Valmont.

ANSWER: *Les Liaisons Dangereuses* [or *The Dangerous Liaisons*]

[10] Gide's top honors went to *The Charterhouse of Parma*, a work of this pseudonymous author who wrote about Julien Sorel's adventures during the Bourbon Restoration in *The Red and the Black*.

ANSWER: **Stendhal** [or Marie-Henri **Beyle**]

<Carson>

7. This artist depicted a view of the Connecticut River valley in the wake of a thunderstorm from Mount Holyoke in his painting *The Oxbow*. For 10 points each:

[10] Name this Hudson River School artist who also painted *Childhood, Youth, Manhood, and Old Age*, which make up his series *The Voyage of Life*.

ANSWER: Thomas **Cole**

[10] In this five-painting sequence, Cole depicted the rise and fall of civilization, starting with *The Savage State* and concluding with *Desolation*.

ANSWER: *The **Course of Empire***

[10] A member of a certain profession sprawls on some giant books atop a column in this Cole canvas which now hangs the Toledo Museum of Art. A Gothic church, a Greek temple, and a pyramid are among the features of the ideal realm it depicts.

ANSWER: *The **Architect's Dream***

<Jose>

8. Proteins called Frizzled and Disheveled are part of this signaling pathway. For 10 points each:

[10] Name this signaling pathway in which beta-catenin translocates to the nucleus and acts as a transcription factor in the presence of the namesake signal, a protein named for the *wingless* mutation in *Drosophila*.

ANSWER: **Wnt** signaling [pr. WINT]

[10] In the absence of Wnt, beta-catenin is marked for destruction by the proteasome by the covalent addition of this 76-residue polypeptide to a lysine residue. It's named for its omnipresence in many types of cells.

ANSWER: **ubiquitin**

[10] Proteins are also degraded by enzymes located inside of these organelles, which have a lower pH than the cytosol. These "suicide sacks" mostly degrade extracellular proteins or damaged organelles.

ANSWER: **lysosomes**

<Silverman>

9. One publication owned by this man originally ran *Hogan's Alley*, a comic whose character of "the Yellow Kid" inspired the term "yellow journalism." For 10 points each:

[10] Name this owner of the *New York World*. His will established yearly awards for American journalists, authors, and artists.

ANSWER: Joseph **Pulitzer**

[10] This female employee of the *World* faked insanity to investigate an asylum on Blackwell's Island. She was inspired by a Jules Verne novel to go around the world in seventy-two days.

ANSWER: Nellie **Bly** [or Elizabeth **Cochrane**]

[10] This reporter and co-founder of *The New Republic*, who wrote the column "Today and Tomorrow," became a *New York World* editor after "yellow journalism" subsided. John Dewey criticized his book *The Phantom Public*.

ANSWER: Walter **Lippmann**

<Bailey>

10. A leader of this nation faced student protests in the First Quarter Storm and was overthrown by the People Power Revolution. For 10 points each:

[10] Name this nation once led by Ferdinand Marcos, whose independence was guaranteed by the Tydings-McDuffie Act. Its first president, Emilio Aguinaldo, fought American occupation of this nation.

ANSWER: **Philippines**

[10] One member of this Philippine political family, Ninoy, was assassinated on an airport tarmac on Ferdinand Marcos's orders. His wife, Corazon, later came to power after Marcos' overthrow.

ANSWER: **Aquino** family

[10] This Philippine terrorist group, which operates out of Bangsamoro, bombed Superferry 14 and kidnapped an American citizen to demand the release of the perpetrators of the 1993 World Trade Center bombing.

ANSWER: **Abu Sayyaf** [or **ASG**]

<Mukherjee>

11. The pressure due to the impact of these objects can induce the formation of tektites and drive shock metamorphism. For 10 points each:

[10] Name these extra-terrestrial rocks whose collision with earth produces craters.

ANSWER: **meteorites** [or **meteors**; or **meteoroids**; or **asteroids**]

[10] Svante Arrhenius published the first paper on this theory which holds that life on earth is descended from microorganisms that lived on a meteoroid. It implies that life exists elsewhere in the galaxy.

ANSWER: **panspermia**

[10] The presence of this element, which is slightly less dense than osmium, was used by the team of Alvarez and Alvarez, to conclude that a meteoroid or asteroid struck earth to cause the K-T extinction.

ANSWER: **iridium** [or **Ir**]

<Jose>

12. Karl Lindner tries to persuade the central family of this play to move out of their new home. For 10 points each:

[10] Name this play centering on a ten-thousand-dollar insurance check and Walter's failed plans to invest part of it in a liquor store with his partner Willy.

ANSWER: A **Raisin in the Sun**

[10] A *Raisin in the Sun* is a play by this American author, whose ex-husband Robert Nemiroff compiled her writings into the play *To Be Young, Gifted, and Black* after her death.

ANSWER: Lorraine Vivian **Hansberry**

[10] In *A Raisin in the Sun*, Walter's sister Beneatha leaves her boyfriend George to accept the marriage proposal of this character, who teaches her about Africa and plans to become a doctor in Nigeria.

ANSWER: **Joseph Asagai** [accept either underlined portion]

<Mehigan>

13. The banning and subsequent un-banning of this book was discussed in a 1980 essay collection by its author titled *What Happened to it*, or *How South African Censorship Works*. For 10 points each:

[10] Name this novel whose protagonist, Rosa, is jailed in the wake of the Soweto uprising after a meeting with her childhood friend Baasie prompts her to return to South Africa.

ANSWER: **Burger's Daughter**

[10] *Burger's Daughter* was written by this anti-apartheid activist, who helped Nelson Mandela edit his "I Am Prepared to Die" speech and wrote the novels *The Conservationist* and *July's People*.

ANSWER: Nadine **Gordimer**

[10] In *July's People*, civil unrest forces this family to flee to the countryside with the title character, their former servant. Its members include Bam, who builds a water tank for the village, and Maureen, who flees towards a mysterious helicopter at the end of the book.

ANSWER: the **Smales** family

<Carson>

14. Answer the following about form and structure in music, for 10 points each:

[10] In this contrapuntal technique, originally known as a "fuga ligata" or "fettered fugue", a melody is first stated and then imitated after some duration. Johann Pachelbel's most famous piece is one of them in D that was originally paired with a gigue.

ANSWER: **canon**

[10] A movement in sonata form can usually be divided into an exposition, a development section, and a section of this type, which reprises material from the exposition.

ANSWER: **recapitulation**

[10] Sometimes found at the end of a phrase, this marking consists of a dot inside a semicircle and tells the performer to hold the note longer than usual. Its name comes from the Italian for "to stop".

ANSWER: **fermata**

<Rosenberg>

15. Answer these questions about influential women during the Middle Ages, for 10 points each.

[10] This mother of Richard Lionheart, a noblewoman from what's now southwestern France, married both Louis VII of France and Henry II of England.

ANSWER: **Eleanor** of Aquitaine [or **Eleanor** of Guyenne or **Eleonore** d'Aquitaine or **Alienor** d'Aquitaine]

[10] Women from this Germanic ethnic group included Queen Brunhilda of Austrasia, who was bound to a camel and tortured to death, and Clotilde, the Catholic wife of Clovis. They drafted the Salic law.

ANSWER: **Franks** [or **Frankish** people; or **Merovingians**; do not accept or prompt on "French"]

[10] Agnes of Poitou served as a regent for a Holy Roman Emperor of this name, her son. In 919, a German of this name got an epithet because he was preparing bird snares when told of his election as king in 919.

ANSWER: **Henry** [or **Heinrich**; or **Henry** IV; or **Heinrich** IV; or **Henry** the Fowler; or **Heinrich** der Vogler]

<Bentley>

16. This man's insistence on a balance between curriculum-centered and student-centered learning inspired the development of Problem-Based Learning. For 10 points each:

[10] Name this American philosopher who claimed experienced-based learning helped develop enlightened citizens in his book *Democracy and Education*.

ANSWER: John **Dewey**

[10] In *Freedom and Culture*, Dewey claimed that this school of thought relied on outdated generalizations and compared it to a religion. This school of thought was inspired by works like "Theses on Feuerbach", and its followers include Louis Althusser and Gyorgy Lukacs.

ANSWER: **Marxism** [or other word forms]

[10] Dewey's concern with practical learning was shared by this Russian educational theorist who claimed that individuals learn new skills in the "zone of proximal development" through challenges, a technique called scaffolding.

ANSWER: Lev Semyonovitch **Vygotsky**

<Spencer>

17. William I, Duke of Aquitaine founded one of these institutions at Cluny, whose reforms were championed by Saint Odo; another at Monte Cassino was destroyed in World War II. For 10 points each:

[10] Name these religious communities which sprung up in the Middle Ages, where typically celibate Christians lived and worked. Their inhabitants often copied classical texts by hand.

ANSWER: **monasteries** [or **abbey**s; or **prior**ies]

[10] This saint and founder of the Monte Cassino monastery formulated a namesake "Rule" for monks. His followers used the motto *orare est laborare*, or "to pray is to work".

ANSWER: Saint **Benedict** of Nursia

[10] An early and unexpected calamity of this type befell the abbey at Lindisfarne, off the coast of England, in 793.

ANSWER: **Viking raids** [accept any answer indicating that Norse raiders damage a place; prompt on answers such as "sacking", "raid," "burning," etc. which do not specify the attackers]

<Liu>

18. This company's Nashville factory was raided in 2009 after it was accused of having illegally imported Madagascar ebony and Indian rosewood in violation of the Lacey Act. For 10 points each:

[10] Identify this music company which subsequently sold "Government Series" guitars after its tonewood was returned in 2011.

ANSWER: **Gibson** Guitar Corporation

[10] One of the most prominent anti-Gibson critics is Sting, who participated in the 1986 A Conspiracy Of Hope concerts to benefit this organization. This NGO is currently headed by Salil Shetty.

ANSWER: **Amnesty International**

[10] Sting has a frog named after him due to his efforts to save this biome through a namesake Foundation Fund. Perhaps seventy percent of the world's species live in this biome, characterized by high precipitation.

ANSWER: tropical **rainforests**

<Bentley>

19. This adjective describes solutions which have no enthalpy change of mixing. For 10 points each:
[10] Name this adjective, which also applies to gases which have no intermolecular attractive forces or particle volume, and therefore follow the equation " $PV = nRT$ ".

ANSWER: **ideal** [or **ideal** solutions; or **ideal** gases]

[10] Even for an ideal solution, this quantity increases upon mixing by a factor proportional to the natural logarithm of the mole fraction of each solute. Its change in an isolated system is zero only for reversible processes.

ANSWER: **entropy** [or **S**]

[10] For an ideal solution, this quantity equals one. This quantity symbolized gamma is defined as a species' fugacity coefficient in solution divided by its mole fraction times pure fugacity.

ANSWER: **activity coefficient** [do not accept or prompt on "activity"]

<Silverman>

20. Graves states that she was the most terrible of a certain triad and personified Crone, the autumnal aspect of a triple goddess. For 10 points each:

[10] Name this goddess, who cut the thread spun out by her sister Clotho, and measured by her sister Lachesis.

ANSWER: **Atropos**

[10] Atropos, Clotho and Lachesis are the three women who make up this mythological triad, who ruled over destiny.

ANSWER: **Fates** [or **Parcae** or **Moirae**]

[10] This other goddess of fate was a tutelary deity that Greeks used to personify luck. She was sometimes syncretized with Nemesis, and her Roman counterpart was Fortuna.

ANSWER: **Tyche**

<Jose>

21. This man's religious works include a response to H.G. Wells's *The Outline of History* entitled *The Everlasting Man*, an examination of the "holy fool" called *Manalive*, and the apologetic book *Orthodoxy*. For 10 points each:

[10] Name this regular collaborator with Hilaire Belloc who included eight stories about Horne Fisher in *The Man Who Knew Too Much* and also penned "The Blue Cross".

ANSWER: Gilbert Keith **Chesterton**

[10] Chesterton's best novel is this book about Gabriel Syme, who is recruited by Lucian Gregory to join an anarchist council which is later revealed to consist almost entirely of other undercover detectives.

ANSWER: *The **Man Who Was Thursday**: A Nightmare*

[10] A 1906 "critical study" by Chesterton revived serious academic interest in this author of *The Pickwick Papers*, *Hard Times*, and *A Tale of Two Cities*.

ANSWER: Charles John Huffam **Dickens**

<Carson>

22. This work argues that "friction" makes its title endeavor more difficult in practice than in theory, and notes that that namesake endeavor revolves around "centers of gravity." For 10 points each:

[10] Name this text heavily influenced by Gerhard von Scharnhorst, which calls its subject a "mere continuation of policy by other means."

ANSWER: ***On War*** [or ***Vom Kriege***]

[10] Carl von Clausewitz, the author of *On War*, used this metaphor to describe the uncertainty felt by individuals on a battle field. This term is used more literally to describe gun smoke.

ANSWER: "**fog** of war" [or "**Nebel** des Kriegen"]

[10] In this popular history of the runup to World War I, Barbara Tuchman describes the German General Staff's obsession with Clausewitz and their blind faith in the Schlieffen plan.

ANSWER: *The **Guns of August***

<Ray>

23. The direction of the half-twist for this non-orientable surface determines whether it is clockwise or counterclockwise. For 10 points each:

[10] Identify this one-sided surface commonly formed by cutting a strip of paper, twisting an end 180 degrees, and rejoining the ends.

ANSWER: **Moebius** strip [or **Moebius** band; or **twisted cylinder**]

[10] This other non-orientable surface can be formed by joining the edges of two Moebius strips. Named for a German mathematician, it is the only exception to the Heawood Conjecture.

ANSWER: **Klein** bottle

[10] For orientable surfaces, the Euler characteristic is commonly defined as two minus twice this number, which informally is the number of holes in the surface. Surfaces with the same value for this number can be continuously deformed into one another.

ANSWER: **genus**

<Bentley>