

1. One method of doing *this* has variations using a Zeeman slower and another which uses a pair of orthogonally polarized beams. This process can be achieved by successive rounds of adiabatic magnetization and demagnetization. One method of doing this uses two rounds of Joule-Thompson expansion and is called the Linde cycle. Claude Cohen-Tannoudji developed a method of doing this using lasers and the Doppler effect that was used on a sample of rubidium atoms to form the first (*) Bose-Einstein condensate. This process is necessary to create superfluids and superconductors, and a crude way of doing it is submersion in liquid nitrogen. For 10 points, name this process in which a system loses heat energy and decreases in temperature.

ANSWER: cooling [or refrigeration; accept laser cooling, magnetic refrigeration, or similarly more specific answers]

<Mukherjee>

2. This condition is treated with the "life participation approach" or the "substitute skill model." Sudden and unexpected childhood onset of this condition is called Landau-Kleffner syndrome. One form of this condition can be caused by damage to an area above the Sylvian fissure and involves "telegraphing" and loss of complexity. One "fluent" form of this condition is caused by left temporal lobe damage and results in (*) "word salads." "Non-fluent" varieties of this condition include the most severe "global" type as well as one named for Paul Broca. For 10 points, give the name for this psychiatric condition in which brain injury causes a lack of ability to comprehend or produce fluent speech.

ANSWER: aphasia

<Weiner>

3. In April 2013, this country's government allowed its first civil marriage. This country's Orthodox Gathering Law, approved in February 2013, establishes a nation-wide voting district with 11 separate confessional contests. The failure of its prime minister to extend the term of Ashraf Rifi forced that man's resignation; the resulting succession is complicated by a 1943 agreement requiring the prime minister to be (*) Sunni. Michel Suleiman, like all this country's presidents, is Maronite. The March 8 Alliance, which originally supported Najib Mikati, opposes the bloc led by Saad Hariri, whose father died in a 2005 bombing linked to the Syrian government. The Cedar Revolution occurred in, for 10 points, what Arab country home to the Shi'ite militia Hezbollah?

ANSWER: Lebanon

<Haddad-Fonda>

4. Plague-ridden residents of this city rioted in 1770 after being denied the right to mingle infectiously with the masses around a *Theotokos* icon. Currency devaluation triggered this city's 1672 Copper Riot. Plague also killed its Prince Simeon the Proud, whose father was known as "Moneybags". Tokhtamysh burned this city in 1382 after the Battle of Kulikovo was won by its Prince (*) Dmitry Donskoy. Byzantine Zoe Palaeologus married a Grand Prince from this city, home to the grave of John Reed and a cathedral built after the conquest of Kazan. This "Third Rome" was burned again after Napoleon won a Pyrrhic victory over General Kutuzov at Borodino. For 10 points, name this home to St. Basil's Cathedral, the oft-afflicted capital of Russia.

ANSWER: Moscow, Russia

<Bentley>

5. Amisodarus raised this mythical being, who was depicted in a bronze statue found at Arezzo made by Etruscans. In *The Aeneid*, the helmet of Turnus depicts this figure. This non-human met one foe after accusations of adultery with Stheneboea were written up in a letter by Proetus. A story about this creature is followed by an exchange of gold armor for bronze when Glaucus describes it to Diomedes in Book Six of the *Iliad*. Iobates ordered this creature's (*) death when it lived in Lycia. It suffocated on an arrow tipped with lead before its killer tried to fly to Olympus atop Pegasus. For 10 points, name this fire-breathing beast slain by Bellerophon, which had the heads of a snake, goat, and lion.

ANSWER: the Chimera

<Jose>

6. During this film's opening credits, the protagonist falls on the street before tucking a wind-up monkey toy under some wrapping paper and falling asleep. The protagonist of this film screams "YOU'RE TEARING ME APART!" after a disagreement between two adults over whether a "little drink" is all right. In this film, an astronomer discusses the inevitable explosion of the sun in a lecture on "The End of Man" delivered to a class visiting the (*) Griffith Park Observatory. In a famous scene from this movie, a strap on Buzz's jacket gets caught on a handle in his car door, rendering him unable to jump out of his car as it falls off a cliff during a "chickie-run." For 10 points, name this Nicholas Ray film starring James Dean as the title nonconformist teenager.

ANSWER: Rebel Without A Cause

<Bollinger>

7. This author asserted that "the subject of drama is The Lie" in his dramaturgical work *Three Uses of the Knife*. One of this author's plays puts sections of dialogue in parentheses to indicate "a change of outlook on the part of the speaker." The lesbian couple Grace and Ruthie appear in that play by this author, in which Fletcher's absence results in a beating for Bobby, who had conspired with junkshop owner Don and (*) Teach to steal the title coin. In his most famous play, James Link is browbeaten at a Chinese restaurant by Ricky Roma, while Dave Moss and Shelley "The Machine" Levene conspire to steal the title real estate leads. For 10 points, name this profanity-loving American playwright of *American Buffalo* and *Glengarry Glen Ross*.

ANSWER: David Alan Mamet

<Carson>

8. People with lesions in this structure can fail the pronation-supination test because they are unable to perform rapid alternating movements. The deep nuclei of this structure accepts input from the inferior olive via climbing fibers, while mossy fibers synapse on granule cells and deep nuclei. This structure is attacked by anti-Yo antibodies in a paraneoplastic syndrome in which this structure's (*) Purkinje cells are destroyed. This structure contains floccular and nodular lobes independent of a pair of foliated hemispheres separated by a vermis. Along with the pons, it originates from the metencephalon. It is located underneath the cerebrum. For 10 points, name this part of the brain responsible for coordinating movements, whose name means "little brain."

ANSWER: cerebellum

<Mukherjee>

9. Brian Hooker's translation of this play was the standard English edition until the debut of Anthony Burgess's 1970 version. Its first act opens before a performance of *La Clorise*, where the protagonist arrives and forces a terrible actor off the stage, then composes a mocking ballade while dueling Valvert. This play's main characters fight the Spanish at the siege of Arras due to the machinations of De (*) Guiche. After a log falls on its title character's head, he dies while reflecting on the fact that he still has his *panache*, though he remains unable to bring himself to reveal his authorship of a series of love letters. For 10 points, name this Edmond Rostand play in which Christian is aided in wooing Roxane by the title large-nosed cadet.

ANSWER: Cyrano de Bergerac

<Carson>

10. This man thwarted Prussian plans to blow up a bridge in his capital by convincing a foreign monarch to re-inaugurate it. A foot injury from falling off a chest as a child led this man to clerical life, but he was excommunicated after becoming the first bishop to embrace the Civil Constitution of the Clergy. This one-time Bishop of Autun dispatched dragoons to Baden to abduct and execute the Duc d'Enghien, and saw his proposed four-way (*) partition of Belgium shot down at the 1830 Conference of London. He was joined at another conference by Alexander I and Karl von Hardenberg. This man's agents demanded bribes from men like John Marshall and Elbridge Gerry in the XYZ Affair. For 10 points, name this long-serving French minister to the Congress of Vienna.

ANSWER: Charles-Maurice de Talleyrand-Perigord, prince de Bénévent

<Bentley>

11. This technique uses Dragendorff's reagent when it is applied to alkaloids. One object used in this technique can be impregnated with zinc silicate to visualize the results under UV light. When studying cell membrane lipids, the results of this process are transferred to a PVDF membrane in a far-eastern blot. When applied to amino acids, this technique can use ninhydrin as a derivatizing agent. In this technique, iodine vapor is used to develop the sample and the distance the sample travels is divided by the (*) solvent front to calculate the retention factor. For 10 points, name this type of chromatography in which capillary action draws a sample through a silica plate, commonly used on plant pigments and pen ink.

ANSWER: Thin-layer chromatography [or TLC]

<Mukherjee>

12. The second movement of a symphony in this note's major key was claimed by Johann Maelzel to parody the sound of a metronome. This note's Lydian mode contains only white notes. A Beethoven piano sonata in this work's minor key opens with a movement in 12/8 marked "Allegro Assai." A Tchaikovsky symphony in this note's minor key begins with horns and bassoons playing a "Fate" motif. The (*) "Appassionata" Sonata is in this note's minor key. This note is the subdominant of C. The French horn is pitched in this key. Works in this note's major key include Beethoven's 8th and 6th symphonies. This note's major key is the relative major of D minor and has only one flat in its key signature. For 10 points, identify this note that lies a half-step above E.

ANSWER: F [or Fa]

<Rosenberg>

13. One of these beings is described as a "timid pensioner of us Powers" in Thomas Hardy's "Last Words to a Dumb Friend". Another one is said to "consider himself" in "ten degrees" and is described as "a mixture of gravity and waggery" in Christopher Smart's "Jubilate Agno". Another poem describes how "Malignant fate sat by and smiled" and notes that "no dolphin came, no Nereid stirred" when one of these creatures took an interest in two Tyrian-hued (*) "genii of the stream". That one, named Selima, was unaware that not all that glisters is gold, causing her to drown in a tub of goldfishes in a Thomas Gray poem. For 10 points, identify these animals, one of whom eats quince with a "runcible spoon" after marrying an Owl in an Edward Lear poem.

ANSWER: cats [or pussycats; or kittens; or kitties; or housecats; or any other word form or obvious synonym]

<Carson>

14. Plantinga defended this man by saying that some qualities, such as knowledge, have "intrinsic maxima" while others, such as number of palm trees, do not. This man likened the weakness of human understanding to "inaccessible light" and based several claims on a figure from Psalms who speaks in his heart, the Fool. This thinker adapted Augustine for his motto "faith seeking understanding" and was criticized by Gaunilo's "lost island" argument. He wrote in 1078 that it is more perfect to (*) exist in reality than merely in the mind, so the most perfect being must really exist. For 10 points, name this Archbishop of Canterbury whose *Proslogion* proposed the ontological argument for God's existence.

ANSWER: Saint Anselm of Canterbury

<Jackson>

15. Early in his career, this man defeated George Selden in a patent lawsuit. Greg Grandin wrote a history of this man's "forgotten jungle city" in the Amazon rainforest that harvested rubber. This man was eventually eclipsed by the more innovative Alfred Sloan, and faced protests from men like Walter Reuther during the bloody Battle of the Overpass near his (*) River Rouge Plant. Anti-semitic statements made by this man's paper, *The Dearborn Independent*, were quoted with approval by Hitler in *Mein Kampf*. He once quipped that his most popular product came in "any color so long as it is black". For 10 points, name this industrialist who made use of the assembly line to produce his Model T cars.

ANSWER: Henry Ford

<Bentley>

16. This celebration uses a descending minor third for "zakef katon" in its unique set of tropes. The onomatopoeic refrain "Hava narisha, rash, rash, rash" is in a song about this holiday. Its "Katan" form is in a month marked "Bet" in seven years out of every nineteen. The names of ten sons are said in one breath on this holiday, whose stories include eunuchs named Bigtan and Teresh. Observers give out baskets of ready-made food, and remember pockets, ears, and/or (*) hats by eating similarly-shaped cookies. A *megillah* featuring a large gallows and a hero in Shushan is read on this holiday, on which drunk congregants wave groggers to drown out Haman's name. For 10 points, name this costume holiday which celebrates the saving of Persian Jews by Esther.

ANSWER: Purim

<Jackson>

17. In one painting by this artist, Allan Lynch runs down Kuerner's Hill following his father's death. Another of his paintings shows a sleepy white dog curled up on a white bed. This artist of *Winter 1946* and *The Master Bedroom* was the father of a painter who did a controversial posthumous portrait of John F. Kennedy; he was also the son of an artist who (*) illustrated *Treasure Island* for Scribner's Classics. This artist of many Brandywine Valley scenes did more than 200 paintings of his neighbor Helga Testorf. A gray house and a barn are in the background of another of his paintings, whose title character is crippled by polio and wears a pink dress. For 10 points, name this American realist painter of *Christina's World*.

ANSWER: Andrew Wyeth

<Rosenberg>

18. The female branch of this organization was based in La Mota Castle and promoted the ideology of abnegation. It adopted another party's symbol of the red beret after the Decree of Unification. The Marquis de la Eliseda withdrew financial support for this group after it published the 26 Points, which called for the church to not interfere in state affairs but affirmed the nation's empire. Manuel Hedilla once led this group, which merged with (*) JONS and used an emblem with a yoke and arrows. The founder of this party, which largely subsumed the CEDA, was executed in Alicante Prison in 1936. This rival of the Popular Front party was founded by Jose Antonio Primo de Rivera in 1933. For 10 points, name this Spanish political party of Francisco Franco.

ANSWER: Falange Espanola (Tradicionalista) de las Juntas de Ofensiva Nacional-Sindicalista [or Traditionalist Spanish Phalanx of the Assemblies of the National Syndicalist Offensive; or FET y de la JONS; prompt on "(Spanish) fascists"]

<Bentley>

19. One algorithm that reduces the complexities of these functions begins by finding the essential prime implicants and ignores "don't care terms." The Quine-McCluskey algorithm minimizes these statements, which helps in producing smaller circuits. For these types of statements with less than four variables, it is typically easier to minimize them with Karnaugh Maps. These expressions may be written in (*) conjunctive normal form or disjunctive normal form and typically evaluate to either true or false. For 10 points, name these expressions that are named after a 19th century mathematician, which are used in a namesake field of logic.

ANSWER: Boolean expressions or Boolean statements or Boolean function [prompt on partial answer; prompt on "logical functions" or "logical statements"]

<Jose>

20. This work inspired the name of the sinister manager of the Port Ruppert Mundys in Philip Roth's *The Great American Novel*. The main character of this work uses a favorable dream granted by the moon to kill a pride of lions and wear their skin and fails a test involving staying awake for seven days and seven nights. In its latter half, a serpent steals a plant that the main character obtained from the (*) bottom of the sea. Its protagonist also uses thirteen winds to bind the ogre who guards the Cedar Forest and attempts to learn the secret of immortality from Utnapishtim to absolve his grief about the loss of a wild man who he'd beaten in a wrestling match. For 10 points, name this work about the best friend of Enkidu, an Mesopotamian epic poem.

ANSWER: *The Epic of Gilgamesh* [or *Shutur Eli Sharri*; or *Sha Naqba Imuru*; or *Surpassing All Other Kings*; or *He Who Saw the Deep*]

<Gupta>

21. This man dismissed the idea that absurd objects such as a square circle subsist without existing, an idea of Alexius Meinong. He redefined subject-predicate sentences as existential propositions and argued that names stand in for "definite descriptions" in an article that discussed the sentences "Scott is the author of *Waverly*" and "The king of France is bald." This man began working with the author of *Process and Reality* five years after writing "On (*) Denoting." This friend and countryman of G.E. Moore argued that the Church "retarded progress" in his lecture *Why I am Not a Christian*. For 10 points, name this man who worked with Alfred North Whitehead to lay out sound axioms for arithmetic in *Principia Mathematica*.

ANSWER: Bertrand Arthur William Russell, 3rd Earl Russell

<Jackson>

22. One component of this device is tagged with the descriptor "beauty" and utilizes a very narrow forward angular coverage. Another part of this device uses a two-level trigger system to decrease the amount of data it processes. This device suffered a quench shortly after its debut, which damaged the niobium-titanium superconducting magnets needed to create its (*) 8-tesla fields. A test of SUSY involving B-meson decay modes was conducted using this device. Its components include ATLAS and CMS, each of which has individually observed evidence of a particle with a mass of about 126 GeV that is believed to mediate the acquisition of mass. For 10 points, name this particle accelerator located at CERN, which was originally built to detect the Higgs boson.

ANSWER: Large Hadron Collider [or LHC]

<Eltinge>

23. In a battle fought in this city, Napoleon's troops rallied at Prince Anton's garden but were soon captured at the Battle of Kulm. An alchemist from this city, Johann Friedrich Bottger, became the first European to perfect hard-paste porcelain while working in its nearby neighbor of Meissen. The Second Silesian War was ended with a peace treaty signed in this city. The failed 1848 May Uprising in this city led to the exile of its (*) artistic intelligentsia, including Richard Wagner. The plaza outside this city's Frauenkirche has become a major battleground for skinheads and anti-fascists in Germany due to the destruction of its Old Town by incendiary bombs in 1945. For 10 points, name this "Florence on the Elbe," a German city firebombed in World War II.

ANSWER: Dresden

<Bentley>

24. A poem titled for one of these places describes a man who does "not feel upon his shuddering cheek / The kiss of Caiaphas." That poem describes a red rose and a white rose growing from the mouth and heart of an inhabitant of one of these places who "did not wear his scarlet coat, for blood and wine are red." Another poem set in one of these places uses such animal images as "birds that wanton in the air," "committed (*) linnets," and "fishes that tipple in the deep." A poem set in one of these places contains the repeated refrain "The man had killed the thing he loved, and so he had to die" and was written by Oscar Wilde. For 10 points, name this type of place which "stone walls" do not make, according to a Richard Lovelace poem addressed to Althea.

ANSWER: a prison [or a jail; or Reading Gaol; or "The Ballad of Reading Gaol"; or "To Althea, from Prison"]

<Bentley>

1. This man was denied the position of Chief Justice in part because he accepted fifteen thousand dollars for giving a series of university lectures. For 10 points each:

[10] Identify this justice who resigned his position on the bench in 1969. As a lawyer, he successfully argued the case of *Gideon v. Wainwright*.

ANSWER: Abe **Fortas**

[10] Lyndon Johnson unsuccessfully nominated Abe Fortas to replace this Chief Justice of the Supreme Court, whose court ruled on cases like *Brown v. Board of Education*. He also chaired a commission investigating the assassination of John F. Kennedy.

ANSWER: Earl **Warren**

[10] Before joining the court, Fortas served under William O. Douglas in this government agency, first headed by John F. Kennedy's father, Joseph. It is tasked with enforcing legislation like the Sarbanes-Oxley Act.

ANSWER: **Securities and Exchange Commission** [or **SEC**]

<Bentley>

2. When Mr. Wilson asks who made her, this character responds that she was not made at all, but instead plucked by her mother from a rosebush by a prison door. For 10 points each:

[10] Identify this literary character who is saved from Governor Bellingham's attempt to take her from her mother by the intercession of her actual father, Arthur Dimmesdale.

ANSWER: **Pearl** Prynne [prompt on "Prynne"; accept "**Pearl Prynne**"]

[10] Pearl is the illegitimate child of Hester Prynne, the adulterous protagonist of this 1850 novel by Nathaniel Hawthorne.

ANSWER: *The **Scarlet Letter***

[10] In Chapter 12 of *The Scarlet Letter*, Dimmesdale sees one of these occurrences form a large letter "A" while conducting a vigil on the scaffold. The sexton later reveals that the townspeople interpret it as evidence of Governor Winthrop's ascension to heaven.

ANSWER: a falling **meteor** [accept equivalents, like "**shooting stars**" or "a **meteor** shower"]

<Carson>

3. This man started the U.K.'s nuclear program and decolonized India. For 10 points each:

[10] This M.P. for Limehouse and Labour Party prime minister, who attended the Potsdam Conference and beat Winston Churchill in the 1945 election.

ANSWER: Clement Richard **Attlee**, First Earl Attlee of **Walthamstow**, Viscount **Prestwood** [accept any underlined part]

[10] Commissioned by Arthur Greenwood and partly researched by Harold Wilson, this 1942 committee document, ostensibly a social security survey, advocated a "cradle-to-grave" British welfare state.

ANSWER: **Beveridge** Report [or **Social Insurance and Allied Services**]

[10] This Welsh socialist, Attlee's Minister of Health, was responsible for creating the British National Health Service. As Shadow Foreign Secretary, he criticized British involvement in the Suez Crisis.

ANSWER: Aneurin (uh-NYE-rin) "Nye" **Bevan** [do NOT accept or prompt on "Ernest Bevin" or "E. Bevin," though note pronunciation of just the last name is effectively the same]

<Wasserman>

4. One of these figures with two pupils in each eye was born after the commoner Gu Sou dreamed of a phoenix. For 10 points each:

[10] Identify these legendary men such as Shun, who lived after the Three Sovereigns, or Three August Ones. The so-called Yellow one was victorious at the Battle of Zhuolu.

ANSWER: legendary Chinese **emperors** [or the **Five Emperors**; or **wudi**]

[10] An emperor named for this green gemstone rules heaven in many Chinese myths.

ANSWER: **jadeite** [or **Jade Emperor**; or **Yudi**]

[10] This domestic god carries yearly reports on people's character to the Jade Emperor. Paper effigies of this god often hang above a fireplace, and he is sometimes given candy as a bribe.

ANSWER: **Kitchen** God [or **Stove God**; or **Zao Jun**; or **Zao Shen**]

<Bentley>

5. The man at the center of this work holds a scalpel and has traces of blood on his hand. For 10 points each:

[10] Identify this painting at the Philadelphia Museum of Art which shows a surgery in progress as a crowd looks down from the shadows above. Unlike a similar painting by the same artist, this painting also contains a man cringing in fear at the bloody scene in front of him.

ANSWER: *The **Gross Clinic*** [do not accept or prompt on "*The Agnew Clinic*"]

[10] Both *The Gross Clinic* and its sister painting *The Agnew Clinic* were painted by this American realist.

ANSWER: Thomas **Eakins**

[10] Eakins also painted this friend of his rowing down the Schuylkill River as he claims victory in a race.

ANSWER: Max **Schmitt**

<Rosenberg>

6. The Borsuk-Ulam theorem states that there does not exist a continuous function from the two-sphere to the one-sphere that preserves these points. For 10 points each:

[10] Name these points, an example of which is the North and South Pole, which are on the opposite sides of a sphere.

ANSWER: **antipodes**

[10] The shortest path between two antipodes, or more generally, between any two points on a curved sphere is this type of line, which is invariably a segment of a great circle.

ANSWER: **geodesic**

[10] The straight line that connects any two antipodes is always one of these distances. For a circle, taking this distance and multiplying by pi yields the circumference.

ANSWER: **diameter**

<Jose>

7. Name some French opera composers, for 10 points each.

[10] This composer's *The Fair Maid of Perth* and *The Pearl Fishers* were unsuccessful, and he died before witnessing the immense popularity of his opera about a seductive gypsy, *Carmen*.

ANSWER: Georges **Bizet**

[10] Works by Goethe inspired this composer's opera *Werther*. This composer of *Manon* wrote an opera about the title Egyptian courtesan, *Thaïs*, which features a famous "Meditation."

ANSWER: Jules (Émile Frédéric) **Massenet**

[10] This 18th-century French composer pioneered "fundamental bass" theory in his *Treatise on Harmony*. His operas include *Hippolyte et Aricie* and *Castor et Pollux*.

ANSWER: Jean-Philippe **Rameau**

<Lawrence>

8. This co-founder of Gruppe 47 wrote about an intellectual summit organized by Simon Dach in *The Meeting at Telgte* and also penned a novel in which a kitten attacks a character's giant Adam's apple. For 10 points each:

[10] Identify this author who wrote about Pilez hanging out on a sunken minesweeper with Joachim Mahlke in *Cat and Mouse*. In 2006, he revealed his teenage membership in the Waffen SS in an interview about his memoir *Peeling the Onion*.

ANSWER: Günter Wilhelm **Grass**

[10] Oskar Matzerath receives the title instrument and decides to stop physically growing on his third birthday in this 1959 novel, Grass's most famous.

ANSWER: *The **Tin Drum*** [or *Die **Blechtrommel***]

[10] Like Grass, this author's reputation was tarnished by his support of the Nazis, specifically his vocal advocacy for Vidkun Quisling's regime. His apolitical novels, including *The Growth of the Soil* and *Hunger*, are still well-regarded.

ANSWER: Knut **Hamsun** [or Knud **Pedersen**]

<Carson>

9. These functions can be calculated via the self-consistent Hartree-Fock method or by the Linear Combination of Atomic Orbitals method. For 10 points each:

[10] Name these functions that give the probability of finding an electron at a given point in the space surrounding a molecule. They include bonding and antibonding varieties.

ANSWER: **molecular** orbital [or **MO**; prompt on "orbital"]

[10] Central to MO theory is this quantity, which is defined as the number of bonding electrons minus the number of antibonding electrons divided by 2. It is proportional to the bond strength.

ANSWER: bond **order**

[10] These two orbitals drive reactions according to a theory posited by Fukui. One of them can be used to calculate the ionization energy according to a theorem of Koopmans.

ANSWER: **frontier** orbitals [accept **HOMO and LUMO** in either order.]

<Jose>

10. This man's Terry Lectures contrasted religious behaviors in Morocco and Indonesia. For 10 points each:

[10] Name this author of *Islam Observed*, an American anthropologist who wrote "Deep Play: Notes on a Balinese Cockfight."

ANSWER: Clifford James **Geertz**

[10] Geertz' first book was titled *The Interpretation of* this concept, which he defined as "webs of significance" created by humans. Matthew Arnold formulated the first modern version of this concept in a book that pairs it with "anarchy."

ANSWER: **culture**

[10] Geertz' actions described in "Deep Play" are an example of this type of anthropological field study. When using this technique, researchers seek to build rapport with their subjects and immerse themselves in their culture for long periods of time.

ANSWER: **participant observation**

<Spencer>

11. This type of motion occurs in a direction orthogonal to that of nutation. For 10 points each:

[10] Name this type of motion frequently seen in gyroscopes, in which a body's axis of rotation rotates around another axis.

ANSWER: **precession**

[10] Precession comes in two types: the type induced by this quantity, and the type free of this quantity.

ANSWER: **torque**

[10] Precession represents a change in one of the three angles named for this man. Along with Lagrange, this man names the fundamental equation of the calculus of variations which is used to find the equations of motion from the Lagrangian.

ANSWER: Leonhard **Euler**

<Busse>

12. Answer the following about areas that have spawned Romance languages, for 10 points each:

[10] Romansch, a descendant of vulgar Latin, is still spoken in the eastern parts of this European country, which also has French, German, and Italian as official languages.

ANSWER: **Switzerland**

[10] The dialect of this island is often considered the "most conservative" Romance language. This island, whose capital is Cagliari, was home to the *giudicati* kingdoms during the Middle Ages.

ANSWER: **Sardinia**

[10] Another Romance language is the namesake language of this region, which includes the cities of Charleroi and Namur as well as the "industrial valley" of the Sambre and Meuse Rivers.

ANSWER: **Wallonia** [or the **Walloon** Region; prompt on "Belgium"]

<Bentley>

13. The irreversible step in this compound's synthesis is the reduction of HMG-CoA to mevalonate, a step which is inhibited by statins. For 10 points each:

[10] Identify this steroid that maintains membrane fluidity. It is more notorious for the potential for its bad "LDL" form to cause atherosclerosis, clogging up arteries.

ANSWER: **cholesterol**

[10] These lipids also play a role in atherosclerosis. These ester compounds are "saturated" when they have few double bonds and "unsaturated" when they have many.

ANSWER: **triglycerides** [or **TG**; or **triacylglycerol**; or **TAG**; or **triacylglyceride**]

[10] Severe atherosclerosis is one of many things that can cause this condition. This occurs when the blood supply to particular tissues is restricted and can result in necrosis and infarction.

ANSWER: **ischemia**

<Gupta>

14. In 1991, this man appointed Edith Cresson as the first female Prime Minister of his country. For 10 points each:

[10] Identify this Socialist who defeated Valéry Giscard d'Estaing to become the President of France in 1981.

ANSWER: François Maurice Adrien Marie **Mitterrand**

[10] Mitterrand wrote a pamphlet entitled "Le Coup d'Etat permanent" attacking this French president for dismantling the French Fourth Republic. This man had earlier led the Free French in World War II.

ANSWER: Charles André Joseph Marie **de Gaulle**

[10] Mitterrand controversially ordered the sinking of the *Rainbow Warrior* while it was docked in a port in this country. Several decades earlier, Apirana Ngata helped advance native rights in this country.

ANSWER: **New Zealand**

<Bentley>

15. Answer these questions about religious devotion among Native Americans, for 10 points each.

[10] The Lakota believed in a "Great Spirit," much like this six-tribe confederacy in New York whose members carried out religious duties in longhouses.

ANSWER: **Iroquois** Confederacy [or **Haudenosaunee**]

[10] This late 19th century group believed that ritual movements could rid the land of whites. Begun after the Paiute priest Wovoka saw an eclipse, it drew adherents who thought they would become impervious to bullets.

ANSWER: **Ghost Dance** movement [or **wanagi wacipi**; or **wacipi wanagi**]

[10] Items from this annual undertaking were used in the Sun Dance which followed it each June or July. It was followed by fewer rituals after the Bureau of Indian Affairs banned the Sun Dance.

ANSWER: **buffalo hunt** [or **bison hunt**; accept any answer which indicates that people are setting out to hunt and/or kill large numbers of buffalo or bison]

<Bentley>

16. Past directors of this organization include Ahmed Shuja Pasha and current army chief Ashfaq Parvez Kayani. For 10 points each:

[10] Identify this foreign intelligence agency famed for its controversial ties to the Haqqani network and other terrorist groups in Waziristan.

ANSWER: **ISI** [or Directorate for **Inter-Services Intelligence**; prompt on BUT DO NOT REVEAL answers like "Pakistani intelligence", etc.]

[10] The ISI sponsors terrorists and occasionally collects intelligence for this country. Leaked Stratfor documents suggest up to a dozen ISI officers were aware of Osama Bin Laden's presence in its city of Abbottabad.

ANSWER: Islamic Republic of **Pakistan**

[10] An ISI operative known as "Major Iqbal" has been indicted for the ISI's very poorly concealed role in helping this terrorist group carry out the 2008 Mumbai Attacks. Hafiz Muhammad Saeed leads this group, which is active in Kashmir.

ANSWER: **Lashkar-e-Taiba** [or **LeT**; or **Lashkar-e-Tayyiba**; **Army of the Pure**; or **Army of the Righteous**; or **Army of the Good**]

<Ray>

17. Philosopher Michael Sandel lectures at this university, where he attacked fellow professor John Rawls' views on justice. For 10 points each:

[10] Name this New England research university whose philosophy faculty also included William James. It was founded by Puritan preachers in 1636.

ANSWER: **Harvard** University [or **Harvard** College]

[10] "Two Dogmas of" this worldview were attacked in an essay by Harvard professor W.V.O. Quine. John Locke opposed rationalism by holding this view, which seeks to gather sensory evidence for truths.

ANSWER: **empiricism** [or **empiricist**; prompt on "positivism" or "logical positivism"]

[10] In John Rawls' *A Theory of Justice*, people in the "original position" for founding a just society should be in this state, an inability to predict where they will end up in the hierarchy of social privileges.

ANSWER: a **veil** of **ignorance**

<Jackson>

18. Answer the following about music of the Renaissance, for 10 points each:

[10] Renaissance music reached its culmination in the works of this Italian of the later 16th century, who composed dozens of masses including one named for Pope Marcellus.

ANSWER: Giovanni Perluigi da **Palestrina**

[10] Several decades before Palestrina, the leading composer was this Franco-Flemish man, a student of Johannes Ockegham who wrote the motet "Ave Maria Virgo Serena" and the *Missa Pange lingua* and *Missa Hercules dux Ferrariae*.

ANSWER: **Josquin des Prez** [ZHOS-CAN de'PRAY, but be lenient; accept either underlined part]

[10] Both Palestrina and Josquin wrote many of their masses by building polyphonic lines around a fixed pre-existing tune, which was known by this term.

ANSWER: **cantus firmus**

<Rosenberg>

19. Maurice Maeterlinck's *The Death of Tintagiles*, George Bernard Shaw's *Shakes Versus Shav*, and such Chikamatsu plays as *The Battles of Coxinga* and *The Love Suicides at Sonezaki* are all produced using these items. For 10 points each:

[10] Identify these objects manipulated by black-clad crewmen in Japanese *bunraku* theater, in which they replace traditional actors. A fictional one created by Carlo Collodi was carved by Geppetto.

ANSWER: **puppets** [or **marionettes**; or **ningyo**; or other synonyms]

[10] Puppets were also often used in productions of this genre of medieval theater, which often featured a villainous Vice. *The Castle of Perseverance* and *Everyman* are examples of this genre.

ANSWER: **morality** plays [or **interludes**]

[10] The imperfection of humans is discussed in "On the Marionette Theater," an essay by this German author of the play *The Broken Jug* and the novellas *Michael Kohlhaas* and *The Marquise of O*.

ANSWER: Heinrich von **Kleist** [or Bernd Heinrich Wilhelm von **Kleist**]

<Carson>

20. In the second novel in this author's "Karla trilogy", *The Honourable Schoolboy*, Jerry Westerby clashes with the bush pilot Tiny Ricardo. For 10 points each:

[10] Identify this British author of *Call for the Dead* and *Tinker, Tailor, Soldier, Spy*.

ANSWER: John **Le Carré** [or David John Moore **Cornwell**]

[10] Many critics hailed Le Carré's novels as a more realistic approach to the spy genre, especially compared to novels like *Casino Royale* and *Goldfinger*, which were written by this creator of James Bond.

ANSWER: Ian Lancaster **Fleming**

[10] Alec Leamas, the protagonist of this third novel by John le Carré, is tasked with bringing down the East German intelligence agent Hans-Dieter Mundt.

ANSWER: *The **Spy Who Came in from the Cold***

<Bentley>

21. This organ's pressure profile takes on an unusual shape in its namesake "nutcracker" condition. For 10 points each:

[10] Name this digestive organ, a muscular tube that propels food from the mouth to the stomach via peristalsis. It is bounded below by the cardiac sphincter.

ANSWER: **esophagus**

[10] Proton pump inhibitors are a decisive way to treat this condition, in which the mucosa of the esophagus is damaged by the upward propulsion of the stomach's contents, possibly causing heartburn.

ANSWER: **acid reflux** [or **gastroesophageal reflux** disease; or gastric **reflux**; or **GERD**]

[10] Patients suffering from nutcracker esophagus and eosinophilic esophagitis experience this symptom, which is the medical term for difficulty swallowing.

ANSWER: **dysphagia**

<Gupta>

22. The Magnuson Act repealed a piece of legislation restricting immigration from this country, targeted by famous racist Timothy Geary. For 10 points each:

[10] Name this country whose citizens were prohibited from entering the US through an 1882 Exclusion Act.

ANSWER: People's Republic of **China**

[10] Many Chinese immigrants arrived into the US through this island off of the coast of San Francisco, sometimes called the Ellis Island of the West.

ANSWER: **Angel** Island Immigration Station

[10] A western chapter of the Knights of Labor led this bloody 1885 riot against Chinese coal miners employed by the Union Pacific Railroad, which took place in a namesake Wyoming town.

ANSWER: **Rock Springs** massacre/riot/etc.

<Bentley>

23. This novel's protagonist falls in love with Clelia Conti during his imprisonment in the Farnese Tower, while his aunt Gina engages in a covert relationship with Count Mosca. For 10 points each:

[10] Identify this novel in which Fabrizio del Dongo wanders on to the battlefield of Waterloo years before becoming a prominent figure in the Catholic Church.

ANSWER: *The **Charterhouse of Parma*** [or *La **Chartreuse de Parme***]

[10] *The Charterhouse of Parma* is a novel by this pseudonymous French author, who wrote of the complicated relationships between Madame de Renal, Mathilde de la Mole, and Julien Sorel in his novel *The Red and the Black*.

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

[10] Stendhal ended both *The Charterhouse of Parma* and the first book of *The Red and the Black* with a dedication to this group, possibly a reference to the Saint Crispin's Day speech from *Henry V*, in which a mention of them immediately precedes the phrase "we band of brothers".

ANSWER: the **happy few** [accept "we **happy few**"; do not accept "few" alone]

<Carson>