1. A poem by this author begins "They visit you in the darkest hour, all of your lost loves" and describes its subject's eyes as "the lighthouse piercing your silence" and "the most sought-after book." That poem is named "The Ghost of Edna Lieberman," after a former lover who is mentioned in many of his novels. A journalist created by this author sees a mural of the Virgin of Guadalupe with one eye closed in a garage, and is shown a snuff film attributed to Robert Rodriguez. In a section called "The Part About Fate," that journalist covers a boxing match which he doesn't care about after being sent to Santa (*) Teresa, where he becomes more interested in investigating a series of murders. Those events occur in a novel by this author featuring characters like the the professor Oscar Amalfitano and the mysterious German novelist Benno von Archimboldi, which obsessively chronicles the female homicides in Ciudad Juárez. For 10 points, name this author of *2666*.
ANSWER: Roberto **Bolaño** Avalos

2. One musical work in this format contains sections described as "Fugue-Dramatic" and "Dramatic-Tragic" and begins with a long, mostly unaccompanied melody for cellos reminiscent of plainchant. In another work in this format, the oboe plays over muted strings during the *andante tranquillo*; that work in this format ends with the cellos and basses playing a passacaglia based on its first theme. Yet another piece in this format begins with a timpani stroke on G, followed by an ascending scale in the strings starting on A that lands on an A-flat triad when the winds join in. (*) Roy Harris's Third Symphony uses this format, and a piece by Samuel Barber in this format was inspired by a composition with this structure whose trombone theme of "Aino" is named after the composer's wife. That work in this format was originally called *Fantasia Sinfonica No 1*. For 10 points, Jean Sibelius's seventh symphony is in what unusual and condensed format?
ANSWER: symphonies **in one movement** [prompt on "symphony"]

3. An author with this first name compared the censorship of his poetry to Philomela's mutilation by Tereus in his dramatic work *The Steel Glass*. That poet with this first name probably wrote all the lewd "diverse discourses" contained in the miscellany *A Hundreth Sundry Flowers*, as well as a novel in which Elinor is seduced by Master F.J. A different author with this first name wrote the long poem *Polyhymnia,* which ends with a sonnet describing a knight's retirement called "A (*) Farewell To Arms." Another writer with this first name finished Christopher Marlowe's *Hero and Leander* and wrote a tragedy whose title character has an affair with Tamyra before being lured into an ambush by Montsurry and the Duke of Guise. This first name is shared by the playwright of *Bussy D'Ambois* and Elizabethan poets with the last names Peele and Gascoigne. For 10 points, identify this first name of an author whose translation of Homer was "looked into" by John Keats.
ANSWER: **George**

4. During this crusade, its leader received an embassy under the command of his friend Fakhr-ad-Din, and sent back a series of questions on geometry and number theory, which that leader's counterpart gave to his scholars to answer. This crusade's leader forcibly took over John of Ibelin's control of Cyprus, leading to the War of the Lombards. Prior to this crusade, its leader repeatedly obtained postponements from Honorius III, despite having taken the cross during his coronation. That leader of this crusade would later take the cross again from Ugolino of Ostia, with whom he would clash when the latter became pope. While this crusade was getting underway, the death of al-Mu'azzzam, (*) the governor of Damascus, prompted French crusaders to fortify the island of Qal'at al-Bahr. This was the first crusade to be carried out without papal support, since its leader had been excommunicated by Gregory IX for his constant delays. This crusade mostly passed without any actual battles, as its leader, Frederick II, negotiated with al-Malik, the Sultan's nephew, for possession of Jerusalem. For 10 points, name this crusade which both preceded and followed crusades focusing on Damietta.
ANSWER: **Sixth** Crusade

5. A copy of this poem with the words replaced by black rectangles makes up an artist's book by Marcel Broodthaers. This poem is the primary subject of Quentin Meillasoux's *The Number and the Siren*, which contends that this poem represents a kind of code. One section of this poem is bookended by two appearances of the phrase "AS IF" written in capital letters. This poem describes "the Abyss, raging, whitened, stalled beneath the desperately sloping incline of its own wing" before mentioning "a vessel rocked from side to side"

(*) in one of its many instances of shipwreck imagery. This poem ends by stating that "all thought expresses" the title event. This poem's title is spread out throughout its text, which includes the comment "Even when truly cast in the eternal circumstance of a shipwreck's death," and its layout includes large amounts of whitespace. For 10 points, name this typographically experimental poem by Stéphane Mallarmé.
ANSWER: "A **Throw of the Dice Will Never Abolish Chance**" [or similar translations; or "Un **coup de dés jamais n'abolira le hasard**"]

6. **One researcher on these peoples, Gary Haynes, has found evidence that the inhabitants of the Buttermilk Creek complex predates them. Tom Dillehay excavated another culture that is also thought to predate this one after a grad student found a mastodon bone at MV-I. In 1968, a construction worker found the well-preserved Anzick Boy, which was later confirmed to be a former member of this culture. These peoples would have to be from the Old World if the widely discredited Solutrean Hypothesis were to be accepted. The "Dryas overhunting"** (*) hypothesis may explain their disappearance, since they may have hunted the wooly mammoth to extinction. The Folsom peoples are descendants of this other culture, whose best preserved artifacts are characteristically fluted arrowheads. For 10 points, name this pre-historic Indian culture whose tools have been found in New Mexico, and who are thought to be the precursors to all indigenous Native Americans.
ANSWER: **Clovis** culture

7. **A historian of this surname argued that Edward II was almost definitely not actually murdered in 1327 in books like _The Perfect King_ and _The Greatest Traitor_. That historian is best known for writing _The Time Traveller's Guide to Medieval England_. A man of this surname supported William the Conqueror during the Revolt of the Earls, and was given Wigmore Castle as a reward. Another man of this surname married Joan de Geneville, giving him control of much of the Welsh Marches. A man of this surname married Catrin after being captured in the Battle of Bryn Glas, where he lost to Owen Glendower** (*) and was the brother in law of Henry "Hotspur" Percy. The Southampton Plot attempted to replace Henry V with a man with this surname. That man was a descendant of the First Earl of March with this surname who joined Humphrey de Bohun in launching a rebellion against a monarch over the favor that king had shown to Hugh Despenser. For 10 points, give this surname of Roger who murdered Edward II and ruled England for three years with his consort Queen Isabella, before being executed by Edward III.
ANSWER: **Mortimer**

8. **A widely-used, very stable one of these enzymes was extracted from the fungus _Engyodontium album_; that one is inactivated at 65 C for 10 minutes and is designated by the letter "K". Research-grade formulations of another one of these enzymes are made stable by reductive methylation and treated with TPCK to increase specificity; that example of these enzymes is commonly used "in-gel" before a tandem mass spec and to detach adherent cells. AEBSF, PLAAC and PMSF are commonly used to inhibit these enzymes. One class of these proteins stabilizes its tetrahedral intermediate using an oxyanion hole and holds its** (*) substrate using a hydrophobic specificity pocket. In that enzyme's mechanism a proton shuttle containing Asp102 and His57 deprotonates Ser195, which nucleophilically attacks a substrate carbonyl.. That catalytic triad is in the active site of chymotrypsin. For 10 points, name these enzymes that break down proteins.
ANSWER: **protease**s [or **proteinase**s or **peptidase**s, accept "cysteine **protease**s" or "serine **protease**s" or "aspartyl **protease**s"; accept "**trypsin**"]

9. **This artist supposedly remarked "If I were commissioned to design a new universe, I would be mad enough to undertake it" according to a biography of him by Giovanni Bianconi. This artist was often patronized by Cardinal Rezzonico, who is the dedicatee of the prefatory essay in his book _Diverse maniere_, which contains this artist's fireplace designs. In one work by this artist, numerous arched bridges are seemingly unaffected by the title "Smoking Fire." That work is part of a series that includes _The Round Tower_ and _The Pier with a Lamp_, and was made by brushing sulfuric acid onto plates. Etchings of the** (*) Pyramid of Gaius Cestius and the Ruined Gallery of the Villa Adriana at Tivoli comprise his _vedute_ series of ancient Rome. Thomas De Quincey's _Confessions of an English Opium Eater_ recounts how Coleridge told the author about this artist's dream-like works, which feature catapults, cables and pulleys in an impossible architectural capriccio. For 10 points, name this artist who made etchings of imaginary prisons in his _Carceri d'invenzione_ series.
ANSWER: Giovanni Battista **Piranesi**

10. One crazy governor of this state, Ralph Darling, passed a law in which everybody could arrest anybody if they had reason to suspect that a person was an outlaw. A premier of this state proposed a namesake plan in which the "Good Standards" would replace the Gold Standard, but that man, Jack Lang, was dismissed for his incompetence. Another leader of this state, Thomas Brisbane, commissioned the Hume and Hovell expedition. A governor of this place dismissed D'arcy Wentworth as his assistant surgeon, which sparked a (*) revolt in which he was nearly captured at this state's Government House. Upon being made governor of the colony that became this state, Lachlan Macquarie tried to have Jon Macarthur and George Johnston arrested for leading an insurrection originating from a dispute about their selling of spirits here. For 10 points, the Rum Rebellion deposed William Bligh as governor of what Australian state whose cities include Sidney?
ANSWER: __New South Wales__ [prompt on "Australia" before mention]

11. An essay on one thinker from this city "and the rabbis" by David Winston uses his readings of Adam and Eve to argue that that man from here believed sex could be used to express love. Jerome's treatise *On Famous Men* states that either that theologian from this city "Platonizes" or Plato "philosophizes [that man]" since the two were held to be equal in stature. That man from this city bizarrely believed that God created a Demiurge-like entity called the *logos,* which was responsible for all of material creation. Jerome came to this city and learned much of his exegetical techniques from this city's resident Didymus the Blind. Gregory the Miracle-Worker studied here under the self-castrating author of the (*) *Hexapla*. Jerome also states that Mark the Apostle founded the Catechetical School of theology in this city, whose followers included Origen. For 10 points, name this home of Philo, an Egyptian city whose religious scholarship flourished due to its massive library.
ANSWER: __Alexandria__

12. The eighth part of this book refutes the Epicurean Hypothesis by suggesting that the world would not have been dissolved if African and Arabian camels did not exist. Another section of this work argues that on a planet full of spiders, the Brahmin belief that the world was created by an infinite spider would be very reasonable. Its last section cites Galen's description of the six hundred muscles and the 284 bones in the human body to illustrate a certain argument. This book, which incorporates the *a priori* arguments of Samuel Clarke, (*) uses George Cheyne's argument to describe the infinite nature of the world. This 1776 work, which was inspired by Cicero's *The Nature of the Gods*, compares the universe to a machine during a discussion of the so-called "argument from design." Demea, Philo, and Cleanthes debate each other in, for 10 points, what exploration of theology authored by David Hume?
ANSWER: ___Dialogues Concerning Natural Religion___

13. Most of the land currently belonging to this city was owned in the 19th century by the Peralta brothers Antonio Maria and Jose Vicente, who inherited it from their father, Luis Maria Peralta. Frank Kanning Mott was known as "The Mayor who built" this city, which in the 1960s became the headquarters of a corporation spun off from a shipyard concern in a neighboring city, Kaiser Permanente. The first transcontinental mail delivery flight, piloted by Eddie Rickenbacker and Burt Acosta, finished its trip in this city. Bobby Seale and Huey Newton (*) founded the Black Panthers in this city on the campus of Merritt College, which is located here. An Occupy movement in this city began on its Frank Ogawa Plaza, which the protestors symbollically renamed after Oscar Grant, who had recently been killed by a police officer in nearby Fruitvale. That movement clashed with the first Asian-American mayor of a major city, Jean Quan; other mayors of this city have included Jerry Brown, who served two terms from 1999 to 2007. For 10 points, identify this California city across the bay from San Francisco, the seat of Alameda County.
ANSWER: __Oakland__, California

14. In one story, this figure is born after his mother sits on a golden throne and immediately gives birth. This man, who outlived his brother, was originally a doorkeeper named Jaya that was turned into a demon by a group of sages unsatisfied with his work. He tried to kill his own son by dropping him into a room full of venomous snakes, but the snakes make a bed for him with their bodies. After he was reincarnated, this ruler was given three boons by Lord Brahma for his asceticism. He used one of those boons to become the Triloka Cakravarti. The festival of (*) Holi is named for this figure's sister, who protected his child Prahlada from his machinations. This younger of two twins is the son of Diti and Kashyapa, and his older brother died when a boar attacked him. This demon hated Lord Vishnu, who eventually killed him in his man-lion form. For 10 points, name this *asura* who was killed by Narasimha, the brother of the similarly named Hiranayaksha.

ANSWER: **Hiranyakashipu** [or **Hiranyakasipu**; or **Hiranyakshipu**; or **Hiranayaksipu**]

15. Anthony Stentz developed a version of this algorithm in which nodes can be marked with the keywords RAISE or LOWER. Sven Koenig developed the so-called "Lifelong Planning" variant of this algorithm, which combines its informed methodology with an incremental planning approach, such as iterative deepening. When choosing a function for this algorithm, using the Manhattan distance or L1 norm will make this algorithm "inadmissible," (*) meaning that it is not guaranteed to provide an optimal result. This algorithm, which is favored when the topology of the search space or general direction of travel is known, combines a knowledge function and a heuristic function. When this algorithm has a heuristic function that is set equal to zero, it reduces to Dijkstra's algorithm. For 10 points, name this pathfinding algorithm named for a letter.
ANSWER: **A*** algorithm [accept **D*** before "incremental"]

16. An evil hunchbacked Jew named Gabriel Van Gelt swindles the underbelly of this city in a novel named for a brothel run by the pimp "Devil-Bug." The lawyer "Slippery George" Stevens incites a race riot in this city in a novel by Frank J. Webb. The title character of a novel set in this city finds $20,000 in an Italian manuscript that he appropriated for his friend Wellbeck and falls in love with Eliza Hadwin. George Lippard's melodrama *The Monks of Monk Hall* is set in this city, whose pre-Civil War free (*) black community is the subject of *The Garies and Their Friends*. In a memoir mostly set in this city, the narrator recalls establishing one of its hospitals with Dr. Thomas Bond and founding the Junto club. While living in this city, the author of that memoir recounts inventing a stove and refusing a patent for it. Charles Brockden Brown's novel *Arthur Mervyn* is set during this city's 1793 yellow fever epidemic. For 10 points, name this American city, the setting of much of *The Autobiography of Benjamin Franklin*.
ANSWER: **Philadelphia**

17. This artist recalled her devotion to Aunt Margaret in an exhibit of her drawings called "Elegy for a Murdered Lady." This author recalled her relationship with Fumio Yoshimura and her early career as a sculptor in her stream-of-consciousness memoir *Flying*. In a 1998 essay, this thinker bemoaned so-called "bag-lady horrors" and noted that how despite her influential work, she was unable to get a job as a teacher, so she supports herself selling Christmas trees; that article was titled "The Feminist Time Forgot." (*) Her time in Iran led her to author an article which exposed state-sanctioned torture in countries, "The Politics of Torture." Another of her books, which introduced the so-called "feminist critique," argued against using Freudian methods to analyze books. That study of masculinity in American literature sparked the movement of second wave feminism. For 10 points, name this author of *Sexual Politics*.
ANSWER: Kate **Millett**

18. Jerry Adamson designed special rotary-moulded polyethylene armchairs made specifically for this structure. Ricardo Bofill's *Kafka Castle* strongly resembles this structure, and the construction technique used to design it inspired the similar-looking Nakagin Capsule Tower. August Komendant supervised the structural engineering of this project, whose original proposal also included shopping centers and schools and was outlined in the college (*) thesis "A Case for City Living." Interlocking walkways and terraces on top of buildings were part of a plan for this complex, in which each roof provides another unit's garden. This structure was built for an event whose motto was "Man and His World," and consists of 354 identical, 90-ton, pre-fabricated "boxes" that were assembled nearby the St. Lawrence River. For 10 points, name this residential community designed for the Montreal World Expo, a housing project which started the career of Moshe Safdie.
ANSWER: **Habitat** 67

19. The components of this quantity can be used to construct four "squashed" and two "non-squashed" diagrams. The D-zero and CDF experiments have calculated that one component of this quantity is very close to 1. The relations between the components of this quantity can be expressed in terms of three parameters denoted alpha, beta, and gamma which can be measured by the BaBar experiment and which sum to 180 (*) degrees. The components of this quantity can be expressed in terms of four parameters denoted lambda, A, rho, and eta—those parameters are named for Wolfenstein. The unitarity triangle can be constructed from the components of this quantity. In the standard parameterization, this quantity contains three mixing angles and one complex phase

responsible for CP violation. It is analogous to the PMNS matrix for leptons. For 10 points, name this matrix whose elements represent the strength of the weak force in decays which change the flavors of quarks.
ANSWER: **Cabibbo-Kobayashi-Maskawa** matrix [or **CKM** matrix, accept **unitarity triangle** until "four parameters"]

20. This non-sulfur heteroatom is found in Koser's Reagent, which is used to form alpha-oxytosylketones. A compound containing samarium bonded to this element is used as a reducing agent in a form of the Barbier reaction. Hypervalent compounds containing this element useful for oxidizing alcohols to carbonyls include IBX. A three-membered ring containing a cation of this element is an intermediate in two reactions used to form diols using alkenes and silver salts—those reactions are named for Prevost and (*) Woodward. This element and carbon monoxide are the ligands found in the rhodium catalyst for the Monsanto process. An acid containing oxygen and this element is used to cleave vicinal diols to carbonyls, and this element has the lowest crystal field splitting parameter in the spectrochemical series. This element and potassium are found in Lugol's solution. For 10 points, name this element which stains starch a blue-black color.
ANSWER: **iodine** [or **I**]

21. One dish named after a member of this profession consists of pears poached in vanilla syrup arranged on slices of vanilla ice cream and sprinkled with crystallized violets. An Uruguyan sauce named after a member of this profession is made from cream, onions, ham and cheese and is usually served on top of pasta Another food named after a member of this profession is often served as Christmas smorgasbords and consists of potatoes, anchovies, onions and breadcrumbs baked into a casserole. In addition to Jansson's Temptation and (*) Poirres Belle-Hellene, another food named after a member of this profession was first made at the Savoy Hotel and consists of its namesake fruit, vanilla and raspberry sauce. For 10 points, the Peach Melba, Chicken Tetrazzini, and Caruso sauces are foods named after members of what profession, the first of which was made by August Escoffier to celebrate its namesake's triumphal performance in *Lohgenrin?*
ANSWER: **opera singer** [prompt on "singer"]

1. If a disturbance exists at some value of one quantity named for this scientist for a 3D flow, a disturbance with a higher growth rate exists for a 2D flow for some lower value of that quantity named for this scientist, according to Squire's theorem. For 10 points each:
[10] Name this scientist who names an analogy between momentum and energy transfer which states that the Stanton number equals one-half the coefficient of skin friction.
ANSWER: Osborne **Reynolds**
[10] In Reynolds averaging, the turbulent velocity field is split into a time-averaged component and a component named for this word, which is the first word in the name of a theorem which can be used to relate the power spectrum of thermal noise in a system to the real part of the admittance function of the system.
ANSWER: **fluctuation** [accept word forms like **fluctuating**, accept "**fluctuation**-dissipation theorem"]
[10] Reynolds averaging is typically applied to these nonlinear partial differential equations which describe the conservation of momentum in fluids.
ANSWER: **Navier-Stokes** equations

2. For 10 points each, answer the following about mostly adorable dogs in English literature:
[10] The title carpenter of this novel by George Eliot owns an absolutely cuddly dog named Gyp, and falls in love with Hetty Sorel.
ANSWER: *Adam Bede*
[10] This author described the relationship between his adorable Alsatian Queenie in his two books *My Dog Tulip* and *We Think the World of You*. He wrote about his time as secretary to the Indian Maharaja in *Hindoo Holiday*.
ANSWER: (J)oe (R)andolph **Ackerley**
[10] Charles Dickens created this character, whose violent conduct is mirrored by his menacing dog Bull's-Eye. He beats his girlfriend Nancy to death, eventually causing him to hang himself.
ANSWER: Bill **Sikes**

3. This poem opens by describing how the goddess of Wagadu has turned her face to north, south, east and west four times. For 10 points each:
[10] Name this poem, in which the title character has each of his seven sons killed in battle so that blood can be seeped into the title musical instrument.
ANSWER: **Gassire's Lute** [accept reasonable translations, such as "The **Lute of Gassire**"]
[10] In *Gassire's Lute*, a person with this occupation prophesizes that Gassire will never be king. These travelling poets recited much of the oral history of Western Africa.
ANSWER: **griot**s [or **jail** or **jeli** or **guewel** or **gawlo**]
[10] In the first scene of *Death and the King's Horseman*, a griot goads Elesin into chanting a song about this animal, who tells villagers that Death is coming for them, causing them all to reply with a two-word denial.
ANSWER: the **Not-I bird**

4. Answer the following about Empress Saimi, who reigned from 642 to 645 AD if we are to believe the historical record. For 10 points each:
[10] That data appears in this chronicle, which like the *Kojiki*, is semi-mythical. The first petrochemical oil spill in ancient literature appears in this text's chronicle of Emperor Tenji.
ANSWER: *Nihon Shoki* [or *Nihongi*; prompt on *Chronicles of Japan*]
[10] Emperor Ojin was probably the first ruler of this period in Japan, which takes its name from the keyhole shaped tombs of many of rulers.
ANSWER: *kofun* period
[10] Emperor Nintoku's *kofun* can be found in this city, which is Japan's second largest city. Toyotomi Hideyoshi constructed its breathtaking castle in the 16th century.
ANSWER: **Osaka**

5. For 10 points each, answer the following about the intersection of jazz and marijuana.
[10] The song "If You're a Viper," which begins "I dreamed about a reefer five feet long," mentions this man's nickname, which came to refer to the high-quality marijuana he sold fellow jazz musicians. He organized recording sessions with Tommy Ladnier and Sidney Bechet after he moved to Harlem and started calling himself a "voluntary Negro."

ANSWER: Mezz **Mezzrow** [or Milton **Mesirow**]
[10] Mezzrow sold lots of weed to this trumpeter, who recorded "Muggles," a song about another nickname for marijuana. He recorded hit versions of "When the Saints Go Marching In" and "Hello, Dolly!"
ANSWER: Louis **Armstrong**
[10] This stride pianist recorded a notable version of "If You're a Viper" in 1943. He composed the jazz standards "(What Did I Do to Be So) Black and Blue" and "Honeysuckle Rose."
ANSWER: Thomas Wright "Fats" **Waller**

6. This man supposedly killed his own father for his cowardice. For 10 points each:
[10] Name this leader of the First Serbian Uprising against the Ottomans, who became the founder of modern Serbia.
ANSWER: **Karadjordje** [or **Black George**; or Djordje **Petrovic**]
[10] An inciting factor in the First Serbian Uprising was the Slaughter of the Dukes, in which *dahijas* massacred nobles with this title found in many Slavic languages. Alexander of Battenberg held this title as prince of Bulgaria.
ANSWER: *knez* [or *knyaz*]
[10] The *dahijas* who committed the Slaughter of the Dukes were renegade members of this Ottoman infantry force, which was dissolved in the Auspicious Incident.
ANSWER: **janissaries**

7. Its preamble was written by Ignatius Donnelly. For 10 points each:
[10] Identify this set of demands adopted by the Populist Party at the namesake city on July 4th 1892. They include a graduated income tax, the nationalization of railroads and the unlimited coinage of silver.
ANSWER: **Omaha** Platform
[10] This historian examines the rhetoric of populism in *The Populist Persuasion*, which argues that populism shifted to the right with the emergency of George Wallace. His book *A Godly Hero* is a biography of William Jennings Bryan.
ANSWER: Michael **Kazin**
[10] Another of Michael Kazin's books examines the downfall of the Union Labor part of this city who nominated Eugene Schmitz as its mayor. Another Union Labor mayor of this city, PH McCarthy, was nicknamed "pinhead".
ANSWER: **San Francisco**

8. This thinker distinguished between "ideational" cultures which possess a spiritual view of reality and "sensate" cultures based on an empirical view of reality in his book *Social and Cultural Dynamics*. For 10 points each:
[10] Name this Russian sociologist who wrote about his forced exile from the Soviet Union in *Leaves from a Russian Diary*. He founded the department of sociology at Harvard in 1930.
ANSWER: Pitirim **Sorokin**
[10] Sorokin's book *The Ways and the Power of Love* examined this behavior, which Kropotkin described in animals in *Mutual Aid*. Emile Durkheim used this word to describe a form of suicide which serves as a sacrifice for the benefit of others.
ANSWER: **altruism** [or word forms like **altruistic**]
[10] Sorokin was a vocal critic of this fellow Harvard sociologist, who collaborated with Gerald Platt to write *The American University* and argued that systems needed to maintain their latent patterns in order to survive.
ANSWER: Talcott **Parsons**

9. In a paper collected in *Thought, Reference and Experience,* John McDowell endorses this philosopher's claim that names, by themselves, cannot have a Fregean sense. For 10 points each:
[10] Name this philosopher, who, in his masterpiece *The Varieties of Reference*, introduced the photograph model of causality of references.
ANSWER: Gareth **Evans**
[10] In another paper, Gareth Evans that objects which have this property cannot exist. This property titles both a 1923 paper by Russell as well as a 1996 book by Timothy Williamson. The "Nature of" this property titles a paper by Paul Horwich and it is paired with "Logic" in the title of a book by Carl Hempel.
ANSWER: **vague**ness
[10] Much of Gareth Evans' work on names drew on his readings of this philosopher, who considered names as rigid designators in his book *Naming and Necessity*.

ANSWER: Saul **Kripke**

10. Answer the following about some infamous headlines in *The Sun*, for 10 points each.
[10] *The Sun* ran the headline "Gotcha" after the sinking of the *General Belgrano* during this 1980s war.
ANSWER: **Falklands** War [or Guerra de las **Malvinas**; or Guerra del **Atlántico Sur**]
[10] In this headline after the 1992 general election, *The Sun* credited itself with the Conservative victory because of its anti-Labour campaign, which included the election-day headline "If Kinnock wins today will the last person to leave Britain please turn out the lights."
ANSWER: "**It's the Sun Wot Won It**"
[10] The headline "Crisis? What Crisis?" paraphrased this Prime Minister's response to a journalist's question during the Winter of Discontent.
ANSWER: James **Callaghan**

11. In group theory, these objects are bijections of a set onto itself. For 10 points each:
[10] Name this type of ordering of a set which includes derangements and transpositions. For a set with n distinct elements, there are n factorial distinct examples of these orderings.
ANSWER: **permutation**s
[10] This mathematician names a theorem which states that every group is isomorphic to a group of permutations, since every group is isomorphic to a subgroup of the symmetric group. He's the alphabetically-first namesake of a theorem which states that every square matrix is a root of its own characteristic polynomial.
ANSWER: Arthur **Cayley**
[10] For a finite group G, this result gives the number of orbits generated by the group action on a set X as the sum of the number of elements of X invariant under the action of G, divided by the order of G.
ANSWER: **Burnside**'s lemma [or **Cauchy-Frobenius** lemma, as Wikipedia claims it's known]

12. Ike Jose wants you to know that this painter's shitty works include *Dante in Exile*, and his less shitty works include a version of *Daedalus and Icarus* in which Daedalus is wrapped by a black wing. For 10 points each:
[10] Name this artist whose historical paintings include *Cimabue's Celebrated Madonna*, which Queen Victoria pretty much purchased on first sight.
ANSWER: Lord Frederic **Leighton**
[10] Frederic Leighton's most famous painting may be this one, which depicts a curled-up, sleeping woman in a vibrant orange dress below a toxic oleander.
ANSWER: *Flaming June*
[10] The woman who modeled for *Flaming June*, Dorothy Dene, also modeled for some paintings by this artist of *Christ in the House of His Parents*. This Pre-Raphaelite also painted Ophelia floating down the river before drowning.
ANSWER: John Everett **Millais**

13. This practice emphasizes a spiritual act of repetition called *abhyasa* so that the mind can pursue one type object, a state called *ekagrata*. For 10 points each:
[10] Name this Hindu and Buddhist meditative practice, which emphasizes the *ujjayi* technique, or breathing to make an "ocean sound."
ANSWER: **yoga**
[10] A key text in yogic disciplines are the *Yoga Sutras* written by this monk, who was supposedly born from Adishesha, the symbol of awareness created by Lord Vishnu.
ANSWER: **Patanjali**
[10] This type of yoga emphasizes devotion to a single God, such as Shaivism or Vaishnavism. It comes from a Sanskrit word meaning "portion" or "one's share."
ANSWER: **bhakti**

14. This technique, which is also called photon correlation spectroscopy, is used to determine the particle size distribution of a dissolved solute. For 10 points each:
[10] Name this technique, in which monochromatic light interacts with particles undergoing Brownian motion and undergoes Doppler-broadened Rayleigh scattering.
ANSWER: **dynamic light scattering** [or **DLS**, or **quasi-elastic light scattering**, or **QELS**]

[10] Particles in solution can be separated by particle size in this technique, in which the solution is passed through a column with tortuous packing, so small particles get trapped inside the pores and elute more slowly than large particles.
ANSWER: **size-exclusion chromatography** [or **SEC**, or **gel permeation chromatography**, or **GPC**]
[10] Silica gel is commonly used as a packing material in size-exclusion chromatography, but it is perhaps more well known as one of these substances, which remove water from their immediate environment via adsorption.
ANSWER: **dessicant**s

15. The therapeutic index is the ratio of the amount of this quantity that induces toxicity in 50% of patients to the amount of this quantity that exhibits therapeutic effects in 50% of patients. For 10 points each:
[10] Give this term whose "median lethal" form is denoted LD-50 is a common quantifier of toxicity of a drug or chemical. For many drugs this quantity is given in milligrams.
ANSWER: **dose**
[10] This quantity is defined as 100% for intravenously administered drugs. It is the percentage of an administered dose of a drug which reaches the circulatory system.
ANSWER: **bioavilability**
[10] The bioavailability of drugs delivered orally is decreased via this effect, in which the drug is partially metabolized by the liver prior to entering the circulatory system.
ANSWER: hepatic **first pass** effect

16. This character assumes the name "Armand" while working in a hotel, in which guise he seduces Madame Houpfle, who enjoys being humiliated. For 10 points each:
[10] Identify this character who later disguises himself as the Marquis de Venosta and seduces both Professor Kuckuck's daughter Zouzou and his wife Maria Pia.
ANSWER: **Felix Krull** [accept either name]
[10] *The Confessions of Felix Krull, Confidence Man* is a novel by this German author who also wrote "Tonio Kroger," and "Mario and the Magician."
ANSWER: **T**homas **Mann**
[10] *Felix Krull* was one of the only two works of Mann that weren't translated by this woman, the first person to bring Mann to an English-speaking audience, although her translations would later be criticized for inaccuracy.
ANSWER: Helen Tracy Lowe-**Porter**

17. This author wrote a thirty-page short story about an act of intercourse titled "Interlude." For 10 points each:
[10] Identify this author of the unreleased five-thousand page novel *A Party of Animals*, whose 900 page section *The Runaway Soul* was published in 1991.
ANSWER: Harold **Brodkey** [or Aaron Roy **Weintraub**]
[10] Harold Brodkey wrote about his death from this cause in *This Wild Darkness*: *The Story of My Death*. This cause of death is also the subject of Paul Monette's memoir *Borrowed Time*.
ANSWER: **AIDS** [or **HIV**; prompt on "sickness" or "disease"]
[10] In 1989, this author wrote *AIDS and its Metaphors*, a response to her earlier *Illness as Metaphor*. Her other nonfiction includes *Against Interpretation* and the essay "Notes on 'Camp.'"
ANSWER: Susan **Sontag**

18. This term was popularized by Herve This and Nicholas Kurti, and some advocates of this style sometimes call themselves modernist and are also really big on deconstructed desserts. For 10 points each:
[10] Identify this style of cooking, which is the application of physics and chemistry to the preparation of food. One recipe in this field is the Baume, which is an egg soaked in alcohol for a month.
ANSWER: **molecular gastronomy**
[10] In this culinary technique, largely developed by Ferran Adria, involves adding sodium alginate to fruit juice to give it a caviar-like appearance and texture.
ANSWER: **spherification**
[10] Ferran Adria's restaurant, elBulli, has a three-star distinction in this most important restaurant and hotel guide.
ANSWER: **Michelin** red guide

19. On the back of this creature is a gigantic ruby, which is topped by a solitary angel. For 10 points each:
[10] Name this gigantic bull from Islamic myth, which has four thousand tongues, feet, mouths, eyes, noses and ears. Crossing from one side of this creature to the other takes five hundred years.
ANSWER: **Kujata**
[10] Kujata rides on top of this gigantic animal, a fish which swims through the cosmic night. His name is cognate with the English word "behemoth."
ANSWER: **bahamut**
[10] Very similar to the bahamut is this Norse dragon, who uses his body to circle all of the known world. Thor was once tricked into trying to pick him up.
ANSWER: **Jormungand**r or **Midgard Serpent**

20. The third movement rondo of this work is a polonaise and features a conclusion in which the meter momentarily shifts from triple to duple. For 10 points each:
[10] Identify this C major piece composed in 1803, whose soloists are the violin, cello and piano.
ANSWER: **Triple Concerto** in C Major
[10] That Triple Concerto is often dismissed as one of the weaker works of this composer, who also wrote the *Eroica Symphony*.
ANSWER: Ludwig van **Beethoven**
[10] Beethoven also composed this concerto, whose *andante con moto* second movement was compared to Orpheus taming the furies with his lyre by Adolf Marx, probably due to its "dialogue" between the soloist and the strings.
ANSWER: Beethoven's **fourth piano** concerto

Extra. This author dealt with Russian serfdom in his play *A Bitter Life*. For 10 points each:
[10] Name this Russian realist author of such novels as *Boyarschina* and *A Thousand Souls*, whose lofty reputation in the mid-19th century declined after his work was attacked by radicals.
ANSWER: Aleksey Feofilaktovich **Pisemsky**
[10] Pisemsky's *A Bitter Fate* deals is similar in subject matter to this Tolstoy play in which the serf Nikita gets his stepdaughter pregnant and then kills the baby.
ANSWER: *The **Power of Darkness*** [or ***Vlast' t'my***]
[10] The servant Firs complains about the emancipation of the serfs in this Chekhov play about the selling of Madame Ranevskaya's family estate.
ANSWER: *The **Cherry Orchard*** [or ***Vishnevyi sad***]

Extra. This term was coined by the historian André Boulanger. For 10 points each:
[10] Give this term, from the Greek for "doing good things," which refers to the ancient practice of rich people distributing some of their wealth to the community.
ANSWER: **euergetism** [or **evergetism**]
[10] Boulanger suggested euergetism as the explanation for the quality and quantity of churches in this Thracian city, whose silver mines were strategically important to Athens. Brasidas and Cleon both died in a battle over this city.
ANSWER: **Amphipolis**
[10] The Athenians who settled Amphipolis were led by Hagnon, the son of this man, whose namesake treaty during the Peloponnesian War was optimistically called the "Fifty-Year Peace."
ANSWER: **Nicias**

Extra. This approximation and the electric dipole approximation are used to simplify the Hamiltonian in the Jaynes-Cummings model. For 10 points each:
[10] Name this approximation, in which rapidly oscillating terms with a frequency above the transition frequency are neglected in an interaction-picture Hamiltonian.
ANSWER: **rotating wave** approximation [or **RWA**]
[10] The rotating wave approximation is commonly invoked in the derivation of one phenomenon named for this scientist, in which a two-level atom excited by light undergoes periodic transitions.
ANSWER: Isidor Isaac **Rabi**

[10] Rabi oscillations can be analyzed using the time-dependent form of this theory, in which a solution to an unknown Hamiltonian is found by expressing the unknown Hamiltonian as the sum of a Hamiltonian with a known solution and the product of an external potential and a small parameter.
ANSWER: **perturbation** theory

Extra. This thinker is the subject of *The Vanquished Gods* by Richard Schlegel. For 10 points each:
[10] Identify this academic who argued that the Greek gods were actually just hallucinations in the mind in his most cited work, which argues that the ancient peoples lacked consciousness.
ANSWER: Julian **Jaynes**
[10] That book by Julian Jaynes examines the origin of consciousness in the breakdown of this kind of mind. This kind of mind has two distinct components that perform two different tasks.
ANSWER: **bicameral**ism
[10] Critics of Julian Jaynes note that, he was basically arguing that all ancient peoples were inflicted with this mental disorder, characterized by hallucinations.
ANSWER: **schizophrenia**