

1. The Suits index measures how tax policies play out in societies affected by this condition. Skill-biased technical change can lead to an increase in this property. A text partly titled for this condition notes that the first man to fence off and claim land as his was the true founder of civil society. That discourse by Rousseau contrasts the "natural" and "physical" forms of this condition. A 2014 book by Thomas Piketty argues that this condition has increased in the United States as gains on (*) capital have grown faster than earnings. The deviation of a Lorenz curve indicates the existence of this condition, which is measured by the Gini coefficient. For 10 points, name this condition, the difference in income between rich and poor in a specific area.

ANSWER: income inequality [or economic inequality; or income gap; accept *Discourse on Inequality* or *Discours sur l'inégalité*]

<Rosenberg>

2. This man noted that it is impossible to test any scientific hypothesis in isolation in a thesis inspired by Paul Duhem, an idea linked to his "web of belief". This philosopher illustrated the indeterminacy of translation by noting that one could interpret "gavagai" in many ways. This man claimed traditional ways of studying knowledge have failed and should be replaced with scientific naturalism. This author of *Epistemology Naturalized* contrasted the terms (*) "unmarried man" and "bachelor" in a paper that refuted logical positivist semantic reductionism and the analytic-synthetic distinction. For 10 points, name this American philosopher and mathematician who wrote *Word and Object* and "Two Dogmas of Empiricism".

ANSWER: Willard Van Orman Quine [as always, do not accept "William Van Orman Quince"]

<Kothari>

3. This man is the presumed author of a canonical epistle that quotes the noncanonical Book of Enoch and refers to a fight between Satan and Michael over Moses' body. In the Gospel of John, this disciple asks Christ why he doesn't manifest himself to the whole world at the Last Supper. Along with Bartholomew, this saint first spread the Gospel to Armenia. The penultimate book of the New Testament is this saint's (*) epistle. Mentions of this apostle, who is often equated with Thaddeus, are typically appended with "of James" so as to distinguish this saint from an apostle with a similar name. For 10 points, name this patron saint of lost causes, the namesake of a children's hospital.

ANSWER: Saint Jude [or Jude of James; or Judas Thaddaeus; or Lebbaeus; or Thaddeus until it is read; or Judas not Iscariot; do not accept or prompt on "Judas" alone]

<Gupta>

4. Thomas Clarkson inspired a future leader of this political faction to found the Society of the Friends of Blacks. The provincial "federalist revolts" supported this group after its failed attempt to shut down the newspaper *Le Pere Duchesne*. Madame Roland's salon hosted meetings for this faction, which included abolitionist Jacques-Pierre Brissot and assassin Charlotte (*) Corday. As part of this group, which supported war with Austria, Olympe de Gouges wrote a "Declaration of the Rights of Woman" before its 1793 ouster from the National Convention by the "Mountain" faction. For 10 points, name this political faction of revolutionary France which lost out to the Jacobins.

ANSWER: the Girondins [or the Girondists; or le Gironde; accept the Brissotins before "Brissot" is read]

<Bollinger>

5. This is the last word in the English title of a novel named for a François de Nomé painting, in which the doctor Ogé and the orphans Esteban and Sofia join up with the adventurer Victor Hugues. In another novel, Don Fermin's lover Ambrosio encounters Santiago Zavala in a dog pound, and the two talk for hours in a bar named for one of them. Alejo Carpentier wrote a novel titled for an "Explosion" in one of these things, while (*) Mario Vargas Llosa wrote about a "Conversation" in one. An inhabitant of one of these places is crowned Pope of Fools during a festival and invokes the law of sanctuary after bringing Esmeralda to it. Claude Frollo is killed in one of these places by Quasimodo. For 10 points, name these places, examples of which include Notre Dame.

ANSWER: cathedrals [or catedral; prompt on "churches" after "Pope" is read; accept Explosion in a Cathedral or Conversation in the Cathedral or Conversación en la Catedral]

<Carson>

6. In 1953, a delivery boy for this municipal area's namesake "Eagle" paper discovered a set of numbers left by KGB agents on microfilm inside a hollow nickel. Lyman Ward Beecher preached in this place's Plymouth church. The USS *Monitor* was built in this place's harbor. A structure named for this place, built in rivalry with St. Louis's James Eads, had a designer who caught a fatal tetanus infection due to crushed toes and pioneered the use of caissons. In 1883, 21 (*) elephants crossed a structure designed by John Augustus and Washington Roebling named for this place, before this place voted to merge into its western neighbor. For 10 points, name this site of Coney Island, a borough of New York which connects to Manhattan via a namesake bridge.

ANSWER: Brooklyn [prompt on "New York" or "New York City" before "borough" is read; prompt on "Kings County" throughout]

<Hart>

7. One observer of these creatures claims to be from Whirly Wood, Connecticut, and that character likes to chew candles and eat the olives from her mother's martinis. Another observer of these creatures calls a fellow elevator passenger a "sneak" for looking at his feet. These creatures are first seen from atop a rubber float after "two snobs" snub a wave. These creatures (*) swim into holes, where they eat as many as seventy-eight pieces of fruit and die after growing too fat to get back out. After seeing these creatures, one character goes back to the hotel room where his wife Muriel is sleeping and shoots himself. For 10 points, name these creatures seen by Sybil Carpenter and Seymour Glass in a short story by J.D. Salinger about a "Perfect Day for" them.

ANSWER: bananafish

<Mehigan>

8. A sculpture by this artist shows a woman leaning on a large quartz crystal while holding a diving rod, was inspired by the 1849 Gold Rush, and is entitled *California*. A marble work by this man showing a woman clad only in a Native American skirt is entitled *Last of the Tribe*. He depicted a certain woman holding an apple to her chest in one work and grasping her chest after making a fateful decision in another; those sculptures are (*) *Eve Tempted* and *Eve Disconsolate*. The *Venus de Medici* served as the basis for his most famous sculpture, which depicts a nude woman holding a chain with a locket and a cross on it while her hands are shackled together. For 10 points, name this American sculptor of *The Greek Slave*.

ANSWER: Hiram Powers

<Morlan>

9. Defects in the NPXY sorting signal prevent this molecule's receptor from binding a clathrin/AP2 pit, leading to a disease abbreviated FH. SREBP activates transcription of this particle's receptor, a protein that Brown and Goldstein won Nobel Prizes for characterizing. This molecule's oxidized product accumulates in macrophages called foam cells. A massive 4536-residue monomer called (*) ApoB-100 is one of its components. These particles have a much lower concentration of triglycerides than do chylomicrons. A high concentration of these particles in blood vessels can lead to atherosclerosis. For 10 points, name these lipoproteins that transport cholesterol from the liver to the tissues, erroneously known as "bad cholesterol."

ANSWER: LDL [or low-density lipoprotein; or very low-density lipoprotein or VLDL; prompt on partial answer; prompt on cholesterol before it is read]

<Silverman>

10. One method accomplishing this task marks two parallel lines above a ray, creating equal spaces, then folds the paper they are on so that a corner touches the middle line. Another method for this task uses a semicircle with two perpendicular segments called a tomahawk. Using classical tools, it can be approximated by infinitely alternating sides with a process that involves drawing three arcs. The function $4x^3 - 3x$ equals a constant is used to determine whether the classical version of this task can be done. That equation was used by Pierre Wantzel to prove that this task, like (*) doubling the cube, is impossible using only a straightedge-and-compass. Identify this task that involves dividing the space between rays into a certain number of equal parts.

ANSWER: angle trisection [accept any answer that indicates dividing an angle into three equal parts or dividing an angle by three]

<Reinstein>

11. Some of this man's paintings were attributed to three "masters", including Pietro Cavallini, in a 2002 Bruno Zanardi book. This artist created seven separate allegorical depictions of the vices that lined a wall across from his seven depictions of their virtuous counterparts. Those fourteen paintings are in a building with a cobalt-blue ceiling that also contains this man's *Kiss of Judas* and a painting of the Last Judgement that features a blue devil and a gold-ringed Christ. This artist of the (*)

Ognissanti Madonna painted a cycle on the life of St. Francis of Assisi as part of his best-known accomplishment. For 10 points, name this student of Cimabue who painted fresco cycles on the lives of Christ and the Virgin for the Arena Chapel.

ANSWER: Giotto di Bondone

<Jose>

12. Upon being asked what's the matter, this character yells "murder's the matter! slaughter's the matter! killing's the matter!" This character's popularity owes a great deal to the actress Jane Green, who played her in the premiere. This character gives Sir Lucius O'Trigger false hope by exchanging flirtatious letters with him. Bob Acres is this character's preferred suitor for her niece. She praises a man for being "the very (*) pine-apple of politeness" and says that a girl is "as headstrong as an allegory on the banks of the Nile". For 10 points, name this guardian of Lydia in Richard Sheridan's *The Rivals*, a comical woman who lends her name to the practice of using incorrect but similar-sounding words.

ANSWER: Mrs. Malaprop [do not accept "malapropism"]

<Gupta>

13. During the performance of this task, one man's sweat turned the leaves of a wreath from black to white. While performing this task, a hero rescued Ascalaphus and wrestled with the herdsman Menoetus. During this task, a monster involved dripped saliva on the ground that turned into the aconite plant. After its completion, its performer gave his wife in marriage to Iolaus, his charioteer. After witnessing its result, the king of Tiryns jumped into his (*) winejar for the third and final time. Persephone directed its performer to the river Acheron, and it involved a visit to Tartarus. For 10 points, name this twelfth and final labor of Heracles, which entailed the subduing of a hound in Hades.

ANSWER: the capture of Cerberus [accept obvious equivalents, accept the 12th labor of Heracles, or the last labor of Heracles before "twelfth]

<Jose>

14. Francis Walsingham was dispatched to a sultan of this name to negotiate a never-completed British-Ottoman alliance against Spain. A later sultan of this name allegedly wielded a 130-pound mace and 110-pound broadsword personally in battle. The second sultan of this name besieged Kruje to try to put down the Skanderbeg revolt, which arose while he was fighting Shah Rukh in the east, and also ended the "long campaign" by besting Janos Hunyadi at the Battle of Varna. The first sultan of this name was stabbed to death in his tent by Milos Obilic after beating Prince (*) Lazar at the Field of Blackbirds. For 10 points, give this common name of five Ottoman sultans, including one who beat Serbia at the 1389 Battle of Kosovo and another who fathered Mehmed II.

ANSWER: Murad

<Weiner>

15. The oxo process uses a catalyst containing this metal bonded to four carbonyl groups, which is useful for hydroformylations. To prove parity violation, the Wu experiment used atoms of this element. The first Werner coordination complex contained this metal bonded to four amines. This element's chloride forms a hexahydrate that is purple in color, but is blue when desiccated. This element is found in a (*) corrin ring in a biological compound required for the synthesis of odd-chain fatty acids. That vitamin, which requires intrinsic factor for its absorption, is B12. This element, iron, and nickel are ferromagnetic. For 10 points, name this transition metal which forms a namesake blue glass, and which lies right after iron on the Periodic Table.

ANSWER: cobalt [or Co]

<Silverman>

16. This author plagiarized Eugene Marais to write his own *The Life of the Ant*, and was also accused of ripping off Robert Browning for his play *Monna Vanna*. The second title character of one of his works loses her wedding ring in a fountain and is later wounded when Yniold discovers her cheating on her husband Golaud. *Interior* and *The Death of Tintagiles* are among this man's plays for (*) marionettes. Vists to the Land of Memory, the Palace of Night, and the Kingdom of the Future feature in this man's most famous play, in which the fairy Berylune helps Mytyl and Tytyl search for happiness in the form of the title animal. For 10 points, name this Belgian Symbolist who wrote *Pelleas and Melisande* and *The Blue Bird*.

ANSWER: Maurice Polydore Marie Bernard Maeterlinck

<Carson>

17. A 2005 act to prevent abuse in this practice placed restrictions on automatic stays. The first lasting national legislation governing this practice was the 1898 Nelson Act. Kevyn Orr was appointed to manage those "taking a haircut," due to a large instance of this action, by Governor Rick Snyder. Undergoing this action did not solve the CalPERS problem for Anthony Silva, the mayor of (*) Stockton, California. In the United States, child support and student loans are largely exempt from this process. The largest corporation to undergo the Chapter 11 form of this practice was Lehman Brothers in September 2008. For 10 points, name this practice undertaken by Detroit in 2013 to restructure its debt.

ANSWER: filing for bankruptcy

<Bentley>

18. A form of nostalgia for the time before this event includes the preservation of crosswalk lights depicting a fedora-wearing man. This event, after which many people were required to pay the "Solidarity Surcharge," is celebrated on October 3rd each year. A precedent for this event was based on Article 23 of the Basic Law, which had previously been applied to (*) Saarland. Immediately before this event, which was finalized by the "Two Plus Four" treaty, the PDS replaced the SED party. This event involved the arrest of Egon Krenz and extended the domain presided over by Helmut Kohl. For 10 points, name this process which occurred two years after the fall of the Berlin Wall, in which two halves of a European nation became one.

ANSWER: German reunification [accept answers indicating the union of East and West Germany; prompt as needed to ensure that the player is referring the 1989-1991 creation of Germany from West Germany and East Germany; do not accept or prompt on "German unification" by itself, since that refers to the creation of the German Empire in 1871]

<Mukherjee>

19. Though it is not a sonata, Clara Schumann's only piece of this type contains a "Scherzo in tempo di Menuetto" and is in G minor. Brahms's first composition of this type begins in B major, but unusually ends in the parallel minor. Aaron Copland's *Vitebsk* was written for this ensemble, as was a set of variations on Wenzel Müller's song "Ich bin der Schneider Kakadu". Beethoven's opus 1 consists of three pieces of this type, and he also wrote one whose eerie slow movement has earned it the nickname (*) "Ghost". Dvorak's fourth and last piece of this type is called the "Dumky". For 10 points, name these compositions which include Beethoven's "Archduke," and which are scored for a violin, a cello, and a certain keyboard instrument.

ANSWER: piano trios [prompt on partial answer]

<Rosenberg>

20. This model's energy is added to the energy of the rigid rotor to model rovibronic coupling, and using an exponential Morse potential with this system gives more accurate results in IR spectroscopy. Taking the higher-order terms of the Taylor expansion of the potential of this system allows for modeling anharmonic effects, and this system's wavefunction contains a Hermite polynomial. The energy levels of this system are proportional to the (*) quantum number plus one half. Diatomic molecules are commonly modeled using this system, whose energy levels are evenly spaced and whose potential is a parabola given by Hooke's Law. For 10 points, name this simple quantum system that is an analog of the classical masses connected by a spring.

ANSWER: quantum harmonic oscillator [or QHO; accept quantum harmonic oscillator after "quantum" is read]

<Mukherjee>

21. A man with this name pledged loyalty to Sigismund the Old in the Treaty of Krakow, and resigned as Grand Master of the Teutonic Knights to become the first duke of Prussia. The first margrave of Brandenburg was a man with this name nicknamed "the Bear." Another man of this name, whose wife grew up in the Kensington system, worked with Henry Cole to organize an exhibition of science and industry in his adopted country. That man from the house of (*) Saxe-Coburg-Gotha popularized the Christmas tree in England and oversaw the Great Exhibition of 1851. After that man's death, his widow wore mourning garments for the rest of her reign. For 10 points, give this name of the father of Edward VII of England and prince consort of Queen Victoria.

ANSWER: Albert [or Albrecht]

<Bailey>

22. A two-dimensional variant of this model found in the game of life is known as Langton's ant. Savitch's theorem guarantees that adding non-determinism to these entities does not improve their ability to save space. For partial functions, Rice's theorem states that these items cannot find their non-trivial properties in a finite amount of time. Their namesake showed that the halting problem for them is undecidable. A thesis partially named for Alonzo (*) Church states that all reasonable models of computation can be simplified to this one. Consisting of a read-write head and a finite state machine, it is able to manipulate symbols on an infinite tape. For 10 points, name this model of computation developed by a namesake British computer scientist.

ANSWER: Turing machines

<Jose>

23. In one of this man's plays, a Chicago gangster seizes power from the Cauliflower Trust, while in another, the corrupt Pierpont Mauler is overthrown by the Black Straw Hats. This author advocated making characters' choices explicit by verbalizing the "Not/But" element in "A Short Organum for the Theater", which also urged use of the "distancing effect". This author of *The Resistible Rise of Arturo Ui* and (*) *Saint Joan of the Stockyards* described a barmaid's fantasy of a ship destroying a town in the song "Pirate Jenny", which appears in a play in which Polly Peachum's father tries to get Mack the Knife executed. For 10 points, name this German playwright who adapted John Gay's *The Beggar's Opera* into his *The Threepenny Opera*.

ANSWER: Bertolt Brecht [or Eugen Berthold Friedrich Brecht]

<Mehigan>

24. This state controls the former Confederate prison camp at Pea Patch Island, parts of the small sliver it controls on the extreme west of Finns Point. This state sits to the north of the Transpeninsular Line, which was drawn to settle a dispute over which of two sites named Cape Henlopen was its true southern border. In 1921, the federal government awarded this state definitive ownership of The (*) Wedge, an area created by imprecise drawing of this state's northwestern border, the Twelve Mile Circle. In 1935, the Supreme Court forbade this state and New Jersey from ever again suing each other over ownership of this state's namesake river. For 10 points, name this state with a flagship public university located in Newark and a large metropolis at Wilmington.

ANSWER: Delaware

<Weiner>

1. After mistakenly thinking Frederick Lawrence is this woman's lover, Gilbert Markham knocks him from his horse. For 10 points each:

[10] Identify this character, who flees her husband Arthur Huntingdon to live at the title estate of the novel in which she appears.

ANSWER: **Helen Graham** [accept either name, also accept **Helen** Lawrence Huntingdon, prompt on **The Tenant** of Wildfell Hall, but obviously do not reveal this answer if it is not given]

[10] Helen Graham and Gilbert Markham both appear in what pseudonymously-written 1848 novel, published soon after its author's earlier *Agnes Grey*?

ANSWER: *The **Tenant of Wildfell Hall***

[10] This author wrote *The Tenant of Wildfell Hall*. She was part of a famous family of writers that also included her sisters Charlotte and Emily.

ANSWER: **Anne Brontë** [prompt on just the last name]

<Schindler>

2. The world-record longest of these animals was a 48.5-inch long Maine Coon named Stewie. For 10 points each:

[10] Name this type of animal whose other notable breeds include the water-loving Turkish Van, the bent-eared Scottish Fold, and the hairless Sphynx.

ANSWER: domestic **cats** [or ***Felis silvestris catus***; or house**cats**, or **kittens**; or **kitties**, or other such synonyms]

[10] This cat breed is often referred to on its home island as a "stubbin," a reference to their nearly- or entirely-missing tails.

ANSWER: **Manx** cats [or kayt **Manninagh**]

[10] Like the French Chartreux, this breed is known for its thick, soft "double coat". It takes its name from its fur color, originating from a dilute black gene, and from its origin in Arkhangelsk.

ANSWER: **Russian Blues**

<Carson>

3. Inspired by the Manicheans, Paulicians, and Bogomils before them, this peaceable sect had a dualistic cosmology and a group of elect believers called Perfects. For 10 points each:

[10] Name this religious sect from the south of France. Innocent III called a crusade against this group in the 13th century, which included the bloody siege of Carcassone.

ANSWER: **Cathars** [or **Cathari**; or **Albigensians**]

[10] Blanche, a French regent from this Iberian kingdom, helped bring an end to the Albigensian crusade. It merged with Leon in 1301 and names the dialect of Spanish used in Madrid.

ANSWER: **Castile** [or **Castilla**]

[10] Raymond VI, the count of this historic region of southern France, refused to crusade against the Cathars, possibly murdering a papal legate in the process. This county was subsumed into France after a 1218 siege of its capital.

ANSWER: County of **Toulouse**

<Bentley>

4. These elements include the abstract factory and the singleton. For 10 points each:

[10] Name these elements of reusable software that were proposed in a namesake book by the Gang of Four.

ANSWER: **design patterns**

[10] Design patterns were first proposed in a book that advocates for this programming paradigm. This paradigm stresses the importance of polymorphism, inheritance and abstraction.

ANSWER: **object-oriented** programming

[10] This structural design pattern allows one interface to smoothly interact with another interface. It is sometimes called a wrapper.

ANSWER: **adapter** pattern

<Jose>

5. A campaign ad for this politician, featuring famous Kentucky institutions, accidentally included footage of the Duke basketball team. For 10 points each:

[10] Name this senior senator from Kentucky who currently serves as Senate Minority Leader.

ANSWER: Mitch **McConnell**

[10] This current Kentucky Secretary of State is McConnell's presumptive Democratic opponent in his 2014 re-election bid. If elected, she would become the youngest active Senator.

ANSWER: Alison Lundergan **Grimes**

[10] This other female Democratic candidate is an incumbent from Louisiana. She chairs the Senate Committee on Energy and has been targeted for her support of the Affordable Care Act.

ANSWER: Mary **Landrieu**

<Rosenberg>

6. This member of a prominent musical family honored one of his strongest influences with the trio sonata *Parnassus, or the Apotheosis of Corelli*. For 10 points each:

[10] Name this French composer of such keyboard works as *The Mysterious Barricades*. Nicknamed "le Grand", he was memorialized in a piano suite by Maurice Ravel.

ANSWER: François **Couperin** [or **Couperin** le Grand]

[10] Couperin's music inspired a *Dance Suite* and a *Divertimento* by this German composer of the tone poems *Death and Transfiguration* and *Ein Heldenleben*. This man's operas include *Salome* and *Der Rosenkavalier*.

ANSWER: **Richard Strauss** [prompt on "Strauss"]

[10] The aforementioned Arcangelo Corelli invented this Baroque musical form in which music is passed between a small group of soloists and the "ripieno", or the rest of the orchestra, unlike a similar form which uses only one soloist.

ANSWER: **concerto grosso** [or **concerti grossi**; do not accept or prompt on "concerto" alone]

<Carson>

7. In the human genome, the most common of these elements is called Alu. For 10 points each:

[10] Name these genetic sequences which are particularly abundant in eukaryotes. They have an RNA intermediate that is reverse transcribed and then inserts itself back into the genome.

ANSWER: **retrotransposons** [prompt on **transposons**; prompt on **transposable elements**; do not accept or prompt on "DNA transposons"]

[10] Alu elements are classified as this type of retrotransposons, which lack long terminal repeats and which do not code for functional reverse transcriptase. They are shorter than LINES.

ANSWER: **SINEs** [or **short interspersed elements**]

[10] Alu elements get their name because they are recognized by AluI, one of these proteins, which cleave DNA at specific sequences. Molecular cloning makes heavy use of these enzymes.

ANSWER: **restriction** enzymes [or **restriction** endonucleases]

<Silverman>

8. Name some American philosophers who have engaged with pragmatism, for 10 points each.

[10] This 19th century philosopher and brother of a novelist wrote *The Principles of Psychology* and described a "new name for some old ways of thinking" in *Pragmatism*.

ANSWER: William **James**

[10] James was inspired by this logician and philosopher who divided representations into icons, indicies, and symbols in "On a New List of Categories". This man introduced his pragmatic maxim in "How to Make our Ideas Clear".

ANSWER: Charles Sanders **Peirce** [pronounced "Purse", but be liberal]

[10] This analytic philosopher and formulator of the Twin Earth thought experiment has become more pragmatist in recent times. This man's theory of multiple realizability argues that individual mental states can have many causes, and he has critiqued the "brain in a vat" thought experiment.

ANSWER: Hilary Whitehall **Putnam**

<Spencer>

9. So you're building a house in China. For 10 points each:

[10] You orient the objects in the house, and the foundations of the house itself, according to the principles of this system, which means "wind-water."

ANSWER: **feng shui** [or **fung shway**, which is how it's pronounced]

[10] Just to be safe, you avoid buying this many tables or any number of tables containing this number either as a digit or a multiple, because the word for this number is similar to the word for death.

ANSWER: **4**

[10] You peek under the floorboards and in the attic and evict any hiding members of this persecuted religion founded by Li Hongzhi, lest authorities break in and start searing your flesh with hot iron.

ANSWER: **Falun Gong** [or **Falun Dafa**; or **Dharma Wheel Practice**; or **Law Wheel Practice**]

<Gupta>

10. As a child, this character gets stomped in the face by a horse, and at the end of one novel in which he appears he leaves home for Harvard. For 10 points each:

[10] Name this semi-autobiographical character whose twenties are described in the novel *Of Time and the River*.

ANSWER: **Eugene Gant** [accept either]

[10] Eugene Gant is also the protagonist of this novel set in Altamont, a town in the fictional state of Catawba which is a loosely-fictionalized version of its author's hometown of Asheville, North Carolina.

ANSWER: **Look Homeward, Angel: A Story of the Buried Life**

[10] *Of Time and the River* and *Look Homeward, Angel* are novels by this author of the posthumous *You Can't Go Home Again*.

ANSWER: Thomas Clayton **Wolfe**

<Mehigan>

11. One of these objects is suspended from a prong in front of a fish-shaped body of water in Salvador Dali's *Mountain Lake*. For 10 points each:

[10] Identify these objects. In 1936, Dali affixed a plaster lobster to another one of them, which he gave to his patron Edward James.

ANSWER: **telephones**

[10] A red-haired woman holds a telephone and says "Ohhh... Alright..." in a comics-influenced painting by this pop artist, who used Ben-Day dots in such works as *Drowning Girl* and *Whaam!*.

ANSWER: Roy Fox **Lichtenstein**

[10] *Telephone* is the name of the most famous painting by Morton Schamberg. Schamberg, like this fellow American painter of *My Egypt* and *I Saw the Figure 5 in Gold*, was a pioneer of Precisionism.

ANSWER: Charles **Demuth**

<Bentley>

12. Answer these questions about resources used by the Olmec society in ancient Mesoamerica, for 10 points each.

[10] These landmark Olmec sculptures, which are usually about six feet tall, were carved out of basalt rock transported without wheels from the Tuxtla mountains.

ANSWER: Olmec stone **heads**

[10] Archaeologists have found rubber objects designed for this sacred activity at Olmec sites. In Mayan times, it involved elevated stone hoops, a flat field, and the use of one's hips and feet.

ANSWER: Mesoamerican sacred **ball** game [or juego de **pelota**; or **ollamalitzli**; or **tlachtli**; or **pok-ta-pok**; or **ulama**; accept any answer indicating the use of a rubber **ball** for recreational or religious purposes; prompt on "human sacrifice" as the losers were allegedly sacrificed in some cultures]

[10] The Olmecs began domesticating this wild grass, a member of the genus *Zea* and an ancestor of modern maize corn, so its tiny seed-bearing ears would become fatter.

ANSWER: **teosinte**

<Jackson>

13. MBBA, one of these substances, exists in the nematic phase at room temperature. For 10 points each:
[10] Name these substances which have varying amounts of short-range and long-range order, and are usually classified as being in nematic, smectic, chiral, or columnar phases.

ANSWER: **liquid crystals** [or **LCs**; prompt on partial answer]

[10] This liquid crystal phase, best exemplified by the cellular lipid bilayer, consists of flat sheets of LCs separated by thin planes of solvent. Rapidly quenching eutectic mixtures makes this alternating band structure in solids.

ANSWER: **lamellar** phase [or **lamellae**]

[10] Twisted nematic phase liquid crystals will rearrange when provoked by this stimulus. In an electrolytic cell, this phenomenon provides the energy for a redox reaction to occur.

ANSWER: electric **current** [or **electricity**; or an **electric field**; or any same-knowledge equivalents]

<Silverman>

14. Answer these questions about changes within the military of the late Roman republic, for 10 points each.

[10] This rival of Sulla and seven-time consul reformed the military by allowing non-landowners to join the ranks and giving land as a retirement bonus.

ANSWER: Gaius **Marius**

[10] Crassus revived this ancient punishment in 71 BCE, by which a commander ordered the random execution by lot of a tenth of his own men.

ANSWER: **decimation** [or **decimatio**]

[10] Roman soldiers could not bear arms inside this symbolic boundary around the city of Rome, a taboo which Sulla's march on Rome broke. The Senate couldn't meet more than a mile outside it.

ANSWER: **pomerium** [or **pomoerium**]

<Jackson>

15. Several dwellers of these places were already Christian when first discovered by Spaniards, claiming that a "Lady in Blue" flew across from Europe to teach them about Jesus. For 10 points each:

[10] Name these Native American villages made out of adobe, which lend their name to several indigenous groups in what is now New Mexico.

ANSWER: **pueblos** [or **Pueblo** Indians]

[10] This Spanish explorer conquered Hawikuh, Cibola, and other pueblos. He got as far north as Kansas while searching for the Seven Cities of Gold that Cabeza de Vaca had lied about.

ANSWER: Francisco de **Coronado**

[10] This anti-Christian Tewa Indian launched the 1680 Pueblo Revolt, which was brutally suppressed by Antonio de Otermín near present-day Santa Fe.

ANSWER: **Popé** [or **Po'pay**]

<Jackson>

16. This man's linguistic works include *A Theory of Semiotics* and *The Role of the Reader*. For 10 points each:

[10] Name this Italian semiotician who authored the essay collection *Misreadings*, as well as *Six Walks in the Fictional Woods*. He also wrote the novels *The Prague Cemetery* and *The Island of the Day Before*.

ANSWER: Umberto **Eco**

[10] In this Eco novel, William of Baskerville and his apprentice Adso of Melk investigate a series of murders at a monastery where a copy of Aristotle's lost treatise on comedy is kept.

ANSWER: *The **Name of the Rose*** [or *Il **nome della rosa***]

[10] Eco's novel *The Mysterious Flame of Queen Loana* concerns Yambo, a man who forgets everything except what he has acquired while doing this activity. A prefatory poem by a different author addressed to a man doing this activity ends by calling him a hypocrite, a likeness and a brother.

ANSWER: **reading** [or **reader**]

<Jose>

17. Alexander Gorsky's additions to this work include interpolating the "Grand pas des toréadors" from the ballet *Zoraiya* and adding two Riccardo Drigo-composed variations for the character Kitri. For 10 points each:

[10] Name this ballet whose second act ends with the title character falling unconscious at the feet of Sancho Panza after ineffectually tilting at some windmills.

ANSWER: ***Don Quixote***

[10] *Don Quixote* featured music by Ludwig Minkus and choreography by this prolific Frenchman, who also choreographed Tchaikovsky's *Sleeping Beauty* and *The Nutcracker*.

ANSWER: Marius **Petipa** [or Victor Marius Alphonse **Petipa**]

[10] Petipa's many revivals included his staging of this Adolphe Adam ballet. Carlotta Grisi was the first to dance its title role, a girl who dies of a broken heart but is revived by a group of supernatural women called the Wilis.

ANSWER: ***Giselle***, or *The Wilis* [or ***Giselle***, ou *Les Wilis*]

<Carson>

18. Merlin creates this object for Uther Pendragon, and King Leodegrance later bestows it on Arthur. For 10 points each:

[10] Name this piece of furniture around which Arthur's knights congregate.

ANSWER: the **Round Table**

[10] Sir Galahad eventually takes this seat at the Round Table. It remains empty for many years because it would kill any knight other than Galahad.

ANSWER: the **Siege Perilous**

[10] This impetuous knight dies before the Round Table is founded. In his short lifetime he beheads the Lady of the Lake, gives the Fisher King the Dolorous Stroke, and slays his similarly-named brother.

ANSWER: Sir **Balin** le Savage

<Bollinger>

19. Identify the following about unusual negative quantities in physics, for 10 points each.

[10] So-called "left-handed" examples of these artificial substances can exhibit a negative index of refraction. Other examples of these substances can be used to create superlenses capable of bypassing the diffraction limit.

ANSWER: negative index metamaterials [or left-handed metamaterials]

[10] The possibility of a negative energy density in quantum field theory was shown by this effect, named for a Dutch physicist, in which a force is generated in a vacuum between two uncharged conductors brought extremely close together.

ANSWER: the Casimir effect

[10] Visser et al. suggested that negative mass may arise from angle excess in the cosmic variety of these one-dimensional objects, which sweep out two-dimensional worldsheets as they move through space.

ANSWER: cosmic strings

<Carson>

20. One of these entities titles a Gustav Meyrink novel about Athanasius Pernath, while another is created by the title character of Cynthia Ozick's *The Puttermesser Papers*. For 10 points each:

[10] Name these entities. In a Michael Chabon novel, Kornblum helps Joe Kavalier smuggle himself out of Prague in a coffin containing the most famous one of them.

ANSWER: a golem

[10] This author described Judah Loew's creation of the golem in his *Cratylus*-inspired poem "El Golem". More famous stories by this blind Argentinean include "El Aleph" and "The Garden of Forking Paths".

ANSWER: Jorge Luis Borges [or Jorge Francisco Isidoro Luis Borges]

[10] This Borges character wrote a treatise on chess proposing the removal of one of the rook's pawns, but is more famous for attempting to organically replicate parts of the novel *Don Quixote* by reliving the experiences of Cervantes.

ANSWER: Pierre Menard [accept either underlined portion; accept "Pierre Menard, Author of the *Quixote*" or "Pierre Menard, Autor del *Quijote*"]

<Carson>

21. Answer these questions about transportation, the sentence by which criminals would be shipped to penal colonies far away, for 10 points each.

[10] This continent was first used by the British for prison colonies such as New South Wales.

ANSWER: **Australia**

[10] This French penal colony off of the coast of French Guiana was mainly used for prisoners not of French birth. Alfred Dreyfus was imprisoned here.

ANSWER: **Devil's Island** [or **Ile du Diable**]

[10] For Londoners, transportation was an alternative to time in this central prison near the Old Bailey, which was burnt during the Gordon Riots.

ANSWER: **Newgate** prison

<Bentley>

22. "How Long Is the Coast of Britain? Statistical Self-Similarity and Fractional Dimension" is ne of Benoit Mandelbrot's first considerations of these sets, whose name he would later coin. For 10 points each:

[10] Name these sets that display self-similarity at all scales, such as the Koch snowflake and the Sierpinski triangle.

ANSWER: **fractals**

[10] Before fractals were developed, this German mathematician repeatedly removed the open middle thirds from a set of line segments to develop a set with fractal properties. He also invented set theory.

ANSWER: Georg **Cantor**

[10] Mandelbrot's famous fractal set is closely related to this other fractal set that display chaotic properties. It concerns the points z equals x plus i y on the complex plane where the series z sub n plus one equals z sub n squared plus c , where c is a complex number, does not diverge to infinity.

ANSWER: **Julia** set [do not accept "Fatou set"]

<Reinstein>

23. This man related the adventures of the rakehell Saul Kane in his poem "The Everlasting Mercy" and penned the children's stories *The Midnight Folk* and *The Box of Delights*. For 10 points each:

[10] Name this 20th-century British poet whose collection *Salt-Water Ballads* includes his most famous poem, "Sea-Fever", which begins "I must go down to the sea again, to the lonely sea and the sky".

ANSWER: John Edward **Masefield**

[10] The speaker of "Sea-Fever" also says "All I ask is a tall ship" and one of these objects "to steer her by". John Donne's poem "Song" advises the reader to "Go and catch a falling" one of these celestial objects.

ANSWER: a **star**

[10] John Masefield's ashes were placed in this section of Westminster Abbey, which is also where Geoffrey Chaucer and Robert Browning are buried.

ANSWER: **Poets' Corner**

<Jose>